### BOARD OF PUBLIC EDUCATION MEETING AGENDA

MAY 9-10 2024

Montana School for the Deaf and Blind 3911 Central Ave Great Falls, MT 59401

### <u>AGENDA</u>

#### BOARD OF PUBLIC EDUCATION MEETING AGENDA

#### May 9-10, 2024 Montana School for the Deaf and Blind 3911 Central Ave Great Falls, MT 59401

#### <u>Thursday May 9, 2024</u> 8:30 AM

#### CALL TO ORDER

- A. Pledge of Allegiance and "A New Friend" by the Flying Hooves Jr.
- B. Roll Call
- C. Statement of Public Participation
- D. Welcome Visitors

#### **PUBLIC COMMENT**

This time will be provided for public comment on items not listed on the agenda. This meeting is open tothe public both in person and electronically. For those wishing to give virtual public comment, please contact <u>bpe@mt.gov</u> to request the Zoom link for the meeting. Members of the public who have joined virtually on Zoom may "raise their hand" at the appropriate time to participate after being recognized bythe Board Chair. Members of the public who wish to share written public comment with the Board members must submit written public comment to the Executive Director at <u>bpe@mt.gov</u> no later than two (2) business days before the start of the meeting. Any written public comment will be included as part of the official public record.

Action may be taken on any item listed on the Board agenda. Per §2-3-103, MCA, the Board encourages public comment on any item prior to Board final action.

#### CONSENT AGENDA – page #8

(Items may be pulled from Consent Agenda upon request)

- A. March 18, 2024 and March 25, 2024 Meeting Minutes
- B. Financials

#### ADOPT AGENDA

**REPORTS – Dr. Tim Tharp (Items 1-5)** 

Item 1	CHAIRPERSON REPORT – 15 Minutes, page #44 Dr. Tim Tharp
Item 2	EXECUTIVE DIRECTOR REPORT – 15 Minutes, page #45 McCall Flynn
Item 3	<ul> <li>STATE SUPERINTENDENT REPORT – 1 Hour, page #46</li> <li>State Superintendent Elsie Arntzen</li> <li>Assessment Update</li> <li>MAST Update</li> <li>Federal Update</li> <li>Accreditation Report</li> <li>Content Standards Revision Update</li> </ul>

• Data Modernization Update

Item 4		COMMISSIONER OF HIGHER EDUCATION REPORT – 15 Minutes, page #79 Joe Thiel		
Item 5		GOVERNOR'S OFFICE REPORT – 15 Minutes, page #81 Dylan Klapmeier		
	*	MSDB LIAISON – Renee Rasmussen (Item 6)		
ltem 6		MSDB REPORT – 1 Hour, page #82 Paul Furthmyre		
		ACTION ITEMS: • Action on Personnel Items • Action on Golden Triangle Curriculum Cooperative Agreement • Action on GFHS/MHSA Cooperative MHSA Agreement • Action on Policy 5710P and 9320		
	*	MACIE LIAISON – Susie Hedalen (Item 7)		
ltem 7		MACIE REPORT – 15 Minutes, page #180 Jordann Lankford Forster		
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	*	REPORTS – Dr. Tim Tharp (Item 8)		
Item 8		STUDENT REPRESENTATIVE REPORT – 15 Minutes, page #183 Gavin Mow		
	*	ASSESSMENT COMMITTEE – Renee Rasmussen (Items 9-11)		
ltem 9		ACTION ON AND RESPONSE TO PUBLIC COMMENTS SUBMITTED ON REVISIONS TO ARM TITLE 10, CHAPTER 56, ASSESSMENT STANDARDS – 15 Minutes, page #184 Renee Rasmussen		
ltem 10		ACTION ON EARLY LITERACY TARGETED INTERVENTION HOME-BASED PROGRAM REQUEST FOR PROPOSAL – 30 Minutes, page #204 Marie Judisch		
ltem 11		PANEL PRESENTATION ON MONTANA ALIGNED TO STANDARDS THROUGH- YEAR (MAST) PILOT – 1 Hour, page #211 Rachel Cutler, Curriculum Coordinator, Great Falls Public Schools; Jackie Mainwaring, Student Achievement, Great Falls Public Schools; Superintendent Laurie Barron, Evergreen School District; Superintendent Les Meyer, Frenchtown School District; Principal Riley Devins, Frenchtown School District; Superintendent Craig Crawford, Stanford Public Schools		
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	*	LICENSURE COMMITTEE – Susie Hedalen (Items 12-16)		
Item 12		NOTICE OF THE SURRENDER OF BPE CASE #2024-05 – 5 Minutes, page #212		

Item 13	ACTION ON INITIAL REVIEW OF BPE CASE #2024-03, NO RUNNER – 15 Minutes, page #213 Brenton Craggs, OPI Legal Counsel			
Item 14	ACTION ON COUNCIL FOR THE ACCREDITATION OF EDUCATOR PREPARATION MEMORANDUM OF UNDERSTANDING – 15 Minutes, page #214 Dr. Julie Murgel and Crystal Andrews			
Item 15	ACTION ON PROPOSED PRAXIS TEST SCORE FOR SPECIAL EDUCATION – 15 Minutes, page #225 Crystal Andrews			
Item 16	ACTION ON THE NOTICE OF ADOPTION PERTAINING TO THE AMENDMENT OF ARM, TITLE 10, CHAPTER 57, EDUCATOR LICENSURE STANDARDS, AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE'S OFFIC FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER – 15 Minutes page #236 Susie Hedalen			
* EXECU	ITIVE COMMITTEE – Dr. Tim Tharp (Item 17)			
4:00 PM	GOALBALL ACTIVITY WITH MSDB STUDENTS – 30 Minutes, page #240 https://www.usaba.org/clubs-sports/goalball/			
*****	*************************CLOSED SESSION***********************************			
Item 17	7 EXECUTIVE DIRECTOR PERFORMANCE EVALUATION – 30 Minutes, page #241 Dr. Tim Tharp			
RECESS	*****************************OPEN SESSION***********************************			
<u>Friday May 10, 2024</u> <u>8:30 AM</u>				
CALL TO ORDER				
	<ul> <li>A. Pledge of Allegiance and song by VI Performers</li> <li>B. Roll Call</li> <li>C. Statement of Public Participation</li> <li>D. Welcome Visitors</li> </ul>			
* ACCRE	EDITATION COMMITTEE – Madalyn Quinlan (Items 18-19)			
Item 18	INITIAL REVIEW OF SUPERINTENDENT'S PROPOSED REVISIONS TO ARM TITLE 10, CHAPTER 54, WORLD LANGUAGE CONTENT STANDARDS – 45 Minutes, page #243 Marie Judisch			
Item 19	INITIAL REVIEW OF SUPERINTENDENT'S PROPOSED REVISIONS TO ARM TITLE 10, CHAPTER 53, MATHEMATICS CONTENT STANDARDS – 1 Hour, page #329 Marie Judisch			

**CHARTER COMMITTEE – Jane Hamman (Items 20-22)** 

Item 20	UPDATE ON COMMUNITY CHOICE SCHOOLS COMMISSION – 15 Minutes, page #586 Trish Schreiber				
Item 21	REVIEW OF REVISED PUBLIC CHARTER SCHOOL APPLICATION AND EVALUATION CRITERIA – 30 Minutes, page #587 Jane Hamman				
Item 22 REVIEW PUBLIC CHARTER SCHOOL PERFORMANCE FRAMEWORK MI AND EVALUATION AND RENEWAL CRITERIA – 30 Minutes, page #600 Jane Hamman					
✤ EXECU	<ul> <li>EXECUTIVE COMMITTEE – Dr. Tim Tharp (Items 23-25)</li> </ul>				
Item 23	UPDATE ON 250 <sup>TH</sup> COMMISSION – <i>15 Minutes, page</i> #605 Chris Averill				
Item 24	ACTION ON K-12 PAYMENT SCHEDULE FOR FISCAL YEAR 2025 – 15 Minutes, page #614 Barb Quinn				
Item 25 DISCUSSION ON BOARD PRIORITY BUDGET ITEMS FOR EXECUTIVE PLAN PROCESS – 15 Minutes, page #617 McCall Flynn					
FUTURE AGENDA ITE Strategic Planning Meet MACIE Update Approve MSDB/Golden	MS July 17-19, 2024, Helena, MT ting Triangle Co-on				

MACIE Update Approve MSDB/Golden Triangle Co-op Assessment Update Federal Update OPI Staffing Report Accreditation Report Content Standards Revision Update

#### PUBLIC COMMENT

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#### ADJOURN

The Montana Board of Public Education is a Professional Development Unit Provider. Attending a Board of Public Education Meeting either in person or via Zoom may qualify you to receive professional development units. Please complete the necessary information on the sign-in sheet if you are applying for professional development units.

Agenda items are handled in the order listed on the approved agenda. Items may be rearranged unless listed "time certain". Public comment is welcome on all items listed as "Action" and as noted at the beginning and end of each meeting.

The Board of Public Education will make reasonable accommodations for known disabilities that may interfere with an individual's ability to participate in the meeting. Individuals who require such accommodations should make requests to the Board of Public Education as soon as possible prior to the meeting start date. You may write to: Kris Stockton, PO Box 200601, Helena MT, 59620, email at: <u>kmstockton@mt.gov</u> or phone at 406-444-0302.

### Thursday, May 9, 2024

### CALL TO ORDER

- A. Pledge of Allegiance
- B. Roll Call
- C. Statement of Public Participation
- D. Welcome Visitors

### **CONSENT AGENDA**

# Items may be pulled from Consent Agenda if requested

- A. March 18 and March 25, 2024 Meeting Minutes
- B. Financials

### **CONSENT AGENDA**

### **MINUTES**

#### BOARD OF PUBLIC EDUCATION MEETING MINUTES

#### March 18, 2024 Montana State Capitol Building, Room 152 Helena, MT

#### Monday, March 18, 2024 8:30AM

#### CALL TO ORDER

Chair Tharp called the meeting to order at 8:30 AM and led the Board in the Pledge of Allegiance. Ms. Kris Stockton took Roll Call, the Chair read the Statement of Public Participation, and welcomed guests.

Board members present: Dr. Tim Tharp, Chair; Ms. Susie Hedalen, Vice Chair; Ms. Renee Rasmussen; Dr. Ron Slinger; Ms. Lisa Schmidt; Ms. Madalyn Quinlan; Mr. Gavin Mow, Student Representative. Ex. Officio members: Dr. Angela McLean, Office of the Commissioner of Higher Education; Mr. Dylan Klapmeier, Governor's Office: State Superintendent Elsie Arntzen, Office of Public Instruction (OPI). Staff present: Ms. McCall Flynn, Executive Director; Ms. Kris Stockton, Administrative Specialist; Ms. Julie Balsam, Accounting Technician. Guests: Dr. Rob Watson, School Administrators of Montana (SAM); Mr. Larry Crowder, Montana Rural Education Association; Ms. Kim Popham, Montana Federation of Public Employees (MFPE); Dr. Julie Murgel, OPI; Superintendent Sharyl Allen, Harrison Public Schools; Ms. Alie Wolf, OPI; Ms. Crystal Andrews, OPI; Ms. Kimberly Evans, OPI; Ms. Marie Judisch, OPI; Superintendent Paul Furthmyre, Montana School for the Deaf and Blind (MSDB); Ms. Jordann Lankford Forster, Chair, Montana Advisory Council for Indian Education (MACIE); Ms. Ashley Perez, OPI; Ms. Krystal Smith, OPI; Ms. Jenny Murnane Butcher, Montanans Organized for Education (MOFE); Ms. Trish Schreiber, Chair, Community Choice Schools Commission; Mr. Rick Wootton, Attorney, OPI; Mr. Brenton Craggs, Attorney, OPI; Mr. Chad Vanisko, Agency Legal Services; Ms. Barb Quinn, OPI; Representative Lee Deming, HD 55; Mr. Patrick Cates, OPI: Assistant Superintendent Christy Mock-Stutz, OPI: Mr. Todd Hanson, 4 Poles Education Consulting Group; Ms. Madison Yerian, Montana Association of School Psychologists, (MASP); Ms. Kristen Gyapay, MASP; Ms. Shawna Rader Kelly, MASP; Dr. Brittany Lewno-Dumdie, MASP; Ms. Sara Novak, SAM; John Sonju, Opportunity Solutions Project; Ms. Isabelle Welch, ABCTe; Ms. Jessie Luther, Taylor Luther Group; Ms. Sheridan Johnson, Montana Chamber of Commerce.

#### **PUBLIC COMMENT**

Dr. Rob Watson gave public comment regarding the graduation requirements in ARM 10.55.905, specifically related to the Financial Literacy requirements.

#### CONSENT AGENDA

<u>Board member Quinlan moved to adopt the Consent Agenda as presented</u>. Motion seconded by Board member Slinger.

No further discussion. Motion passed unanimously.

#### ADOPT AGENDA

<u>Board member Rasmussen moved to adopt the agenda as presented</u>. Motion seconded by Board member Schmidt.

No discussion. Motion passed unanimously.

#### **REPORTS – Dr. Tim Tharp (Items 1-6)**

Item 1

#### CHAIRPERSON REPORT

Dr. Tim Tharp

Chair Tharp welcomed Board member Schmidt who introduced herself to the Board. Chair Tharp pointed members to the Committee Assignment list contained in the agenda packet and directed any questions regarding the assignments to the Chair and discussed meetings he has attended since the January 2024 Board of Public Education (BPE) meeting.

#### Item 2 EXECUTIVE DIRECTOR REPORT McCall Flynn

Ms. McCall Flynn gave an update on the previous week's meetings of the Education Interim Committee and Education Interim Budget Committee and presentations she made to the committees. Ms. Flynn discussed ongoing work pertaining to the Public Charter Schools, Community Choice Schools Commission, and Early Literacy Targeted Interventions, discussed rulemaking the Board will be reviewing and approving at the meeting, and gave an update on HB 338 pertaining to Indian Education for All (IEFA). Ms. Flynn answered Board members' questions.

Item 3 STATE SUPERINTENDENT'S REPORT State Superintendent Elsie Arntzen, Assistant Superintendent Christy Mock-Stutz

Ms. Mock-Stutz reviewed the State Superintendent's report highlighting "Figure it Out", a new program that assists student leaders resolve issues at their schools, and an update on the Teacher Residency Program, before turning the report over to OPI staff for updates. Superintendent Arntzen joined the meeting and answered Board members' questions.

Assessment Update: Ms. Marie Judisch presented an overview of work pertaining to Assessment.

**MAST Update**: Ms. Krystal Smith gave an update from the MAST Summit and reviewed next steps for implementation before answering Board members' questions. Dr. Julie Murgel answered questions regarding the MAST assessment as it pertains to accreditation at the state and federal levels.

**Federal Update:** Dr. Julie Murgel announced the date schools will receive their state report card and when it will be made public before reviewing an amendment to the Rigorous Action Plan. Dr. Murgel stated the OPI will be assisting schools with the amendment before providing an update regarding the Federal Waiver.

**Accreditation Update:** Ms. Crystal Andrews updated the Board on the status of the new Accreditation process and answered Board members' questions.

**School Nutrition Programs Annual Report:** Ms. Alie Wolf presented the 2023 School Nutrition Programs Annual Report providing an overview of the program and highlighting statistics from the report. Board members commended OPI on the report and Ms. Wolf answered Board members' questions.

**Content Standards Revisions Update:** Ms. Marie Judisch presented an update on the content standards revisions referencing the OPI website where information on the revisions process is posted before reviewing where each content area is in the revisions process. Dr. Murgel provided an update on the financial literacy crosswalk which will list where course codes are located in various subject matter areas.

**Data Modernization Update:** Ms. Ashley Perez gave an update on the progress of the Data Modernization Project and answered Board members' questions.

#### Item 4 COMMISSIONER OF HIGHER EDUCATION'S REPORT Dr. Angela McLean

Dr. Angela McLean discussed work at the Commissioner's Office pertaining to the Public Charter Schools and how post-secondary can partner with the charter schools to offer student support as those students

enter post-secondary education. Dr. McLean provided an update on the GEAR UP Grant, Educational Talent Search Grant, and Educational Opportunity Center Grant, describing how each program interfaces with college access programs. Dr. McLean concluded her report with a review of the changes to the Free Application for Federal Student Aid form.

#### Item 5 GOVERNOR'S OFFICE REPORT Dylan Klapmeier

Mr. Dylan Klapmeier welcomed Board member Schmidt before reviewing statewide travels the Governor has completed meeting with Career and Technical Education teachers and students. Mr. Klapmeier highlighted the previous week's meetings of the Education Interim Committee, Education Interim Budget Committee, and the Board of Regents' meeting, and thanked the Board for their work implementing 2023 Legislation. Mr. Klapmeier reviewed work done by the Education Workforce and Data Governance Board and the Montana Digital Academy Board before answering Board members' questions.

#### Item 6 STUDENT REPRESENTATIVE REPORT Gavin Mow

Mr. Mow welcomed Board member Schmidt then discussed the completion of a field test for the Statewide Student Survey to be conducted in April. Mr. Mow reviewed sample questions and responses from the field test for the Board and answered Board members' questions surrounding the survey and how results will be shared. Ms. Flynn noted that Mr. Mow will be serving a second term as Student Representative to the Board.

#### MSDB LIAISON – Renee Rasmussen (Item 7)

#### ltem 7

#### MSDB REPORT Paul Furthmyre

Superintendent Furthmyre welcomed Board member Schmidt and extended an invitation to visit the MSDB, given her close proximity to Great Falls, then reviewed the action items for the Board to consider, and discussed the recruitment and retention issues MSDB is experiencing and possible solutions. Superintendent Furthmyre answered Board members' questions surrounding how the Board can support MSDB to find solutions to the recruitment and retention issues.

<u>Board member Rasmussen moved to approve the Out-of-State Travel requests for</u> <u>MSDB as listed in the agenda packet.</u> Motion seconded by Vice Chair Hedalen.

No discussion. Motion passed unanimously.

Board member Rasmussen moved to approve the personnel items for the MSDB as listed in the agenda packet. Motion seconded by Board member Slinger.

No discussion. Motion passed unanimously.

<u>Board member Rasmussen moved to approve the MSDB School Calendar as listed</u> <u>in the agenda packet.</u> Motion seconded by Board member Quinlan.

No discussion. Motion passed unanimously.

<u>Board member Rasmussen moved to approve the 2<sup>nd</sup> reading of MSDB policies</u> <u>1513 and 1700.</u> Motion seconded by Board member Schmidt.

Question from Chair Tharp regarding the Title IX coordinator position at MSDB.

No further discussion. Motion passed unanimously.

#### MACIE LIAISON – Susie Hedalen (Item 8)

#### Item 8 MACIE REPORT Jordann Lankford Forster

Ms. Jordann Lankford Forster presented the MACIE report reviewing the March 7<sup>th</sup> meeting and work completed by the Council during the meeting, including an update on the Yellow Kidney lawsuit. Ms. Lankford Forster discussed a Memorandum of Understanding (MOU) presented to her by the OPI regarding funding for MACIE before requesting approval by the Board for the nomination for the Chippewa Cree position.

#### <u>Vice Chair Hedalen moved to approve the nomination of Jeremy McDonald as the</u> <u>Chippewa Cree Tribal Representative to MACIE.</u> Motion seconded by Board member Rasmussen.

Chair Tharp congratulated Mr. McDonald on the recent Box Elder basketball state championship and noted his excellent leadership in the education community.

#### No further discussion. Motion passed unanimously.

Ms. Lankford Forster discussed a newly formed subcommittee and work the subcommittee will be considering regarding the IEFA funding spectrum and reviewing MACIE goals.

Dr. McLean thanked MACIE for including the Montana University System in their work.

#### CHARTER COMMITTEE – Madalyn Quinlan (Items 9-10)

#### Item 9

#### UPDATE ON COMMUNITY CHOICE SCHOOLS COMMISSION Trish Schreiber

Ms. Trish Schreiber gave an update on work the Commission has completed since the Community Choice Schools Act went into effect on July 1, 2023, including establishing the Commission, creating Bylaws, training the Commission has received, and presentations heard by the Commission. Ms. Schreiber discussed donations the Commission has received to reimburse members and pay for functions of the Commission, work the Commission will be doing moving forward, and work the BPE staff has completed and continues to do on behalf of the Commission. Ms. Schreiber thanked BPE staff for their work supporting the Commission.

#### Item 10 UPDATE ON PUBLIC CHARTER SCHOOLS McCall Flynn

Ms. Flynn gave an update on work pertaining to the Public Charter Schools that has been completed since the January 2024 BPE meeting including signing an agreement with SchoolWorks to support the Board in developing the contract for the Public Charter Schools, and the revision process for the contracts based on feedback from schools and school business officials before the final contract was complete. Ms. Flynn thanked the school districts for the work they did to turn the contracts around quickly, then reviewed the BPE Special meeting held February 28, 2024 when the contracts were approved. Ms. Flynn discussed next steps in the process including working with schools and school business officials to determine what information the quarterly financial reports will contain, and work the BASE Aid money will flow to schools this fall, and the ANB money the following year. Chair Tharp asked Board members to review the application and consider where changes may be necessary.

#### PUBLIC COMMENT

Mr. Todd Hanson gave public comment regarding the next application cycle for Public Charter Schools.

#### LICENSURE COMMITTEE – Susie Hedalen (Items 11-17)

Item 11

NOTICE OF THE SURRENDER OF BPE CASE #2024-01 Rick Wootton, OPI Legal Counsel Mr. Rick Wootton presented a surrender in BPE Case #2024-01, received after the Superintendent requested revocation.

#### Item 12 NOTICE OF THE SURRENDER OF BPE CASE #2024-02 Rick Wootton, OPI Legal Counsel

Mr. Rick Wootton presented a surrender in BPE Case #2024-02, received after the Superintendent requested revocation.

#### Item 13 ACTION ON HEARING OF BPE CASE #2023-08, RAUSCH Chad Vanisko, ALSB Legal Counsel

Mr. Brenton Craggs noted the Board conducted an Initial Review of this case at the January 2024 BPE meeting then presented an affidavit of surrender to the Board received by OPI on Friday, March 15, and a request for a Motion to Dismiss.

<u>Vice Chair Hedalen moved to approve the Motion to Dismiss due to surrender in</u> <u>BPE Case #2023-08, Rausch.</u> Motion seconded by Board member Quinlan.

Chair Tharp noted the surrender is conditional and that if the conditions are met by the educator they may reapply for licensure in the future.

#### No discussion. Motion passed unanimously.

Ms. Crystal Andrews discussed the reporting process when disciplinary action is taken against an educator's license and how that is reflected in the national database.

#### Item 14 ACTION ON MOTION TO DISMISS BPE CASE #2022-13, HARNING Brenton Craggs, OPI Legal Counsel

Mr. Brenton Craggs noted the Board conducted an Initial Review at the January 2024 BPE meeting, and that the educator has since submitted an affidavit of surrender. Mr. Craggs requested the Board approve the Motion to Dismiss.

<u>Vice Chair Hedalen moved to approve the Motion to Dismiss due to surrender in</u> <u>BPE Case #2022-13, Harning.</u> Motion seconded by Board member Rasmussen.

No discussion. Motion passed unanimously.

Item 15

#### ACTION ON AND RESPONSE TO PUBLIC COMMENTS SUBMITTED ON REVISIONS TO ARM TITLE 10, CHAPTER 57, EDUCATOR LICENSURE STANDARDS

Susie Hedalen

Ms. Flynn reviewed the process of receiving public comments and compiling them into the document in the packet. She highlighted the process for responding to comments, and how the Board's responses may impact the language in the administrative rules prior to adoption by the Board.

#### 10.57.102 DEFINITIONS

<u>Vice Chair Hedalen moved to disagree with Comment 1.</u> Motion seconded by Board member Rasmussen.

Vice Chair Hedalen stated that this language aligns with accredited specialist programs for school counselors and approved preparation programs for educators. Motion passed unanimously.

#### 10.57.425 CLASS 5 PROVISIONAL LICENSE ENDORSEMENT

<u>Vice Chair Hedalen moved to disagree with Comment 2.</u> Motion seconded by Board member Quinlan.

Vice Chair Hedalen stated the provisions for receiving a Class 5 Provisional License for school counselors is outlined in 10.57.435. Discussion regarding the proposed revision related to the comment.

No further discussion. Motion passed unanimously.

#### 10.57.432 CLASS 5 PROVISIONAL LICENSE – SPECIALIST ENDORSEMENT

<u>Vice Chair Hedalen moved to disagree with Comment 3 and agree with Comment 4.</u> Motion seconded by Board member Rasmussen.

Board member Rasmussen discussed how changing this rule could remove people who are already in the middle of obtaining licensure via this process.

Chair Tharp concurred with Board member Rasmussen's comment.

Board member Schmidt asked if agreeing with Comment 4 is watering down the qualifications.

*Ms.* Sara Novak addressed Board member Schmidt's question specific to a Class 5 license that an individual is receiving education and supervision while working to obtain full licensure.

Vice Chair Hedalen noted that revising the rules was not intended to water down qualifications.

Ms. Madison Yerian spoke in opposition to the proposed revisions.

Ms. Kirsten Gyapay spoke in opposition to the proposed revisions.

Ms. Shawna Rader Kelly, spoke in opposition to the proposed revisions.

Dr. Julie Murgel clarified that the rule under consideration is specific to a Class 5 Provisional License only and that the requirements to obtain Class 6 licensure are not being changed.

Vice Chair Hedalen expressed appreciation for the school psychologists who spoke and clarified that this discussion is specifically related to Class 5 Provisional Licenses.

Dr. Brittany Lewno-Dumdie, School Psychologist and President of MASP, spoke in opposition to the proposed revisions.

Vice Chair Hedalen noted she has spoken with the school psychologists that she works with and noted the critical component that school psychologist fill, and specified the rule under consideration is specific to the Class 5 Provisional License only.

Board member Rasmussen also stated her appreciation for the work done by school psychologists and that the proposed revisions are not changing the courses required for licensure but will allow someone enrolled in a program to obtain provisional licensure which is a better fit that an Emergency Authorization. Board member Rasmussen stated that the proposed rules allow flexibility for districts. Board member Schmidt stated she is aware of the shortage of school psychologists, but the proposed revisions don't address the real mental health situations that families and students are facing.

Vice Chair Hedalen asked if there are parameters in place for a school psychologist to offer a mental health assessment.

*Ms.* Sara Novak responded that individuals must have specific certifications before assessing a student, and stated Federal requirements pose limitations as well.

Ms. Shawna Rader Kelly noted there is nothing in law that dictates what someone with a Class 5 Provisional License can do compared to someone with a Class 6 Specialist License. Ms. Rader Kelly noted that obtaining insurance by the Class 5 Licensee may be difficult and may put the individual at a potential risk for liability.

Vice Chair Hedalen reflected on a presentation by the University of Montana Safe Schools Coalition regarding suicide prevention, and that Montana has a 'hold harmless' law on the books.

Chair Tharp clarified the proposed revisions under consideration.

No further discussion. Motion passed with Board member Schmidt dissenting.

#### 10.57.434 CLASS 6 SPECIALIST LICENSE – SCHOOL PSYCHOLOGIST

Board member Quinlan asked if there are other national accreditation bodies, and Ms. Shawna Rader Kelly noted that the Council for Higher Education Accreditation is the accrediting body over MASP, and the Council for the Accreditation of Educator Preparation(CAEP) is also an accrediting body. Ms. Rader Kelly expressed the concerns MASP has with the reduction of hours of internship and the approved specialist program versus NASP accredited specialist program. Dr. Murgel addressed those concerns by stating that multiple bodies can accredit a program and that makes it an approved program. Chair Tharp noted this follows other language throughout the rule, and Ms. Flynn clarified the proposed revisions by reading the existing language that is not changing and stated that the proposed revisions offer an additional pathway to licensure.

<u>Vice Chair Hedalen moved to disagree with Comment 5 and agree with Comment 6.</u> Motion seconded by Board member Rasmussen.

Chair Tharp noted that by reviewing the existing language that is not being changed, the proposed revisions offer an additional pathway to licensure for potential school psychologists.

Board member Rasmussen asked for a report in the future with the number of licenses granted under the new rule.

No further discussion. Motion passed with Board member Schmidt dissenting.

Item 16

#### REVIEW DRAFT COUNCIL FOR THE ACCREDITATION OF EDUCATOR PREPARATION MEMORANDUM OF UNDERSTANDING Dr. Julie Murgel

Dr. Julie Murgel presented the draft MOU for CAEP and reviewed the Montana Educator Preparation Programs that participate in CAEP accreditation and when their reviews will take place. The Board will act on the MOU at their May meeting.

Item 17 ACTION ON THE SUPERINTENDENT'S RECOMMENDATION TO INITIALLY APPROVE ABCTE AS AN ALTERNATIVE TEACHER CERTIFICATION AND ENDORSEMENT PROGRAM Dr. Julie Murgel and Crystal Andrews Dr. Murgel reviewed the process the OPI conducted to review the ABCTe program prior to bringing the request to the Board for approval. After the January 2024 BPE meeting when the Board decided to delay approving ABCTe until the March 2024 BPE meeting, the OPI Licensure Committee and ABCTe met with the Governor's office to review the program. Dr. Murgel noted the request is to initially approve ABCTe for two years, and to come to the Board with a report in the interim for a review of the program.

Ms. Isabelle Welch, Director of Governmental Affairs for ABCTe, gave a presentation based upon questions from Board members at the January 2024 BPE meeting, highlighting the pedagogy required for completion, how content standards are aligned with national standards and corresponding PRAXIS exams, and clarified the requirements for the Special Education and Reading endorsements. OPI completed a crosswalk of ABCTe's Special Education Program and Reading Program and found they align with or are in excess of Montana's requirements for those content areas. Ms. Welch discussed the legislation passed in 2023 which allows alternative teacher training programs in Montana and stated that ABCTe offers an alternative pathway to licensure for teachers and requested the Board approve ABCTe as an alternative educator preparation program in Montana. Ms. Jessie Luther introduced herself and offered letters of support from Representative Fred Anderson and Senator Dan Salomon.

Chair Tharp stated that he spoke with colleagues in North Dakota who have hired teachers trained by ABCTe and that he specifically asked them about concerns the Board has with the lack of student teaching experience. Chair Tharp stated that the administrators he spoke with noted that while it was a concern, it was not a deal breaker, and that any issues have been overcome by utilizing a strong mentorship program. Dr. Tharp stated each administrator he spoke with was pleased with hiring ABCTe trained educators. Board member Slinger commended Ms. Andrews and Dr. Murgel for the comparison between ABCTe standards and Montana standards and stated he is comfortable supporting the program.

Vice Chair Hedalen moved to approve the Board Licensure Committee's recommendation to initially approve ABCTe until January 2026 and allow them to offer the following endorsements: Math 5-12, Sciences 5-12, English 5-12, History 5-12, Elementary Education K-8, and Special Education K-12, and require a report be filed with the Board in January 2025. Motion seconded by Board member Slinger.

Board member Quinlan asked members of the Licensure Committee what the considerations surrounding the Reading endorsement were. Dr. Murgel clarified that the concern surrounds the Reading Specialist piece, and that although the Reading endorsement aligns with Montana standards, the specific coaching instruction was not in alignment, which is an important part of the Reading Specialist endorsement in Montana.

Board member Schmidt asked if approving ABCTe prohibits the Board from operating with other alternative programs. Ms. Flynn noted that it does not prohibit the Board from entering into agreements with other programs.

Vice Chair Hedalen noted that the Sprint Degree Program the University System is working on would be an example of an alternative program within Montana.

Dr. McLean asked if data can be collected and reported separately from the Montana institutions, and Dr. Murgel clarified the data would be collected and reported separately per Title II reporting requirements.

Dr. McLean inquired when the Board will expect a report from ABCTe, and Vice Chair Hedalen noted that the report will be expected in January 2025.

Board member Rasmussen asked for the cost of a degree with ABCTe, and Ms. Welch answered approximately \$1900.

Ms. Kim Popham gave public comment in opposition to the approval of ABCTe.

Mr. John Sonju spoke in support of ABCTe.

Ms. Sheridan Johnson spoke in support of the approval of ABCTe.

Ms. Jenny Murnane Butcher spoke in opposition to the approval of ABCTe specifically in the areas of Special Education.

Board member Quinlan asked if other states had concerns about violating federal requirements surrounding special education. Ms. Welch answered that no other state has had any federal violations and that over 1,500 teachers have been certified in Special Education through ABCTe and are employed across the country.

Board member Schmidt asked if ABCTe Special Education standards met Montana standards and Dr. Murgel answered they are, in some cases, stronger.

Chair Tharp restated the motion.

No further discussion. Motion passed unanimously.

**Solution EXECUTIVE COMMITTEE – Tim Tharp (Item 18)** 

#### Item 18 INFORMATION ON K-12 PAYMENT SCHEDULE FOR FISCAL YEAR Barbara Quinn

Ms. Barbara Quinn presented the proposed K-12 payment schedule to the Board. The Board is scheduled to act upon the payment schedule at the May 2024 BPE meeting.

#### ASSESSMENT COMMITTEE – Renee Rasmussen (Items 19-20)

Item 19 INITIAL REVIEW OF SUPERINTENDENT'S PROPOSED REVISIONS TO ARM TITLE 10, CHAPTER 56, ASSESSMENT STANDARDS Dr. Julie Murgel and Marie Judisch

Dr. Julie Murgel presented the proposed revisions to the Assessment Standards for the Board and reviewed each proposed revision and answered members questions.

Item 20

#### ACTION ON THE PROPOSED NOTICE OF PUBLIC HEARING AND TIMELINE PERTAINING TO RULEMAKING IN ARM TITLE 10, CHAPTER 56, ASSESSMENT STANDARDS, AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER Renee Rasmussen

Board member Rasmussen moved to approve the Notice of Public Hearing and Timeline pertaining to rulemaking in ARM Title 10, Chapter 56, Assessment Standards allowing Director Flynn to make technical and grammatical changes as necessary and authorized filing of the notice with the Secretary of State for publication in the Montana Administrative Register. Motion seconded by Board member Schmidt.

Board member Quinlan stated her concerns with striking "single assessment system".

No discussion. Motion passed unanimously.

#### **ACCREDITATION COMMITTEE – Madalyn Quinlan (Items 21-26)**

Item 21

### INFORMATION ON PROPOSED PRAXIS TEST SCORE FOR SPECIAL EDUCATION

#### **Crystal Andrews**

Ms. Crystal Andrews presented the proposed PRAXIS test score for Special Education. The current Special Education test 5354 will expire and the state will need to approve test 5355. The test is currently under review by the PRAXIS Working Group and will next be reviewed by the Montana Council of Deans of Education. This will be an action item at the May 2024 BPE meeting.

#### Item 22 ACTION ON GRASS RANGE ANNUAL REPORT PERTAINING TO THE MONTANA ADVANCED OPPORTUNITY GRANT PROGRAM Krystal Smith

Ms. Krystal Smith presented the Grass Range Annual Report for the Advanced Opportunity Grant which had not been received by the January 2024 BPE meeting. Ms. Smith noted she received the Annual Report from Grass Range and is recommending the Board approve the report to qualify their Advanced Opportunity Grant.

<u>Board member Quinlan moved to approve the Grass Range Annual Report</u> <u>pertaining to the Advanced Opportunity Grant Program.</u> Motion seconded by Board member Slinger.

No discussion. Motion passed unanimously.

Item 23

ACTION ON THE NOTICE OF ADOPTION PERTAINING TO THE AMENDMENT OF ARM, TITLE 10, CHAPTER 53, ENGLISH LANGUAGE PROFICIENCY STANDARDS, AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE'S OFFICE FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER Madalyn Quinlan

Board member Quinlan moved to approve the Notice of Adoption pertaining to the amendment of ARM Title 10, Chapter 53, English Language Proficiency Standards, and authorized filing of the notice with the Secretary of State's office for publication in the Montana Administrative Register. Motion seconded by Board member Rasmussen.

No discussion. Motion passed unanimously.

Item 24

ACTION ON THE NOTICE OF ADOPTION PERTAINING TO THE AMENDMENT OF ARM TITLE 10, CHAPTER 63, EARLY CHILDHOOD EDUCATION STANDARDS AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE'S OFFICE FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER Madalyn Quinlan

Board member Quinlan moved to approve the Notice of Adoption pertaining to the amendment of ARM Title 10, Chapter 63, Early Childhood Education Standards and authorized filing of the notice with the Secretary of State's office for publication in the Montana Administrative Register. Motion seconded by Board member Slinger.

No discussion. Motion passed unanimously.

Item 25

#### ACTION ON THE NOTICE OF ADOPTION PERTAINING TO THE ADOPTION OF ARM, TITLE 10, CHAPTER 54, EARLY LITERACY TARGETED INTERVENTION STANDARDS, AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE'S OFFICE FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER Madalyn Quinlan

Ms. Flynn reviewed the comment received for this proposal and thanked the Early Literacy Advisory Council for their work.

Board member Quinlan moved to approve the Notice of Adoption pertaining to the adoption of ARM Title 10, Chapter 54, Early Literacy Targeted Intervention Standards, and authorized filing of the notice with the Secretary of State's office for publication in the Montana Administrative Register. Motion seconded by Board member Schmidt.

#### No discussion. Motion passed unanimously.

Item 26

#### ACTION ON THE APPROVED LIST OF SCREENING TOOLS PERTAINING TO THE TITLE 10, CHAPTER 54, EARLY LITERACY TARGETED INTERVENTION STANDARDS Madalyn Quinlan

Ms. Flynn directed Board members to the agenda packet for the statute requiring the Board approve the Early Literacy screening tools. Ms. Flynn noted that districts are not required to use a screening tool from the approved list but will need to provide a justification for why they made the decision not to use an approved screening tool.

Chair Tharp noted the approved list is not contained in rule and will be easier to revise if necessary.

## Board member Quinlan moved to approve the approved list of screening tools pertaining to the Title 10, Chapter 54, Early Literacy Targeted Intervention <u>Standards.</u> Motion seconded by Board member Rasmussen.

#### No discussion. Motion passed unanimously.

FUTURE AGENDA ITEMS May 9-10, 2024 – Great Falls, MT MACIE Update Approve K-12 Schools Payment Schedule Assessment Update Accreditation Report Federal Update Content Standards Revision Update Executive Director Performance Evaluation

Chair Tharp discussed the ongoing work for the Board regarding alternatives such as proficiency-based learning, charter schools, to name a few, and that the Board has learned there are new ways of doing things while maintaining high quality.

Board member Slinger thanked OPI for their work.

Dr. McLean spoke to her experience renewing her Educator License online and how well the process worked.

Chair Tharp thanked all the educators across the state and the education partners for their work.

#### PUBLIC COMMENT

No public comment was made.

#### **ADJOURN** Meeting adjourned at 3:59 PM.

The Montana Board of Public Education is a Professional Development Unit Provider. Attending a Board of Public Education Meeting either in person or via Zoom may qualify you to receive professional development units. Please complete the necessary information on the sign-in sheet if you are applying for professional development units.

Agenda items are handled in the order listed on the approved agenda. Items may be rearranged unless listed "time certain". Public comment is welcome on all items listed as "Action" and as noted at the beginning and end of each meeting.

The Board of Public Education will make reasonable accommodations for known disabilities that may interfere with an individual's ability to participate in the meeting. Individuals who require such accommodations should make requests to the Board of Public Education as soon as possible prior to the meeting start date. You may write to: Kris Stockton, PO Box 200601, Helena MT, 59620, email at: <u>kmstockton@mt.gov</u> or phone at 406-444-0302.

#### Board of Public Education Public Comment March 2024

#### 1. Charles Palmer

Missoula, MT

I email today to express my lack of support for certifying teachers through online certification programs. Student teaching is a vital component of learning how to become an effective educator, and the fact that it is not required in these programs is quite problematic. Also, Montana does not have an issue with certifying enough teachers. We have a problem with teacher pay. If you are going to look at the shortage of teachers in Montana schools, please address the dismal pay our educators earn. Thank you for your attention to this matter.

#### 2. Rhonda Remsen

School Psychologist

I am writing to ask that you not approve the changes proposed to this Administrative Rule, specifically sections 10.57.432, 10.57.434, and 10.57.102 as these changes would reduce the requirements and harm the integrity of the school psychology professional standards. Reducing requirements can negatively impact school districts and have possible legal ramifications in relation to special education needs.

Please keep the current licensing requirements for Montana school psychologists and do not approve of the changes to ARM Title 10, Chapter 57, Educator Licensure Standards. Students, their families, and Montana schools deserve well-trained professionals, and the language in the ARM proposal may negatively affect how services are provided, particularly for our most vulnerable populations: Montana children with disabilities and mental health challenges in rural areas with already limited resources. With the potential to negatively impact schools, reducing the licensing requirements for the state may also limit other opportunities to address shortages, like federal grants or the Interstate Compact for Schools, and negate the attempt at supporting school psychologist shortages.

The National Association of School Psychologists has worked tirelessly to establish appropriate standards for training programs and this includes rigorous internship opportunities. Having Montana's educator licensure standards reflect those of the National Association is critical.

#### 3. Dr. Karen Washburn

Professor, MSU Billings Billings, MT

I am against ABCTe as an alternative teacher certification. MSU has online programs in place to help individuals take the required courses to become teachers. To effectively prepare educators to learn about pedagogy and instructional strategies they must take coursework beyond online certification. It is also paramount that teachers have authentic mentoring experiences such as student teaching and junior field. I believe that our society does not value the role of teachers and equates this profession as something that anyone can do after taking limited certification. I also think that there will be a higher turnover in teachers due to a lack of proper preparation. Please do not implement ABCTe as an alternative teacher certification.

#### 4. Tricia Seifert, PhD

Bozeman, MT

My name is Tricia Seifert and I am a Montana educator within a public higher education institution and provide leadership to one of the state's Educator Preparation Program.

<u>SB 373</u> passed during the 2023 MT Legislative session and established alternative teacher credentialing in Montana. This provides a pathway for entities outside of institutions of higher education to prepare teachers who can then apply for Class II teacher licensure in Montana.

Superintendent Arntzen has recommended that the Board of Public Education approve <u>ABCTE</u> [americanboard.org] (also known as American Board), an online teacher certification provider, per <u>ARM 10.58.802</u> as noted on Page 150 of <u>this document</u>. The agenda item is discussed at 2:13:42 on this <u>video here</u>. [youtube.com] The recommendation includes provisional approval for all areas of endorsement that ABCTE seeks.

In the video, the presenter from ABCTe cites the lack of availability of programs to meet the interest of bachelor degree holders who wish to change careers and become teachers. While that may be true in other ABCTE jurisdictions, both MSU and MSU-B provide online master's degrees that result in recommendation for initial teacher licensure. Moreover, UM-Western and UM have vibrant post-bacc options.

I outline my main concerns about the Superintendent of Public Instruction's recommendation to the Board of Public Education to approve ABCTe as an alternative teacher certification provider below.

#### Background and Issues.

Administrative Rule of Montana articulates the Professional Educator Preparation Program Standards in 10.58. Whether the alternative teacher certification provider is an institution of higher education or alternative entity, it should follow these standards delineate the minimum requirements any alternative teacher certification Preparation Program must follow.

To that end, 10.58.312 clearly documents expectations for initial clinical partnerships and practice. ABCTe, as a provider, has no required provision for clinical partnership. This is in violation of 10.58.312

ABCTe has provided documentation of a third party's review of their proprietary examinations with the third party finding substantial alignment with INTASC. It is not clear the OPI has completed an independent review of these proprietary examinations nor has evidence been provided that the proprietary examinations align with subchapters 4 and 5 of the PEPPS.

Ch. 10.57.301 details endorsement information and was substantially revised, approved and went into effect in late May 2022. Recently revised rule in 10.57.301 prohibits the PRAXIS subject Assessment for "early childhood (P-3), elementary education (K-8), reading (K-12), English as a second language (K-12); School Administrator (Superintendent, Principal, or Supervisor); Specialist (School Psychologist or School Counselor); and initial endorsements in Special Education fields." Approving ABCTe in any of the endorsement areas stated above violates the spirit of 10.57.301. Although the PRAXIS subject assessment is specified in rule, it is logical to infer the intent of the rule as stated is to prevent obtaining endorsement through test-based assessment in areas working with the most vulnerable populations (children enrolled in P-3, children enrolled in K-8, English language learners, children in

need of support provided by a school psychologist or school counselor specialist, and children entitled to special education services as provided by the federal IDEA law.)

I encourage the Board of Public Education to apply consistently the administrative rules within their oversight.

Thank you for your time and consideration of my comment.

#### 5. Joye Kohl

Bozeman, MT

As a relatively new (actually returned) Montana resident with an abiding concern for the importance of quality public education of our youth (the future leaders of this state), I am very concerned about the proposed use of ABCTE for the credentialing of teachers – especially in the areas of elementary education (P/K-8), special education, reading, and school psychologist/counselor support services. Students in those areas are especially vulnerable and need the very best instruction to help meet their needs. I understand the teacher shortage issue, however, I do not believe that justifies lowering the teacher credentialing requirements to be met only with an online program. I know that the existing administrative rule for Montana spells out professional educator preparation standards. I have visited and explored the ABCTE website and the claims made, but believe that Montana's history of excellence in the training of teachers by our state institutions with hands-on classroom experience remains the better option. A more appropriate way to address teacher shortages would be via salary improvements and addressing housing issues. Please be sure that the Board decisions (1) carefully delineate all teacher preparation requirements and are consistently applied to policies for all entities and (2) have been made following independent and thorough evaluation/reviews of the teacher education credentialing programs.

#### 6. Jon Konen

Columbia Falls, MT

My name is Jon Konen and I am currently the principal of Columbia Falls High School. I am writing in support of the revision of 10.57.432, and the subsection that is highlighted below under (2)b. I propose removing the following wording, "of being within four course deficiencies of completing full requirements as outlined in ARM 10.57.435." This would allow schools to hire individuals that have been approved in a counseling program sooner than waiting for them to complete all but 4 courses. As you know we have a counselor shortage across the state. It is extremely difficult to hire as well as recruit a teacher from within (or anyone with a degree) if they have to wait 2+ years in order to be 4 or less deficiencies away from completion. Thank you for your consideration at the March 18 Board of Public Education meeting.

#### 7. Leigh Lindstrom Clausen

Columbia Falls, MT

My name is Leigh Clausen and I am currently a Library Paraeducator at Columbia Falls High School. I am writing to share my support of the revision of 10.57.432, and the subsection that is highlighted below under (2)b. I propose removing the following wording, "of being within four course deficiencies of completing full requirements as outlined in ARM 10.57.435."

This change in verbiage would allow schools like mine to hire individuals that are in a counseling program but are more than 4 credits from completion. Given the shortage of school counselors in our state - and the dire need for these forms of support systems to remain available - I believe opening the candidate pool to students who are not quite to that arbitrary limit of four credits would provide administrators with a broader array of potential counselors to select from. The cost of living in our region is exorbitant and the likelihood of being able to attract potential quality applicants to our area from out of town is low.

This proposed amendment would allow people from within our district, who are passionate about public education and dedicated to helping students, but do not meet the current requirement to throw their hats in the ring for positions opening right now.

I sincerely hope you will consider this proposed change to allow for more choice, opportunity, and growth potential for Montana's next generation of school counselors to step into these vital and vacant positions. Thank you for your consideration at the March 18 Board of Public Education meeting.

#### 8. Ashleigh Mason

Columbia Falls, MT

My name is Ashleigh Mason and I am currently a school counselor for Columbia Falls HIgh School. While I am in my third year at CFHS I have been a school counselor for 10 years now. I am writing in support of the revision of 10.57.432, and the subsection that is highlighted below under (2)b. I propose removing the following wording, "of being within four course deficiencies of completing full requirements as outlined in ARM 10.57.435." This would allow schools to hire individuals that have been approved in a counseling program sooner than waiting for them to complete all but 4 courses.

As I am sure you are aware, the State of Montana is in an educator shortage, especially when it comes to school counselors. Changing this verbiage would allow schools like mine to open up the applicant pool to those who are eager to become a school counselor by educators who are already active within our district. As the cost of living has continued to increase over the last few years it has become more and more apparent that the chances of attracting applicants from other areas are low.

As we know the state of Montana also experiences a higher than average suicide rate. According to Youth Risk Behavior Survey data 13% of Montana students attempted suicide during the 2022-2023 school year. This is a sharp increase in Montana...the highest percentage in 20 years. This data shows how vital having school counselors are and not open/empty positions. This change would directly help students in the state as it would allow districts to hire educators who are already actively pursuing a school counseling degree and who have shown dedication and empathy to the students we serve.

I sincerely hope that you will consider this proposed change so school districts from across the state could allow for more choice when it comes to our applicant pool. Thank you for your time and consideration at the March 18 Board of Public Education meeting.



239.244.8808 75 N Woodward Ave #80038 Tallahassee. FL 32313

SolutionsProject.org 涨@OppSolutions

March 6, 2024 Montana Board of Public Education Dr. Tim Tharp, Chair 46 N Last Chance Gulch, Suite 2B PO Box 200601 Helena, MT 59620

#### RE: American Board Application for Approval as an Alternative Teacher Certification Program

Dear Chair Tharp and Members of the Board:

The governor signed into law SB 373, which allows for alternative teacher certification programs to be recommended by the Superintendent of Public Instruction to the Board of Public Education for approval in Montana. The bill provides a path for individuals who already have an undergraduate degree to take an approved online course to earn their teaching certificate and endorsement in Montana.

The alternative teacher certification programs must meet certain requirements outlined in statute to ensure these programs are established programs with a track record of success rather than start-up, unknown programs. There has been an ongoing teacher shortage in Montana and universities are unable to produce enough new teachers to eliminate the shortage. Alternative teacher certification programs are a public-private solution to help bridge this gap. These programs provide alternative pathways that appropriately prepare teachers on pedagogy as well as subject matter content to ensure these individuals are prepared to teach students. Not every individual has the luxury of being able to leave their family or job to attend a university system program for a year or two to become certified. Alternative programs allow individuals already living in communities to change their careers and use their real-world experience to teach students. It also provides a path for paraprofessionals in the education industry to earn their teaching certifications while continuing to work in classrooms.

The American Board for Certification of Teacher Excellence (American Board) has applied to the Office of Public Instruction and the Office of Public Instruction has recommended approval of the American Board program by the Board of Public Education. We support the superintendent's recommendation and urge the Board of Public Education to approve American Board as an alternative teacher certification program in Montana.

Please do not hesitate to contact me if you have any questions. Thank you.

Sincerely,

Eric Bledsoe Visiting Fellow Opportunity Solutions Project March 12, 2024

Montana Board of Public Education Dr. Tim Tharp, Chair 46 N Last Chance Gulch, Suite 2B PO Box 200601 Helena, MT 59620

#### RE: American Board Application for Approval as an Alternative Teacher Certification Program

Dear Chair Tharp and Members of the Board,

I was the primary sponsor of SB 373 during the 2023 Legislative Session, which was signed into law by the Governor on May 8, 2023. SB 373 allows for alternative teacher certification programs to be recommended by the Superintendent of Public Instruction to the Board of Public Education for approval in Montana. The bill provides a path for individuals who already have an undergraduate degree to take an approved online course to earn their teaching certificate and endorsement in Montana.

SB 373 sets forth three requirements an alternative teacher certification program must meet to be approved: (1) providing subject-area content training in the area in which the applicant seeks to be certified and endorsed (Section 1(1)(d)(i)); (2) providing pedagogical training that covers effective instructional delivery, classroom management and organization, assessment, instructional design, and professional learning and leadership (Section 1(1)(d)(ii)); and (3) the program must be accepted for teacher licensure in at least five states and has operated for at least 10 years (Section 1(4)(a)(ii)).

The American Board for Certification of Teacher Excellence (American Board) has submitted information to the Office of Public Instruction demonstrating compliance with the statutory requirements contained in SB 373, and following a thorough review, Superintendent Arntzen has recommended American Board for approval as an alternative teacher certification program.

American Board was founded in 2001 with a \$45 million grant from the U.S. Department of Education and now operates in 13 states. Over the last 20 years, American Board has helped more than 16,000 teachers gain their teaching certification. Individuals with a wealth of real-world experience, such as career changers, military veterans, stay at home parents, substitute teachers and paraprofessionals often take advantage of programs like American Board because

the path to teacher certification more seamlessly fits within their lifestyle. Approval of American Board as an alternative teacher certification will help Montana address our teacher shortage and get more teachers in the classroom.

I support the Superintendent's recommendation and urge the Board of Public Education to approve American Board as an alternative teacher certification program in Montana. Please do not hesitate to contact me if you have any questions. Thank you.

Sincerely,

Senator Dan Salomon Senate District 47

Public Connect n Requirements Water



Updated: Sept 1, 2023 SAM TOPIC BRIEF: Newly Revised Chapter 55, Graduation Requirements

#### What are the new requirements?

#### **10.55.905 GRADUATION REQUIREMENTS**

(1) As a minimum, a school district's requirements for graduation shall include a total of 20 units of study that the content standards and content-specific grade-level or grade-band learning progressions. Students may demonstrate achievement through a flexible system of pupil-centered learning.

(2) In order for students to graduate, they must meet the content and performance standards. The following 13 units shall be part of the 20 units. The required units may be satisfied by an equivalent course that meets the district's curriculum and assessment requirements, which are aligned with each of the content standards:

(a) 4 units of English language arts;

(b) 2 units of mathematics;

(c) 2 units of social studies (including a 1/2 unit of Civics or Government);

- (d) 2 units of science.;
- (e) 1 unit of health and physical education;

(f) 1 unit of art;

(g) 1 unit of career and technical education; and

(h)  $\frac{1}{2}$  unit of economics or financial literacy within the 2 units of social studies, the 2 units of mathematics, or the 1 unit of career and technical education.

(3) Units of credit earned in any Montana high school accredited by the Board of Public Education shall be accepted by all Montana high schools.

(4) In accordance with the policies of the local board of trustees, students may be graduated from high school with less than four years enrollment.

#### When do the new rules take effect?

At a special meeting of BPE held on April 12, these two sections will go into effect as of July 1, 2025. This means the first class that will be required to meet these standards will be class of 2025/26.

#### How does OPI or State of MT Define Financial Literacy?

Financial Literacy as defined by recently passed legislation

As per <u>HB535</u>, 2023 Legislative Session

"Supports instruction of financial literacy, where students obtain the knowledge and skills required to succeed financially."

Content Standards: Social Studies

As per <u>10.53.909(2)</u> Econ Standards within the Social Studies Standards

04204	AP Macroeconomics	04S BF, 04S ECO,12S BUS, 12S BM	Following the College Board's suggested curriculum designed to parallel college-level macroeconomics, AP Macroeconomics courses provide students with a thorough understanding of the principles of economics that apply to an economic system as a whole. They place particular emphasis on the study of national income and price determination and developing students' familiarity with economic performance measures, economic growth, and international economics.
04205	AP Economics	04S BF, 04S ECO,12S BUS, 12S BM	AP Economics courses prepare students for the College Board's examinations in both Microeconomics and Macroeconomics; these courses include the content of the two separate courses as described above.
04206	IB Economics	04S BF, 04S ECO,12S BUS, 12S BM	IB Economics courses prepare students to take the International Baccalaureate Economics exams. The courses provide students with the basic tools of economic reasoning and teach them to use those tools to explain or interpret economic problems. Course content includes international and development economics, microeconomics, and macroeconomics.
		Physical, Health,	and Safety Education
Course Code	Course Name	Endorsements	Course Description
08056	Health for Parenting Teens	08A HE, 08A HEA, 08S HE, 08S HEA, 08A HPE, 08S HPE, 23S FCS	Designed for pregnant teens and/or parents, topics within Health for Parenting Teens courses cover a wide range of both health and parenting issues, typically including prenatal and postnatal care, health and well-being of young parents, child development, stress management, and parental/adult roles. The courses may also involve academic assistance, career exploration, financial management, and so on.
08057	Health and Life Management	08A HE, 08A HEA, 08S HE, 08S HEA, 23S FCS, 08A HPE, 08S HPE	Health and Life Management courses focus as much on consumer education topics (such as money management and evaluation of consumer information and advertising) as on personal health topics (such as nutrition, stress management, drug/alcohol abuse prevention, disease prevention, and first aid). Course objectives include helping students develop decision-making, communication, interpersonal, and coping skills and strategies.
		Career and Te	chnical Education
Business and Marketing			
Course Code	Course Name	Endorsements	Course Description
12052	2 Business Management	12S BUS, 12S BM	Business Management courses acquaint students with management opportunities and effective human relations. These courses provide students with the skills to perform planning, staffing, financing, and controlling functions within a business. In addition, they usually provide a macro-level study of the business world, including business structure and finance, and the interconnections among industry, government, and the global economy. The course may also emphasize problem-based, real-world applications of business concepts and use accounting concepts to formulate, analyze, and evaluate business decisions.

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12053	Entrepreneurship	12S BUS, 23S FCS, 12S BM	Entrepreneurship courses acquaint students with the knowledge and skills necessary to own and operate their own businesses. Topics from several fields typically form the course content: economics, marketing principles, human relations and psychology, business and labor law, legal rights and responsibilities of ownership, business and financial planning, finance and accounting, and communication. Several topics surveyed in Business Management courses may also be included.
12059	IB Business and Management	12S BUS, 12S BM	IB Business Management courses prepare students to take the International Baccalaureate Business and Management exams. IB Business Management courses explore business decision-making processes and their relationship to internal and external environments. Course content includes business organization and environment, human resources, accounts and finance, marketing, and operations management.
12101	Banking and Finance	12S BUS, 12S BM	Banking and Finance courses provide students with an overview of the American monetary and banking system as well as types of financial institutions and the services and products that they offer. Course content may include government regulations; checking, savings, and money market accounts; loans; investments; and negotiable instruments.
12102	Banking	12S BUS, 12S BM	Banking courses are similar to Banking and Finance courses, but they focus specifically on banking. These courses may also address examining and applying the methods used for measuring the financial performance of banks in addition to examining specialized brokerage products, current issues, and future trends in banking.
12103	Finance	12S BUS, 12S BM	Finance courses are similar to Banking and Finance courses, but they focus specifically on finance, addressing how businesses raise, distribute, and use financial resources while managing risk. Course content typically involves modeling financial decisions (such as borrowing, selling equity or stock, lending or investing) typically undertaken by businesses.
12104	Accounting	12S BUS, 12S BM	Accounting courses introduce and expand upon the fundamental accounting principles and procedures used in businesses. Course content typically includes the full accounting cycle, payroll, taxes, debts, depreciation, ledger and journal techniques, and periodic adjustments. Students may learn how to apply standard auditing principles and to prepare budgets and final reports. Calculators, electronic spreadsheets, or other automated tools are usually used. Advanced topics may include elementary principles of partnership and corporate accounting and the managerial uses of control systems and the accounting process.
12105	Business Economics	12S BUS, 12S BM	Business Economics courses integrate economic principles (such as free market economy, consumerism, and the role of American government within the economic system) with entrepreneurship/business concepts (such as marketing principles, business law, and risk).
12106	Risk Management and Insurance	12S BUS, 12S BM	Risk Management and Insurance courses analyze risk management techniques from the viewpoints of those employed in the industry as well as of business owners seeking to meet risk management needs. Insurance products are evaluated in relation to cost and effectiveness.

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12107	Securities and Investments	12S BUS, 12S BM	Formerly known as Investing, Securities and Investments courses emphasize the formulation of business and individual investment decisions by comparing and contrasting the investment qualities of cash, stock, bonds, and mutual funds. Students typically review annual reports, predict growth rates, and analyze trends. Stock market simulations are often incorporated into these courses.		
12148	Finance—Workplace Experience	12S BUS, 12S BM	Finance—Workplace Experience courses provide students with work experience in fields related to finance. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.		
12201	Cashier/Checker Operations	12S BUS, 12S MAR, 12S BM	Cashier/Checker Operations courses provide students with the knowledge and skills to operate a cash register and to handle numerous transactions. Topics typically include cash register procedures; handling cash, credit, checks, food stamps, and other forms of legal tender; human relations; stocking and marking merchandise; and theft prevention. Job search and employability skills are often an integral part of the course.		
	Career and Technical Education				
	Agriculture, Food, and Natural Resources				
Course Code	Course Name	Endorsements	Course Description		
18201	Agribusiness Management	18S AB, 18S AG	Agribusiness Management courses provide students with the information and skills necessary for success in agribusiness and in operating entrepreneurial ventures in the agricultural industry. These courses may cover topics such as economic principles, budgeting, risk management, finance, business law, marketing and promotion strategies, insurance, and resource management. Other possible topics include developing a business plan, employee/employer relations, problem-solving and decisionmaking, commodities, and building leadership skills. These courses may also incorporate a survey of the careers within the agricultural industry.		
18202	Agricultural Entrepreneurship	18S AB, 18S AG, 18S AH, 18S AM, 18S FO, 18S LP, 18S PS, 18S NR	Agricultural Entrepreneurship courses focus on the personal skills necessary for success in entrepreneurial ventures in the agricultural industry. Topics include setting goals, assessing and solving problems, evaluating financial progress and success, business planning, information management and evaluation, and recordkeeping.		
	Career and Technical Education				
Family and Consumer Sciences					
Course Code	Course Name	Endorsements	Course Description		
19251	Family and Consumer Sciences—Compreher	23S FCS	Family and Consumer Sciences—Comprehensive courses help students to develop the knowledge and skills that are used to manage one's family and career efficiently and productively. Course topics typically include foods and nutrition; apparel; child care and development; housing, interior design, and maintenance; consumer decisions; personal financial management; interpersonal relationships; and careers available in family and consumer sciences.		

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19257	Life Skills	23S FCS	Life Skills courses provide students with information about a wide range of subjects to assist them in becoming wise consumers and productive adults. These courses often emphasize process skills, including goal-setting, decision making, and other topics such as the setting of priorities, money and time management, interpersonal relationships, and the development of the self. Additionally, specific topics such as wellness, selecting and furnishing houses, meeting transportation needs, nutrition, preparing food, selecting clothing and building a wardrobe, insurance, taxation, and consumer protection may also be covered.
19258	Personal and Career Readiness	23S FCS	Formerly known as Self-Management, Personal and Career Readiness courses introduce students to the skills and strategies that are helpful in becoming more focused, productive individuals, wage earners, and family members. These courses typically emphasize goal-setting; decision making; managing time, energy, and stress; and identifying alternatives and coping strategies. They may also allow students to explore various career and lifestyle choices.
19259	Family and Interpersonal Relationships	238 FCS	Formerly known as Family Living, Family and Interpersonal Relationships courses emphasize building and maintaining healthy interpersonal relationships among family members and other members of society. These courses often emphasize (but are not limited to) topics such as the responsibilities of a family and wage earner, balancing a career and personal life, human sexuality and reproduction, marriage preparation, parenthood and the function of the family unit, the family life cycle, and life stages. They also cover topics related to stages of growth and social/dating practices.
19262	Consumer Economics/Personal Finance	23S FCS, 12S BUS, 12S BM	Consumer Economics/Personal Finance courses provide students with an understanding of the concepts and principles involved in managing one's personal finances. These courses emphasize lifespan goal-setting, individual and family decision making, and consumer rights as well as topics that are commonly associated with personal finance so that one can become a financially responsible consumer. Topics may include savings and investing, credit, insurance, taxes and social security, spending patterns and budget planning, contracts, and consumer protection. These courses may also investigate the effects of the global economy on consumers and the family.

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Hi, my name is Madison Yerian and I have been a school psychologist in Montana for four years. Previously, I obtained my bachelors in elementary education with a reading endorsement and then went on to get my specialist degree in school psychology through the University of Montana. I am a nationally certified school psychologist and have been an active member of the Montana Association of School Psychologists for the last four years; furthermore, I have been an elected board member for the last year.

I am here today to speak on behalf of the Montana Association of School Psychologists as well as every family and student that has placed their trust and confidence in me as a fully licensed and trained school psychologist directing their educational path.

"Would you or I be here today without the support of highly educated teachers, counselors, mental health professionals, or school psychologists?" The answer is, "No." At some point in your life, you have been impacted by the unique work of one of these professionals.

School psychologists play an instrumental role in supporting students, families, and other educational professionals by providing evidence-based practices in mental health, behavioral strategies and supports, academic interventions, crisis prevention and intervention, and ethical guidelines. This would not be possible without the rigorous educational requirements as well as intensive supervised experience in educational settings that are required by all National Certified School Psychology programs. There are 270 school psychology programs in the country, 60-70% hold NCSP accreditation, which would easily transfer for individuals to obtain their Class 6 license through the present state standards. This includes hybrid programs and virtual programs.

The changes that are being proposed would allow for an individual with limited school psychology training or none at all but simply the intent to be trained to then serve the school psychologists role and be expected to effectively take on the responsibilities previously stated. Additionally, this would entail administering psychological assessments that determine if a student continues to qualify or initially qualifies for special education services, yet this individual could potentially never have taken a graduate level course on psychological assessments nor been supervised in the assessment process.

The language of the current proposal may <u>negatively affect public welfare</u>, particularly our most vulnerable populations: Montana children with disabilities and mental health challenges in rural areas with already limited resources. Changing the requirements for school psychologists is NOT the answer to the shortages we face.

There are substantial reasons that professionals are not staying in Montana to work nor are they coming to Montana to work. This ARM is a band aid that not only can, and will, have dire consequences for special education students but will also put Montana farther behind in closing the educational gaps and pose challenges to address school psychology shortages in other ways

I am committed to working in Montana as an effective school psychologist and I strive to provide evidence-based practices and services to students in rural schools. The students, school staff, and families of Montana deserve a school psychologist in their schools who is highly qualified and can support their students' mental health and learning. I urge you to collaborate with MASP and other organizations to navigate other options in addressing the shortages of school psychologists in Montana. I urge the Board of Education to not support the change in the ARM to address Class 5 and Class 6 Licensures. Please keep the current licensing requirements for Montana school psychologists and do not approve of the ARM Title 10, Chapter 57, Educator Licensure Standards.

#### BOARD OF PUBLIC EDUCATION MEETING MINUTES

#### March 25, 2024 Zoom

#### Monday, March 25, 2024 11:00AM

#### CALL TO ORDER

Chair Thap called the meeting to order at 11:02 AM and led the Board in the Pledge of Allegiance. Ms. McCall Flynn took Roll Call, the Chair read the Statement of Public Participation, and welcomed guests.

Board members present: Dr. Tim Tharp, Chair; Ms. Susie Hedalen, Vice Chair; Ms. Renee Rasmussen; Dr. Ron Slinger; Ms. Jane Hamman; Ms. Lisa Schmidt; Ms. Madalyn Quinlan. Ex Officio members: Dr. Angela McLean, Office of the Commissioner of Higher Education; Mr. Dylan Klapmeier, Governor's Office; Superintendent Elsie Arntzen, Office of Public Instruction (OPI). Staff present: Ms. McCall Flynn, Executive Director; Ms. Julie Balsam, Accounting Technician. Guests: Mr. Chad Vanisko, Agency Legal Services; Ms. Aislinn Brown, Agency Legal Services. Ms. Kim Popham, Montana Federation of Public Employees; Mr. Brian O'Leary, OPI; Representative Fred Anderson; Jana H.; Ms. Christine Lewanski, Hamilton School District; Mr. Doug Reisig, Montana Quality Education Coalition; Superintendent Rex Weltz, Helena Public Schools; Mr. Rick Wootton, OPI; Ms. Katherine Bloodgood, OPI; Superintendent Erik Wilkerson, Jefferson High School District; Billings Public Schools (BPS); Mr. Chip Lindenlaub; Ms. Emily Dean, Montana School Board Association; Superintendent Erwin Garcia, BPS; Dr. Jeril Hehn, BPS; M. Blakely; Representative David Bedey; School Administrators of Montana.

#### ADOPT AGENDA

<u>Board member Quinlan moved to adopt the agenda as presented.</u> Motion seconded by Board member Rasmussen.

No further discussion. Motion passed unanimously.

Item 1

#### ACTION ON LETTER TO SUPERINTENDENT ARNTZEN PERTAINING TO THE PUBLIC CHARTER SCHOOL OPENING PROCESS Dr. Tim Tharp

Chair Tharp reviewed the roles and responsibilities of Montana's education entities and highlighted new laws interpreted by OPI that are causing challenges for Montana schools by slowing or interfering in funding. The Chair reviewed the requirements of HB 549 for the opening of public charter schools, and the interpretation by OPI that the 19 public charter schools approved by the Board must go through the school opening process for new public schools, outlined in statute. Chair Tharp discussed the possible consequences this could create for the schools.

<u>Board Member Quinlan moved to send the letter to Superintendent Arntzen as</u> <u>presented in the packet.</u> Motion seconded by Board member Schmidt.

*Mr.* Dylan Klapmeier spoke in support of the Board's letter to Superintendent Arntzen to not impede the opening of Board-approved public charter schools. Mr. Klapmeier stated Governor Gianforte desires the schools open without delay.

Board member Quinlan highlighted the Board's authority to open charter schools, statedin Section 6 of HB 549.
Board member Rasmussen noted that HB 549 contains the same requirements to open a public charter school as are required in law for traditional schools and expressed that charter schools opened under the new legislation are not subject to the additional requirements that exist for the opening of a new regular public school.

Vice Chair Hedalen mentioned that a public charter school in Bozeman opened in the past was not required to go through the additional steps for opening that OPI is now requiring.

Representative Fred Anderson, legislative sponsor of HB 549, discussed the extensive time bill drafters spent with legal counsel writing the bill and said there was no intent to have charters go through additional steps to open. Representative Anderson noted the frustration that has been expressed to him from the new charter schools regarding additional steps to open their schools.

*Mr.* Chip Lindenlaub spoke of his experience attending every meeting of the drafting and passing of the charter bills during the session and that the bill states public charter schools must follow Title 20, and encouraged the Board withdraw the letter to the Superintendent.

Representative David Bedey expressed respectful disagreement with some previous comments and spoke of the consultation with legal counsel during the drafting of the bill, extensive hearings held, and that the Board has authority to open public charter schools.

Superintendent Arntzen requested the Board draft a policy on the procedure they follow to open a charter school and offered her assistance in drafting such a policy.

Board member Rasmussen highlighted the bill drafters stated intent in opening charter schools which speaks of the Board's responsibility to open and oversee the schools. She stated that because charter schools that have been opened in the past were not subject to additional opening requirements, charter schools opened under HB 549 should also not be subject to additional requirements.

No further discussion. Motion passed unanimously by Roll Call vote\*\*

\*\* Board member Hamman experienced technical difficulties and conveyed her "yes" vote after the fact.

#### **PUBLIC COMMENT**

No public comment was made.

#### ADJOURN

Meeting adjourned 11:32 AM

The Montana Board of Public Education is a Professional Development Unit Provider. Attending a Board of Public Education Meeting either in person or via Zoom may qualify you to receive professional development units. Please complete the necessary information on the sign-in sheet if you are applying for professional development units.

Agenda items are handled in the order listed on the approved agenda. Items may be rearranged unless listed "time certain". Public comment is welcome on all items listed as "Action" and as noted at the beginning and end of each meeting.

The Board of Public Education will make reasonable accommodations for known disabilities that may interfere with an individual's ability to participate in the meeting. Individuals who require such accommodations should make requests

to the Board of Public Education as soon as possible prior to the meeting start date. You may write to: Kris Stockton, PO Box 200601, Helena MT, 59620, email at: <u>kmstockton@mt.gov</u> or phone at 406-444-0302.

Thank you Dr. Tharp and Board members for your time

As I've written and testified before, the legislators who drafted, sponsored and passed this legislation have put the BPE in a terrible position. First of all, they have tried to redefine the term public charter school. Since the first charter law passed Minnesota in 1991, Charters Schools were intended to operate OUTSIDE of the Traditional Public School System. Secondly, the legislators provided you with an unrealistic timeline. In a short time period BPE had to learn about charter schools, school applications and charters and then evaluate and approve schools, all while performing your normal task of overseeing 400 school districts and 800 schools.

Now, and worst of all, these same legislators and school associations are asking you to sell out your character and integrity to cover for the mistake that they made when they drafted the Public Charter School Act.

As a supporter of the Community Choice Schools Act and an opponent of the Public Charter Schools Act, I have followed the legislation closely and attended, in person or online the 4 major committee hearings and the votes and debates in the State legislature. I have read each bill. Make no mistake, from their public testimony HB 549's sponsors and supporters intended these schools to uphold ALL Title 20 requirements that were not specifically exempted in HB549. In various committee hearings, the Director of the Montana School Board Association acknowledged that he helped draft HB549. Testifying in opposition to HB 562 he stated that Title 20 was the result of decades of legislative work and it set the standards for Montana's Schools. He questioned why any legislator would vote for a bill that didn't require Title 20 to be upheld. Sponsors of the bill stated that if Title 20 wasn't upheld, we could end up with "The Wild West of Charter Schools in Montana."

Which brings me to your letter to the OPI, dated today. With all due respect, Paragraph 2 of your letter is incorrect. In fact, Public Charter Schools have NOT "fully satisfied all requirements set forth in Law to open." HB 549, Section 11(1)(c) states, "Except as provided in Sections 1 through 14 and in the public charter school's charter contract, a public charter school is subject to the provision of Title 20 and any state or local rule, regulation, policy, or procedure relating to non-charter public schools within the located school district." Additionally, Section 6 (6) states that

the Board of Public Education must "ensure that each school meets all building , health, safety, insurance and other legal requirements for school opening." As OPI Counsel Stutz testified before the Education/Budget Interim Committee, NOWHERE in HB 549 is there an exemption for Title 20's school opening procedures.

Rather than admit their mistake, the sponsors of 549 and school associations are pressuring the BPE and the OPI to willfully violate the law by ignoring what is written in HB549. Humbly I ask, how will you hold these schools accountable if you allow them to deviate from the law on the day they are founded? Also, what will be the next Title 20 Section that the Board decides the schools need not comply with?

Finally, I don't expect perfection but I do expect accountability. 549's sponsors should admit their failure to include exemption from Title 20 Opening procedures in the language of the bill and they should stop blaming OPI for doing their job and upholding the the law as enacted. The Board should withdraw its letter to the OPI which will set an example of character, integrity, and accountability that Montana's students could study in a future civics class.

Sincerely,

Chip Lindenlaub montanafish@me.com (406) 370-2108

## **CONSENT AGENDA**

## **FINANCIALS**

#### 51010 Board of Public Education ORG Budget Summary by OBPP Prog, Subclass, Fund

Data Selected for Month/FY: 01 (Jul)/2024 through 10 (Apr)/2024

OBPP Program Subclass	Fund	Acct Lvl 1	Org	ORG Budget	Actuals Amt	A Accrual Amt	ORG Bud Balance
01 K-12 EDUCATION				591,923.00	320,061.81	0.00	271,861.19
235F3 F	Y2023 CARRYFORWARD			9,721.00	1,560.00	0.00	8,161.00
	01100 General Fund			9,721.00	1,560.00	0.00	8,161.00
		62000 Operating Expenses		9,721.00	1,560.00	0.00	8,161.00
			T BOARD OF PUBLIC EDUCATION	9,721.00	1,500.00	0.00	8,101.00
		(blank)		0.00	_0.00	0.00	0.00
			ALL All Organization Rollup	0.00	0.00	0.00	0.00
235H1 A	ADMINISTRATION			537,708.00	304,163.09	0.00	233,544.91
	01100 General Fund			531,965.00	298,826.49	0.00	233,138.51
		61000 Personal Services		258,793.00	193,811.62	0.00	64,981.38
			1 BOARD OF PUBLIC EDUCATION	258,793.00	193,811.62	0.00	64,981.38
		62000 Operating Expenses		273 172 00	105 014 87	0.00	168 157 13
		Sever Operating Expenses	1 BOARD OF PUBLIC EDUCATION	273,172.00	105.014.87	0.00	168,157,13
				1.0,		0.00	
		(blank)		0.00	0.00	0.00	0.00
			ALL All Organization Rollup	0.00	0.00	0.00	0.00
				4.4.40.00	0 454 50	0.00	4 005 11
	U2122 Advisory Council	64000 Demonal Semilara		4,140.00	2,154.59	0.00	1,985.41
		61000 Personal Services		4,140.00	2,154.59	0.00	1,985.41
			30 Advisory Council Program 01	4,140.00	2,104.09	0.00	1,900.41
			ise namony counter regian of	0.00	0.00	0.00	0.00
		(blank)		0.00	0.0	0.00	0.00
		· · · ·	ALL All Organization Rollup	0.00	0.00	0.00	0.00
	02219 Research Fund			1,603.00	1,543.71	0.00	59.29
		61000 Personal Services		1,555.00	1,543.71	0.00	11.29
			FUBLIC EDUCATION	1,000.00	1,040.71	0.00	11.29
		62000 Operating Expenses		48 00	_0.00	0.00	48 00
		Level operating Expended	1 BOARD OF PUBLIC EDUCATION	48.00	0.00	0.00	48.00
			50 Research Program 01	0.00	0.00	0.00	0.00
		68000 Transfers-out		0.00	0.00	0.00	0.00
			50 Research Program 01	0.00	0.00	0.00	0.00
		(blank)		0.00	_0.00	0_00	0.00
			ALL All Organization Rollun	0.00	0.00	0.00	0.00
				0.00	0.00	0.00	0.00
	08084 Community Choice Schools			0.00	1,638.30	0.00	(1,638.30)
		62000 Operating Expenses		0.00	1,638.3 <u>0</u>	0.00	(1,638.30)
		<b>_</b> .	20 Community Choice Schools	0.00	1,638.30	0.00	(1,638.30)
235H2 A	AUDIT (RST/BIEN)			0.00	0.00	0.00	0.00
	01100 General Fund			0.00	0.00	0.00	0.00
		62000 Operating Expenses		0.00	0.00	0.00	0.00
			T BOARD OF FUBLIC EDUCATION	0.00	0.00	0.00	0.00
		(blank)		0.00	0.00	0.00	0.00
		(Mariny)	ALL All Organization Rollup	0.00	0.00	0.00	0.00
			i	0.00	0.00	0.00	0.00
235H4 S	SITSD RST			44,480.00	14,338.72	0.00	30,141.28

OBPP Program Subclass Fund	1	Acct Lvl 1	Org	ORG Budget	Actuals Amt	A Accrual Amt	ORG Bud Balance
01 K-12 EDUC/ 235H4 SITSD 01100	General Fund			44,480.00	14,338.72	0.00	30,141.28
		62000 Operating Expenses		44,480.00	14,338.72	0.00	30,141.28
			1 BOARD OF PUBLIC EDUCATION	44,480.00	14,338.72	0.00	30,141.28
		(blank)		0.00	0.00	0.00	0.00
	-	· · ·	ALL All Organization Rollup	0.00	0.00	0.00	0.00
235Z1 WORKERS CO	MP. REDUCTION			14.00	0.00	0.00	14.00
01100	General Fund			9.00	0.00	0.00	9.00
		61000 Personal Services		9.00	0.00	0.00	9.00
	-		1 BOARD OF PUBLIC EDUCATION	9.00	0.00	0.00	9.00
		(blank)		0.00	0.00	0.00	0.00
	-		ALL All Organization Rollup	0.00	0.00	0.00	0.00
02122	Advisory Council			0.00	0.00	0.00	0.00
		61000 Personal Services		0.00	0.00	0.00	0.00
	-		30 Advisory Council Program 01	0.00	0.00	0.00	0.00
		(blank)		0.00	0.00	0.00	0.00
	-		ALL All Organization Rollup	0.00	0.00	0.00	0.00
02219	Research Fund			5.00	0.00	0.00	5.00
		61000 Personal Services		5.00	0.00	0.00	5.00
	-		1 BOARD OF PUBLIC EDUCATION	5.00	0.00	0.00	5.00
		(blank)		0.00	0.00	0.00	0.00
	-	· · ·	ALL All Organization Rollup	0.00	0.00	0.00	0.00
Grand Total				591,923.00	320,061.81	0.00	271,861.19

## ✤ <u>REPORTS – Dr. Tim Tharp (Items 1-5)</u>

## <u>ITEM 1</u>

## **CHAIRPERSON'S REPORT**

Dr. Tim Tharp

## **ITEM 2**

## **EXECUTIVE DIRECTOR'S REPORT**

**McCall Flynn** 

## ITEM 3

## **STATE SUPERINTENDENT REPORT**

## State Superintendent Elsie Arntzen

- Assessment Update
  - MAST Update
  - Federal Update
- Accreditation Report
- Content Standards Revision Update
  - Data Modernization Update

OFFICE OF PUBLIC INSTRUCTION STATE OF MONTANA





#### Superintendent Arntzen's Report to the Board of Public Education as of April 24, 2024

#### Superintendent Arntzen's Message:



"Unaccountable associations and woke organizations will continue to attack me for being a conservative and putting students, parents, and families first. The district court's recent order clarifies that I am following the laws of our great state and NOT ignoring my constitutional duty to our students and schools. I have been a champion of school choice for children and parents during my time in office. I look forward to continuing to work with our school districts to open the Public Charter Schools in accordance with the law and the court's order."

> - Elsie Arntzen State Superintendent-

Please read my latest OpEd, <u>Court Order on Public Charter Schools is a Win for Montana</u> <u>Students</u> where I discuss the recent <u>court order</u> that stated that the Office of Public Instruction (OPI) "is charged with opening, the Board (of Public Education) with *pre*opening; the Board *establishes* schools, OPI *opens* them."

A summary of the positions that the Board of Public Education (BPE), the Montana Quality Education Coalition (MQEC), and my office took on the implementation of Public Charter Schools:









- OPI's position was that <u>Title 20, Chapter 6, Part 5</u> (Opening and Closing of Schools) applied to public charter schools.
- BPE's position was that the Board could declare the public charter schools open and direct the public charter school opening process.
- MQEC's position was that Title 20, Chapter 6, Part 5 (Opening and Closing of Schools) did <u>not</u> apply to public charter schools and that, instead, the Board's directive should be required.
- OPI and MQEC reiterated their opposing positions during the briefing on the preliminary injunction motion.
- The District Court determined that OPI, not the Board, is responsible for public charter school opening.
- The District Court neither ordered OPI to comply with the Board's directive nor enjoined OPI from enforcing Title 20, Chapter 6, Part 5, with one exception regarding only elementary schools: "OPI is preliminarily enjoined from requiring compliance with the parental petition, county superintendent approval and county commission approval provisions of Mont. Code Ann. § 20-6-502 as a condition to issuing schools codes and other support provided by OPI to charter schools."

Immediately upon receiving the court's decision my office reached out to the Board of Public Education and notified the 11 school districts that have the 19 Public Charter School contracts. I am excited to announce that the process of opening the new Public Charter Schools has begun, despite the delays by woke associations.

I am encouraged that Public Charter Schools give parents a choice in the education of their children. During my years as State Superintendent, my focus has been putting Montana **students** first. I remain accountable to our constitution, our laws, and our Montana students and parents.

For more information, please contact Rob Stutz, Chief Legal Council, at <u>Rob.Stutz@mt.gov</u>.

#### **Education Savings Account Update:**



A timeline of the Education Savings Account: • On April 27, 2023, <u>HB 393</u>, the Montana Legislature passed the Students with Special Needs Equal Opportunity Act, which created the <u>Education</u> <u>Savings Account</u> (ESA).

- On May 18, 2023, HB 393 was signed by the Governor.
- On July 1, 2023, HB 393 became effective.

• On November 28, 2023, the Office of Public Instruction (OPI) opened applications for the ESA <u>Steering Committee</u>.

- On December 10, 2023, OPI announced the ESA Steering Committee members.
- On January 9 and February 12, 2024, OPI held the first two ESA Steering Committee meetings.
  - o January 9, 2024, meeting <u>Agenda</u> and <u>Recording</u>
  - o February 12, 2024, meeting <u>Agenda</u> and <u>Recording</u>
- On January 23, 2024, the Montana Quality Educators Coalition (MQEC) and Disability Rights Montana filed a lawsuit against HB 393.

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- On January 23, 2024, MQEC and Disability Rights Montana filed a lawsuit against <u>HB</u> <u>393</u>, the <u>Education Savings Account</u> (ESA). I responded, "As the daughter of a special education teacher, I have always supported children of all abilities. Local accountability starts with the family. Montana parents know the educational needs of their students better than the government. The special education savings account has specific parameters for the use of state dollars and a rigorous accountability process. Our children deserve the best education that they can receive. HB 393 aims to provide this by putting Montana students first."
- On March 11 and April 8, 2024, OPI held two more ESA Steering Committee meetings.
  - March 11, 2024, meeting <u>Agenda</u> and <u>Recording</u>
  - o April 8, 2024, meeting <u>Agenda</u> and <u>Recording</u>
- On April 8, 2024, OPI hired an account specialist to handle the flow of ESA dollars
- On April 11, 2024, OPI published that the ESA applications would be available on May 1, 2024.
- On April 15, 2024, OPI released a <u>Family Interest Survey</u>. About 60 Montana parents and families contacted OPI with interest in utilizing the ESA.
- On April 22, 2024, a motion for a preliminary injunction was filed by MQEC to stop the implementation of HB 393. I responded: "Unaccountable organizations and associations utilize our court system when they can't win in the Legislature. Montanans elect representatives to be their voice and pass legislation at our Capitol. These stuck-in-the-mud education groups are hurting children of all abilities and parental choice by standing in the way of Montana's constitutional promise to develop the full educational potential of all children. I have always been and will continue to be a fierce advocate for transparency, parental rights, and expanding educational choices for our children.

For more information, please contact Rob Stutz, Chief Legal Council, at <u>Rob.Stutz@mt.gov</u>.

#### **2025 Montana Teacher of the Year Applications:**



The 2025 Montana Teacher of the Year applications opened on April 8, 2024. All Montanans are encouraged to fill out the simple <u>nomination</u> form before May 10, 2024. Teachers may self-nominate through the form as well. All nominated teachers will be contacted and asked to fill out an application. Applications should be sent to <u>MTTOY@mt.gov</u>. As of April 24, 2024, there were 28 nominations submitted to OPI.

The 2025 Montana Teacher of the Year timeline is:

- May 10, 2024 Nominations due
- June 21, 2024 Applications due to MTTOY@mt.gov
- July-August 2024 Applications reviewed by committees
- Mid-September 2024 Finalists selected
- Mid-September 2024 Finalists interviewed by state committee, MT TOY selected
- October 2024 National Teacher of the Year Application Due to CCSSO
- February 2025 MT TOY begins duties and NTOY activities

For more information, please contact Brian O'Leary, TOY Coordinator, at brian.o'leary@mt.gov.

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#### **Budget and Education Working Group:**



On March 18, 2024, I <u>announced</u> the creation of the <u>Budget and Education</u> <u>Working Group</u>. Over 170 Montana teachers, parents, taxpayers, school clerks, and superintendents submitted their names to be a part of the working group. Due to overwhelming interest, there will be seven breakout groups based on the areas of interest expressed on the application:

- Special Needs students and programs
- Teacher pay, retention, recruitment.
- Rural, Population, & Culture
- Sustainability & tax burden
- Programs & Curriculum
- Funding Formula
- School Budgeting

The first meeting was held on April 24, 2024, at 7:00 PM via Zoom. The meeting included:

- A review of the purpose and logistics of the working group
- A presentation on the budget process and formula
- Questions

The following meetings will be held in May, June, & July.

For more information, please contact Katie Bloodgood, Legislative Liaison, at <u>katherine.bloodgood@mt.gov</u>.

#### **Elementary and Secondary School Emergency Relief Funds (ESSER) Update:**



The ESSER team holds open office hours 6 days a week via Zoom, phone, email, text, and in-person to offer support to school districts.

#### Remember ESSER III deadline is on September 30, 2024.

The state-wide ESSER allocation through March 29, 2024, is:

#### Elementary and Secondary School Emergency Relief Funds (ESSER) March 2024 Status Report

#### State Level ESSER Activity

<u>Program</u>	Allocated	Expended	<u>Balance</u>	Percentage Expended
ESSER I	\$ 41,295,230	\$ 41,295,230	\$ -	100%
ESSER II	\$ 170,099,465	\$ 170,099,465	\$ -	100%
ESSER III	\$ 382,019,236	\$ 229,473,021	\$ 152,546,215	60%
Totals	\$ 593,413,931	\$ 440,867,716	\$ 152,546,215	74%

For more information on ESSER please click <u>here</u> or contact Wendi Fawns at <u>wendi.fawns@mt.gov</u>.

#### SB 99, Establish Parameters for K-12 Human Sexuality Education Update:



During the 2021 legislative session, <u>SB 99</u>, Establish parameters for K-12 human sexuality education, was passed. On April 9, 2024, Empower MT, the Montana School Counselors Association, The Association of School Psychologists, two educators, and two students filed a lawsuit against the Governor, the Board of Public Education, and my office. I responded: "Woke organizations are once again attacking me because I am a conservative and I'm standing for parental rights. Government bureaucracy

doesn't own our children. I stand with Montana parents who are rightfully concerned over sexual indoctrination in the classroom. Montana families have the right to know what their children are being taught and the right to opt-out of participating. I will continue to fiercely defend parental rights."

For more information, please contact Rob Stutz, Chief Legal Council, at <u>Rob.Stutz@mt.gov.</u>

#### Assessment Update:

Please see the Assessment Update attached at the end of this report.



Cedar Rose, Assessment Director, is standing by for questions.

#### Montana Aligned to Standards Through-Year (MAST) Program Update:



Remember the **next testing** windows are: • April 15 – May 10, 2024

Please see the MAST Update attached at the end of this report.

Krystal Smith, Education Innovation Manager, is standing by for questions.

#### Federal Update:



Please see the Federal Update attached at the end of this report.

Carrie Kouba, Innovation and Improvement Senior Manager, is standing by for questions.

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#### Accreditation Update:



Please see the Accreditation Update attached at the end of this report.

Crystal Andrews, Accreditation and Licensure Director, is standing by for questions.

#### State Content Standards Revision Update



Please see the K-12 State Content Standards Revisions Update attached at the end of this report.

Marie Judisch, Teaching and Learning Senior Manager, is standing by for questions.

#### Data Modernization Update



Please see the Data Modernization Project Status and Overview Update at the end of this report.

Ashley Perez, Senior Data Operations Manager, is standing by for questions.

#### 2024 Purple Star Schools and Purple Star Champions Awards:



Montana is home to over 6,400 military-connected children with a parent currently serving in the United States Military. There are nearly 3,800 active duty military members in Montana and over 5,700 National Guard and Reserve members. Purple Up! Day was celebrated on April 18, 2024, in Great Falls to honor <u>Montana's 2024 Purple Star Schools and Purple Star</u> Champions.

Montana's 2023-2024 Purple Star School Awardees are:

- Valley Christian School, Missoula, MT (renewal)
- Loy Elementary School, Great Falls, MT (renewal)
- North Middle School, Great Falls, MT (renewal)
- CMR High School, Great Falls, MT (renewal)
- Washington Middle School, Glendive, MT

The 2023- 2024 Purple Star Champion Awardees are:

- Nick Budeski, CMR High School Counselor in Great Falls
- Jamie Williams, CMR High School Librarian and Instructional Coach in Great Falls

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• Lisa Sapp, Malmstrom Air Force Base School Liaison in Great Falls

From Left to Right: **Jamie McGraw**, Principal at CMR, **Nick Budeski**, Counselor at CMR, **Shanda Brown**, Principal at Loy Elementary, **Jamie Williams**, CMR High School Librarian and Instructional Coach, **Lisa Sapp**, Malmstrom Air Force Base School Liaison, and **Brian Miller**, Principal at North Middle School.



#### Board of Public Education May 9-10, 2024 Assessment Update

#### 2023-2024 Monitoring, Support, and Outreach

#### Site Visits:

- Required as part of the Montana Comprehensive Assessment System (MontCAS) test administration activities to monitor adherence to test security and best practices (<u>ESEA</u> <u>Section 1201</u> and <u>ARM 10.56.103(1)</u>).
- Each district is monitored within a seven-year period.
- In the 2023-2024 school year, 62 districts were selected for monitoring of MAST, Smarter Balanced, MSAA, AMSA, ACT, or ACCESS for ELLs assessments.
- Site monitoring ensures test security procedures, provides insight into needed support and training, and gathers feedback for improvements to the Montana Comprehensive Assessment System with a focus on MAST implementation and administration.





#### **Field Support:**









- District assessment support is available through the OPI Help Desk email and phone line, as well as direct emails to assessment specialists.
- Since August 2023, over 1,700 support inquiries have been completed (as up April 19, 2024).
- Data on each inquiry including the assessment program, issue or topic, and security level, is collected for each case and analyzed for future training and monitoring purposes.



#### August 2023-April 19, 2024 OPI Assessment Support Inquiries

**Contact Information:** Cedar Rose, Assessment Director, cedar.rose@mt.gov









Elsie Arntzen, Superintendent PO Box 202501 Helena, MT 59620-2501 406-444-3680 www.opi.mt.gov OFFICE OF PUBLIC INSTRUCTION STATE OF MONTANA





#### **Board of Public Education May 9-10, 2024**

#### Update on Montana Aligned to Standards Through- year (MAST) Assessment

The OPI recently concluded a 9-city stop Road Show in collaboration with our testing vendor, New Meridian, to provide in-person training and support regarding next year's statewide implementation of MAST. The primary aim of this Road Show is to engage educators, administrators, and stakeholders across the state. Through this initiative, we seek to provide training, gather feedback, and address concerns regarding the MAST program. **Our focus is on fostering collaboration and understanding among all parties involved in order to enhance the effectiveness and efficiency of the assessment process moving into next year's statewide operational status.** 



Location	# of Participants
Belgrade	12
Great Falls	8
Frenchtown	19
Kalispell	15
Lewistown	7
Havre	22
Wolf Point (Frontier)	30
Miles City	21
Billings (Lockwood)	25

The final testing window for the current MAST assessment cycle is open from April 15th to May 10<sup>th</sup> for this year. This window includes math and ELA testlets used to collect valuable data in our final pilot window before MAST is fully operational next year. During this final testing window, we have over 20,000 students completing the through-year model with another 8,000 taking a variety of math and ELA testlets in only the fifth and final testing window. Student participation numbers continue to be monitored, with nearly all participating districts hitting the 95% target goal. The OPI staff is also busy supporting our districts that are new to MAST as well as performing site visits in our through-year schools.



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Documents are being prepared for the upcoming June 1st submission deadline to the US Department of Education regarding our issued double-testing flexibility waiver. An amendment request to our ESEA consolidated State plan proposing a revised other academic indicator for elementary and middle schools to replace its student growth indicator for the 2024-25 school year is required. The proposed amendments will go out for a 30-day public comment period prior to the June 1<sup>st</sup> submission deadline. While emphasizing our commitment to meeting federal standards, we are also mindful of the need to tailor our approach to best serve Montana's unique educational landscape.

In conclusion, the MAST program continues to make significant strides in supporting student achievement while supporting local control of curriculum and promoting educational excellence in Montana. We deeply appreciate the ongoing support and collaboration of the Board of Public Education, our testing vendor, and all stakeholders involved in this important innovative change in assessment that Montana is leading the way in.

Krystal Smith- Education Innovation Manager- 406-249-0758, krystal.smith@mt.gov

Elsie Arntzen, Superintendent

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#### Board of Public Education May 9-10, 2024 Update on Federal Programs

#### 1. Accountability Determinations Update:

On Wednesday, April 3<sup>rd</sup>, 2024 Accountability Designation letters were sent out to superintendents, county superintendents, and board chairs.

The State Accountability Results are as follows:

- 20 regular plus 4 small schools exited Comprehensive Support and Improvement
- 30 schools exited Additional Targeted Support and Improvement
- 29 regular plus 7 small schools remain or newly identified as Comprehensive Support and Improvement
- 16 regular plus 1 small school identified as Rigorous Action
- 55 schools remained or newly identified as Additional Targeted Support and improvement.

#### Subgroups

- 14 Schools- Special Education
- o 10 Schools- White
- o 7 Schools- Hispanic
- o 7 Schools-Economically Disadvantaged
- o 1 School- English Learner
- o 1 School-American Indian
- o 15 Schools-Mix of two or more subgroups

#### 2. E-grants Tour:

The Montana Office of Public Instruction will be hosting the Summer E-grants Tour. We have added an additional stop on the tour in Havre to meet the needs of schools. Below are the dates, times, and locations

- July 23: Helena (Helena College)
- July 30: Laurel (Laurel MS)
- July 31: Glendive (Glendive HS)
- Aug. 1: Glasgow (Glasgow HS)
- Aug. 2: Lewistown (Lewistown HS)
- Aug. 6: Havre (Location TBD)
- Aug. 7: Kalispell (Glacier HS)
- Aug. 8: Missoula (Learning Lab)
- Aug. 9: Manhattan (Manhattan HS)
- Virtual Option-TBD









#### 3. Proposed Amendment and Waiver to the Accountability System

As outlined in the U.S. Department of Education <u>Waiver Letter</u>, by June 1, 2024, the OPI must provide an amendment request to its ESEA consolidated State plan proposing a revised other academic indicator for elementary and middle schools to replace its student growth indicator for the 2024-25 school year. The purpose of the waiver is to address how to adjust the accountability system since schools participating in the MAST program did not participate in SBAC in Spring of 2024 and the growth indicator requires two consecutive years of data.

#### Timeline:

- April 25<sup>th</sup>......Open public comment and post a survey link for waiver
- May 1, 2024..... Present to MACIE for comment
- May 9-10, 2024..... Present to Board of Public Education for comment
- May, 2024 .....Governor Consultation
- May 28, 2024..... Respond to public comment. Join Zoom Meeting https://mt-gov.zoom.us/j/88410002909?pwd=dkpLZmE3V1dYMzAzZGVrTIYzUWRKdz09
- June 1, 2024-..... Submit Amendment Proposal to the Department of Education

Exited CSI 2023 (20 + 4 Small Schools)	Exited ATSI (30)
	Big Sky Elementary
Alberton School	Bloomfield School
Ashland School	Broadwater High School
Barbara Gilligan 7-8	Chester-Joplin-Inverness HS
Browning Middle School	Culbertson 7-8
Crow Agency School	DeSmet 6-8
Dupuyer School	Eureka Elementary School
Frazer High School	Frenchtown Elementary School
Hays-Lodge Pole 7-8	Helena Flats School
Heart Butte 6-8	Highland Park School
Heart Butte Elementary	Hot Springs 7-8
Heart Butte High School	K William Harvey Elem
KW-VC Elementary	L A Muldown School
Lame Deer School	Lavina High School
Lodge Grass School	Libby High School
Lodge Pole School	Linderman School
Poplar School	Medicine Lake 7-8
Rocky Boy High School	Medicine Lake School
Ryegate School	North Star School
Savage High School	Pine Creek School
Victor School	Plevna School
	Roberts School
	Ronan High School
	Sentinel High School
	Smith School
	Stevensville K-6
	Thompson Falls High Schl
	Twin Bridges High School
	Utterback 4-6
	Utterback 7-8

CSI Schools 2023 (29 +7 Small Schools	<b>Rigorous Action</b> (16 + 1 Small School)
Alberton 7-8	Arrow Creek Elem School
Alder School	Babb School
Arrowhead 7-8	Brockton High School
Ashland 7-8	Browning Elementary
Augusta High School	Browning High School
Barbara Gilligan School	Hays-Lodge Pole High Sch
Box Elder 7-8	Lame Deer 7-8
Box Elder HS	Lame Deer High School
Dodson 7-8	Lodge Grass High School
Frazer 7-8	Napi School
Geyser High School	Plenty Coups High School
Harlem Elementary School	Poplar 5-6 School
Hobson High School	Rocky Boy 7-8
Hot Springs High School	Wolf Point High School
Lavina Elementary	Wyola School
Lindsay School	Yellowstone Academy 7-8
Medicine Lake High School	
Pablo Elementary	
Pendroy School	
Poplar HS	
Rocky Boy 7-8	
Ryegate High School	
Sunset School	
Valier High School	
Victor High School	
White Sulphur Springs 7-8	
Wibaux High School	
Wolf Creek School	
Wolf Point 7-8	

ATSI- Additional Targeted Support categorized by sub group							
Special Education	<b>Economically Disadvantaged</b>						
Alberton School	Broadview HS						
Arrowhead School	Carter County HS						
Ashland School	Ekalaka 7-8						
Culbertson School	Helena Flats 7-8						
Garfield School	Richey High School						
Granite HS	Richey School						
KW-VC Elementary	Westby High School						
Meadowlark School	English Learner						
Potomac School	Ronan						
Rocky Boy High School	<u>American Indian</u>						
Seely Swan Lake HS	Chief Charlo School						
Sweet Grass Co HS	Special Ed and Hispanic						
Trout Creek School-	Glasgow HS						
West Yellowstone	HC Davis Elem						
School	Libby MS-						
	Lincoln County HS						
White	Whitefish HS						
Alzada School	Special Education and Economically						
Deerfield School	<u>Disadvantage</u>						
Dixon Elementary	Conrad HS						
Judith Gap School	Ophir Elementary School						
Anaconda Sr HS	Twin Bridges School						
Marion School	Special Education & American Indian						
Mountain View Elementary	Vaughn School						
Pleasant Valley School	White & Economically Disadvantaged						
Valler /-8	Noxin 7-8						
Sunny Side School	Special Education & White						
Arlee High School	Darby HS						
Fred Moodry	American Indian & Hispanic						
Intermediate	White & Special Education & Hispanic						
Great Falls High School	Fast Helena HS						
Lowell School	American Indian & Economically						
Southside School	Disadvantaged						
Valley View School	Valier School						
West Valle School	Sped& Econ Dis & EL & American Indian						
	Lodge Grass 7-8						

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#### Board of Public Education May 9-10, 2024 District Accreditation Process 2023-2024

#### <u>Timeline</u>



#### **Evaluator Review Training**

- April 15-17, 52 OPI employees gathered in Helena for training
- The training was thorough and included groups completing example evidence pieces, calibrating scores, and forming meaningful comments
- The Accreditation team worked with each group to ensure that they were ready for scoring and assisted as needed throughout the week
- Evaluator scoring will continue through May allowing the accreditation team time to review submissions and resolve any discrepancies or technical issues in June.









1

Scoring: 8 rubrics were scored using a specific scoring guide for each, two evaluators scored each submission, and scores were calibrated to ensure accuracy.

	DistrictResponseID: 184
	Select Reviewer
	-Select Reviewer- (0) +
	C. Interreted Strategic Action Plane
	C. Integrated Strategic Action Plan: Graduate Profile
rated	C. Integrated Strategic Action Plan: Graduate Profile c. written Response
ated	C. Integrated Strategic Action Plan: Graduate Profile c. written Response
rated	C. Integrated Strategic Action Plan: Graduate Profile C. Written Response
ated	C. Integrated Strategic Action Plan: Graduate Profile C. Written Response
rated	C. Integrated Strategic Action Plan: Graduate Profile C. Written Response
rated	C. Integrated Strategic Action Plan: Graduate Profile c. written Response
rated	C. Integrated Strategic Action Plan: Graduate Profile C. Written Response
rated	C. Integrated Strategic Action Plan Graduate Profile C. Written Response
rated	C. Integrated Strategic Action Plan: Graduate Profile c. written Response

Tracker: This internal tracker system was used to ensure accuracy and assist evaluators with the evaluation process. The evaluator could also put notes in for the accreditation team if they had a technical issue with a submission or needed assistance.

A	в •	C	D	E	F	G	н		ý	K
	со	County	_SS_	School System	_LE_	Legal Entity	Notes	Member 1 Complete	Member 2 Complete	Discrepency
Team 1	01							Complete 👻	Complete -	

Calibration: Two evaluators scored each submission. If there was a discrepancy in scoring, the accreditation team went through and contacted the evaluators (see below) so that they could meet and discuss and calibrate the score.



#### <u>Think Tank</u>

- 23 administrators and education partners have volunteered for the Think Tank
- On April 18, the first meeting was held to set the stage for the 2024-25 school year
- Gathering feedback from the field on:
  - What should the 3-year cycles look like and how are they selected?
  - How to implement the remaining components of the assurance standards?
  - How should student performance be measured?
- Meetings will continue in May through the summer months

#### Contact

Crystal Andrews, Director of Accreditation and Licensure, 444-6325 crystal.andrews@mt.gov





## Content Standards Revisions Board of Public Education - May 2024

PRESENTED BY: MARIE JUDISCH - SENIOR MANAGER OF TEACHING AND LEARNING



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## **Content Standards in Revision**





World Languages - Informational Item

Mathematics - Informational Item

English Language Arts & Literacy
Currently Open

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# **ELA Content Standards Revisions**

## **English Language Arts Standards Review Timeline**



### **Task Force Drafted Timeline**

- April 19, 2024: Task Force Orientation (Writing and Review Teams)
- May 3, 2024: Task Force Deep Dive on Research
- June 10-13th, 2024: Virtual Writing Preparation Meetings
- July- August 2024: Standards Development Workshops
  - July 15th-19th: Writing Team Writing Workshop
  - July 19th-22nd: The Review Team
  - July 29th-30th: Review Team Meeting Review of Drafted Standards
  - July 31st: Review Team Feedback Session to the Writing Team
  - August 8th, 2024: Reconciliation Meeting
  - August 12-15th: Potential/Optional Final Reconciliation
- August 22, 2024: Proposed ELA Standards presented to the OPI Superintendent

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Writing Team - Grades K-2
---------------------------

Barbara Frank: MA in Elem Ed./SPED, MA in School Counseling, MEd in Ed. Leadership	Missoula
Dr. Dana Fitzgale: EdD in Literacy Education	Florence
Genevieve Thomas: MA in SPED, and School Psych, BA in Spanish,	Whitefish
Stephanie Lester: MA in Curriculum and Instruction, BA in Social Sciences	Montana City



### Writing Team - Grades 3-5

Amber Byrd: MA in Elementary Education	Helena
Abby Kuhl: MA in Elementary Ed., BA in Elementary Ed.	Helena
Dr. Kari Dahl Huff: PhD in Critical Literacy and English Education, MA in Curriculum and Instruction, BA in Secondary English and Theater	Billings
Shannin Preshinger: MEd in Curriculum and Instruction: English Education, BA in Elementary Education with Secondary English Endorsement	Helena



### Writing Team - Grades 6-8

Will Dickerson: MEd in Educational Leadership	Bozeman
Dr. Dana Haring: EdD in Curriculum and Instruction, MEd in Educational Leadership: MA in English Teaching, BA in Literature	Kalispell
Karen Polari: MA in Curriculum & Instruction, MA in Library Media Science, BA in Elementary Education, BA in Special Education, BA in Secondary ELA Education	Sidney
Antonia Malchik: MFA in Creative Writing- Non-Fiction, BA in Mathematics and English	Whitefish
Kristina Matthews: MA in Philosophy, BS in Psychology, MA in English Teaching Candidate	Highwood



### Writing Team - Grades 9-12

Casey Olsen: MA in Secondary English Teaching, BA in Secondary English Teaching	Columbus
Jeff Ross: MFA in Creative Writing, MA in Secondary English Teaching	Lolo/Belt
Kathy Pfaffinger: MA in Teaching, BS in Secondary Education, English	Billings
Erin Hunt: MA in Science Education, BS in Biology, Education Option	Helena
Caitlin Chiller: MEd in Curriculum and Instruction, BA in English Literature	Livingston



**Review Team** 

Jeanne Wdowin: M.A. School Administration, BA in Early Childhood through Grade 6	Kalispell
Andrea Meiers: MEd in Leadership, BA in English Education	Billings
Dr. Beverly Chin: PhD in Curriculum and Instruction, MA in English and Higher Education, BA in English and Education	Missoula
Dr. Tammy Elser: Ed.D. Literacy, M.A School Counseling, B.A. Secondary ELA	Missoula/Pablo

## **Content Standards Support Team**





### **Montana Office of Public Instruction**

- Christy Mock Stutz, Assistant Superintendent
- Julie Murgel, Chief Program Officer
- Marie Judisch, Senior Manager of the Teaching and Learning Department
- Aimee Konzen, Standards, Instruction and Professional Learning Manager
- Stephanie Swigart, ELA and Literacy Instructional Coordinator
- Jackie Ronning, Early Literacy Specialist
- Mike Jetty, IEFA Specialist
- Jennifer Stadum, IEFA Specialist
- Matt Bell, Culture and Language Immersion Specialist
- Crystal Hickman, Tribal Student Achievement Specialist
- Michelle Henson, Tribal Student Achievement Specialist

### **Region 17 Comprehensive Center**

- Jacob Williams
- Erich Stiefvater




DATA MODERNIZATION PROJECT STATUS

Ashley Perez, OPI Senior Data Operations Manager 406-444-4940; ashley.perez@mt.gov

May 2024

## OPI DATA MODERNIZATION PROJECT OVERVIEW

## HB 367 OPI Data Modernization Status and Overview Report

## Activities

- Ongoing data replication from Infinite Campus State Edition to PowerSchool's Connected Intelligence (data lake).
- OPI staff met twice with the steering committee of key district staff and received valuable feedback.
- OPI staff met with PowerSchool User Group.
- GAP analysis completed for the Analytic Insights custom connector.
- PowerSchool has set up JIRA (Ticketing system) for OPI staff, trained staff on data unloading in the data lake, and conducted security meeting to work on granting access users through single sign on.
- OPI is an active participant in the Education and Workforce Data Governing Committee and has participated in the three working group meetings.
- Continued meeting on implementation of communication plan.
- Working on a Back-to-School timeline for Analytics and Insights.



Balling Office of Public Instruction	Data Mo	oderniza	tion Tim	eline
Phase I	Phase II	Phase III	Phase IV	Phase V
Aug '23-Sep '23	Sep '23-Dec '24	Apr '24-May'25	Apr '24-Apr '25	Apr '24-Jun'25
Systems Assessment Consulting	Connected Intelligence and Unified Insights Initial Build	Unified Insights Module Deployment	Connected Intelligence Integration and State Reporting	Connected Intelligence Replication and Community
PHASE I	COMPLET	E	Enhancement	Engagement Deployment

Category (Milestone)	Task	Progress Update
	Delivery of Draft Assessment Output	Completed
Systems Assessment Consulting (1-3)	Montana Review and Feedback	Completed
	Deliverable Updates and Final Approval	Completed

Phase I was completed by September 22, 2023. It encompassed elements from project milestones 1-3.



## PHASE II & III PROGRESS

Category (Milestone)	Task	Progress Update
	OPI CI Onboarding, including Platform Setup and Configuration	Completed
Connected Intelligence (4a)	OPI CI Security and Governance Implementation	Completed
	OPI CI Technical Training	Completed
	Finalize and share Data Dictionary/list of approved data elements	Completed
Connected Intelligence: Infinite Campus (IC) State Edition Integration (4a)	ODBC Setup for IC State Edition	Completed
	Initial replication of AIM and AIM Datamart Data	Completed
	Ongoing Replication of AIM and AIM Datamart Data	Completed
	Complete Custom Connector Analysis	Completed
Analytica and Incipleta (Fa)	Build Custom Connector	In Progress
	Complete Analytics and Insights Implementation	In Progress
	Complete Analytics and Insights Technical Training	Not Started
	Create Training Plan	Not Started
Quetermer Education (4/5)	State-level Analytics and Insights End User Training	Not Started
Customer Education (4/5)	District-level Analytics and Insights End User Training	Not Started
	Building-level Analytics and Insights End User Training	Not Started
	Analytics and Insights Risk Analysis Implementation	In Progress
Phase III (4-5)	Analytics and Insights Student Readiness Implementation	In Progress
	Analytics and Insights Customizations	Not Started



Putting Montana Students First 🕂

# UPCOMING PHASES

Category (Milestone)		Progress Update
	Complete PS SIS Custom Connector Analysis	Not Started
	Build Custom Connector for PS SIS Replication	Not Started
	Replicate data to CI for hosted districts	Not Started
Phase IV (4)	Set up VPNs for 6 On-Premise Districts	Not Started
	Replicate Data to VI for 6 On-Premise Districts	Not Started
	Connected Intelligence: State Reporting Enhancement	Not Started
Phase $V(4.5)$	Replicate up to 6 additional data sources	In Progress
	Complete Community Engagement Implementation	Not Started
Final Sign Off	Complete Post-Deployment and Final Sign Off	Not Started



Putting Montana Students First A+

# QUESTIONS?



Putting Montana Students First 🕂

## **ITEM 4**

## COMMISSIONER OF HIGHER EDUCATION REPORT

Joe Thiel



## Montana University System Report Montana Board of Public Education

### May 2024

- FAFSA Completion Efforts
- Montana GEAR UP Grant Application Status
- Dual Enrollment

## <u>ITEM 5</u>

## **GOVERNOR'S OFFICE REPORT**

<u>Dylan Klapmeier</u>

## ✤ MSDB LIAISON – (Item 6)

## Renee Rasmussen

## **ITEM 6**

## **MSDB REPORT**

Paul Furthmyre

## **ACTION ITEMS:**

- Action on Personnel Items
- Action on Golden Triangle Curriculum Cooperative Agreement
  - Action on GFHS/MHSA Cooperative Agreement
    - Action on Policy 5710P and 9320

### Montana School for the Deaf and the Blind Board of Public Education Report May 2024

#### **Agenda Action Items:**

- Personnel Action Report

   Retirements
   Resignations
  - 7 Hires
- 2. Golden Triangle Curriculum Cooperative Agreement
- 3. GFHS / MSDB Cooperative MHSA Agreements
- 4. Final Approval for Policy Changes <u>5710P Use of Physical Restraint Procedure</u> <u>9320 Risk Management</u>
- 5. First Reading for Policy Changes 8425 Service Animals

8425P Service Animal Allowance Procedure 8450 Automated External Defibrillators (AED) 8450 F1 / F2 / F3 Automatic External Defibrillators

F1 - Incident Report

- F2 School Staff AED Notification Letter
- F3 Service Log

#### **Attached Documents:**

- MSDB Committee Bi-Monthly Meeting Agenda
- MSDB Committee Bi-Monthly Meeting Minutes
- Lead Report
- Portrait of a Graduate Meeting 3 Agenda
- Portrait of a Graduate Meeting 3 PowerPoint
- Longevity Conversation
- <u>AER Accreditation</u>
- Green Team April Newsletter
- <u>April Financial Statement</u>
- Student Numbers + 3 LEAP

#### MSDB Personnel Action for BOPE Meeting May Meeting 2024

#### MSDB asks that the board please approves the following personnel actions:

#### Retirement

Amy Tangen – VI Outreach Shirley Wermling - Payroll Technician

#### Resignation

Autumn Harvey - LPN Cheri Luongo - Cottage Behavior Counselor Andrea Reimer - Paraprofessional Fay Schwieger - Cottage Admin Assistant Shaelea Hansen - PT Paraprofessional

#### **Probationary Layoff**

#### Nonrenewal of Nontenure Teacher

#### Hire

Cecilia Prefontaine - FT Interpreter Jamie Jones - VI Teacher Amanda Stoner - Cottage Resident Advisor Lendon Warren – LPN Taylor Sanity – LPN Substitute Jennifer Norlander – VI Outreach Consultant - Great Falls Area Natalie Goodwin - LPN Substitute

#### Positions currently advertised

DHH Outreach Consultant - Billings Area Outreach Director Cottage Behavior Counselor 2 DHH Teacher 1 LPN Payroll Technician Cottage Admin Assistant

#### Positions to be advertised

#### Positions on hold as a result of bargaining

LEAP Resident Advisor School Psychologist



## Golden Triangle Curriculum Cooperative Cooperative Agreement

#### 2024 - 2025 School Year

- A. The Board of Trustees of Montana School for the Deaf and the Blind, LEA #9258 (Elementary/High School), Cascade County, in a meeting held on \_\_\_\_\_\_2024, authorize by resolution \_\_\_\_\_\_, District Superintendent, Authorized Representative, to file an application for the district(s) to make representations and to make commitments on behalf of the district(s) under the provisions of this Agreement.
- B. The Board of Trustees further agrees that the persons named in Item C be designated the administrators for the project and are authorized to receive and expend for the conduct of this project, funds belonging to the above district(s).
- C. The designated administrators for the project are the Superintendent and the Curriculum Director, Shelby Public Schools.
- D. The designated fiscal agent for the project is the District Clerk, Shelby Public Schools, 1010 Oilfield Avenue, Shelby, MT 59474.
- E. Annual membership dues are \$3,478.75 plus \$12.00 per student based on 2024 Spring enrollment figures for the district.
- F. The Board of Trustees of Montana School for the Deaf and the Blind, LEA #9258 has reviewed all information and data contained in this Cooperative Agreement and agrees to pay the host District Three Thousand Eight Hundred Seventy-Four and 75/100 dollars (\$3,874.75) as itemized on the attached statement no later than October 1, 2024.
- C. The original of this Cooperative Agreement must be filed with the administrators of the project.

Signature (Chairperson of the Board of Trustees)

Date

1010 Oilfield Avenue Shelby, MT 59474 (406) 434-2745 brianna@gtccmt.org www.gtccmt.org

BPE May Meeting	for Consideration
Girls Coop Sports	Boys Coop Sports
Cross Country	Cross Country
Volleyball	Football
Golf	Golf
Soccer	Soccer
Basketball	Basketball
Swimming	Swimming
Wrestlilng	Wrestling
Track	Track
Softball	Tennis
Tennis	

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_

- 7. Activity covered by this application: Girls Cross Country
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	0	0	0
Anticipated in two years	0	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? <u>Great Falls High School</u>

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: <u>May 9-10, 2024</u> Place: <u>MT School for the Deaf and Blind Campus / Bitterroot Building</u>

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:		·
School Board Chair	person Superintende	nt

	For MHSA Office Use Only:
	Official Action of the Montana High School Association
This request application.	for Cooperative Sponsorship is approved / denied for the activity for the school years listed on the
By:	MHSA Executive Director

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_Great Falls High School
- 7. Activity covered by this application: Girls Volleyball
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	2	0
Current school year:	0	0	0	2	0	0
Anticipated next year:	0	0	2	0	0	0
Anticipated in two years	0	2	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? \_\_Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mo	ntana High School Association	
This request application.	for Cooperative Sponsorship is approve	ed / denied for the activity for the school years listed on t	the
Ву: _	MHSA Executive Director	Date:	

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_

- 7. Activity covered by this application: Girls Golf
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	1	0	0	0	0	0
Anticipated in two years	0	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:		
	School Board Chairperson	Superintendent
	For MHSA	Office Use Only:
	<b>Official Action of the Mo</b>	ntana High School Association
This request application.	for Cooperative Sponsorship is approve	ed / denied for the activity for the school years listed on the
By: _		Date:
	MHSA Executive Director	
	· · ·	

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_
- 7.
- Activity covered by this application: Girls Soccer
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	1	0	0
Anticipated in two years	0	0	1	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

- 13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>
- 14. Where will practices/rehearsals be held? \_\_Great Falls Public School Fields and Gyms
- 15. Where will competition be held? <u>Great Falls High School</u>
- 16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:		
	School Board Chairperson	Superintendent
	For MHSA	A Office Use Only:
	Official Action of the Mo	ontana High School Association
This request application.	for Cooperative Sponsorship is approv	red / denied for the activity for the school years listed on the
By:		Date:
	MHSA Executive Director	
1		

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_

7. Activity covered by this application: Girls Basketball

- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	0	0	0
Anticipated in two years	0	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

- 13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>
- 14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>
- 15. Where will competition be held? <u>Great Falls High School</u>
- 16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:		
	School Board Chairperson	Superintendent
<u> </u>	For MHSA	Office Use Only:
-	Official Action of the Mo	ntana High School Association
This request f application.	or Cooperative Sponsorship is approve	ed / denied for the activity for the school years listed on the
By: _		Date:
	MHSA Executive Director	

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_
- 7. Activity covered by this application: Girls Swimming
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	2	0	0
Anticipated in two years	0	0	2	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? \_\_Great Falls Public School Fields and Gyms

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approvea: _	School Board Chairperson	Superintendent	
:	For MHSA	Office Use Only:	
	Official Action of the Mor	ntana High School Association	
This request application.	for Cooperative Sponsorship is approve	d / denied for the activity for the school years listed or	1 the
By:		Date:	
	MHSA Executive Director		

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School

- 6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_
- 7. Activity covered by this application: Girls Wrestling
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	0	0	0
Anticipated in two years	0	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

. . .

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

- 13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>
- 14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>
- 15. Where will competition be held? <u>Great Falls High School</u>
- 16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:	School Board Chairperson	Superintendent	
	For MHSA (	Office Use Only:	
	Official Action of the Mon	tana High School Association	
This request application.	for Cooperative Sponsorship is approved	d / denied for the activity for the school years listed on	the
By:		Date:	
	MHSA Executive Director		

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2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_
- 5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_
- 6. Which school will considered to be the "host" school: Great Falls High School
- 7. Activity covered by this application: Girls Track
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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Grade Level	12	11	10	9	8	7
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Anticipated in two years	0	0	2	0	0	0

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Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? MSDB/Great Falls Bison

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields</u> and Gyms

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

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Approved:	School Board Chairperson	Superintendent	
	For MHSA O	ffice Use Only:	
	Official Action of the Mont	ana High School Association	
This request for application.	or Cooperative Sponsorship is approved	/ denied for the activity for the school years list	ed on the
Ву: _		Date:	- · ·
	MHSA Executive Director		

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- 2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_
- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_
- 5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_
- 6. Which school will considered to be the "host" school: Great Falls High School
- 7. Activity covered by this application: Girls Softball
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
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2024-2025; 2025-2026; 2026-2027

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Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	1	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? <u>Great Falls High</u> School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:			
	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only	
	Official Action of the Mor	tana High School Association	
This request fapplication.	for Cooperative Sponsorship is approve	d / denied for the activity for the s	school years listed on the
Bv:		Date:	
-,	MHSA Executive Director		

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_\_Great Falls High School
- 7. Activity covered by this application: Girls Tennis
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	1	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mo	ntana High School Association	
This request application.	for Cooperative Sponsorship is approve	d / denied for the activity for the s	chool years listed on the
By: _	MHSA Executive Director	Date:	
	·		

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School

6. Which school will considered to be the "host" school: Great Falls High School

- 7. Activity covered by this application: Boys Cross Country
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? \_\_Great Falls Public School Fields and Gyms

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

18. Other information that may assist the Executive Director in making a decision on this application:

Approved:		
	School Board Chairperson	Superintendent
	For M	HSA Office Use Only:
	Official Action of the	e Montana High School Association
This request application.	for Cooperative Sponsorship is ap	proved / denied for the activity for the school years listed on the
By:	MHSA Executive Director	Date:

0
Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enroliment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_

- 7. Activity covered by this application:  $\__{-}^{Football}$
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	1	0	0
Current school year:	0	0	1	0	0	0
Anticipated next year:	0	1	0	0	0	0
Anticipated in two years	1	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

	School Board Chairperson	Superintendent	
	For M	HSA Office Use Only:	
	Official Action of the	e Montana High School Association	
This request application.	for Cooperative Sponsorship is app	proved / denied for the activity for the school yea	ars listed on the
By:		Date:	
	MHSA Executive Director		

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_

- 7. Activity covered by this application: Boys Golf
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? \_\_\_\_ Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mo	ntana High School Association	
This request	for Cooperative Sponsorship is approve		
application.		d / denied for the activity for the sch	ool years listed on the
application.		d / denied for the activity for the sch Date:	ool years listed on the
application. By:	MHSA Executive Director	Date:	ool years listed on the

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school: Great Falls High School
- 7.
  - Activity covered by this application: Boys Soccer
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? \_\_Great Falls Public School Fields and Gyms

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved: _	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mon	tana High School Association	
This request application.	t for Cooperative Sponsorship is approve	d / denied for the activity for the school years listed o	n the
By:	MHSA Executive Director	Date:	

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- <sup>4.</sup> Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_

7. Activity covered by this application: Boys Basketball

- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	0	0	0	0
Anticipated in two years	0	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? MSDB/Great Falls Bison

14. Where will practices/rehearsals be held? \_\_\_\_\_ Great Falls Public School Fields and Gyms

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:			
	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mor	ntana High School Association	
This request factoria application.	or Cooperative Sponsorship is approve	d / denied for the activity for the scho	ol years listed on the
Ву: _		Date:	
	MHSA Executive Director		

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_
- 7.
  - Activity covered by this application: Boys Swimming
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	. 11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? <u>Great Falls High School</u>

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:			_
	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mo	ntana High School Association	
This request application.	for Cooperative Sponsorship is approve	d / denied for the activity for the school	years listed on the
By:	MHSA Executive Director	Date:	

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

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1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_
- 5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_
- 6. Which school will considered to be the "host" school: Great Falls High School
- 7. Activity covered by this application: Boys Wrestling
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

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Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	1	0	0
Current school year:	0	0	1	0	0	0
Anticipated next year:	0	1	0	0	0	0
Anticipated in two years	1	0	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? Great Falls Public School Fields and Gyms

15. Where will competition be held? \_\_\_\_Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:							
	School Board Chairperson		Superintend	lent			
	Foi	r MHSA Office Use	Only:		<u>.</u>		
	Official Action of	the Montana High	School Ass	ociation			
This request application.	for Cooperative Sponsorship is	approved / denied f	ior the activit	ly for the scho	ool year	s listed	on the
By:			Date:				
	MHSA Executive Director						

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school:\_Great Falls High School\_\_\_\_\_\_
- 7.
  - Activity covered by this application: Boys Track
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	. 7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? <u>Great Falls Public School Fields and Gyms</u>

15. Where will competition be held? Great Falls High School

16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

	School Board Chairpo	erson	Superintender	nt	_	
		For MHSA O	ffice Use Only:		· .	
	Official Ac	tion of the Monta	ana High School Assoc	ciation		
This request application.	for Cooperative Sponso	rship is approved	/ denied for the activity f	for the school	years listed	I on the
By:			Date:			
By:	MHSA Executive Dire	etor	Date:			
By:	MHSA Executive Dire	ector	Date:			

Each participating school must submit a copy to the Montana High School Association, 1 South Dakota Avenue, Helena, MT 59601.

Each school involved in the cooperative agreement must complete this application form before the Executive Director will consider the application. A check for \$250 must accompany each application if the applying school does not currently participate in the activity. A separate application must be submitted for each activity.

1. School:\_MT School for the Deaf and the Blind\_ Date of Application:\_May 13, 2024\_\_\_\_\_

2. School's Address: \_3911 Central Avenue, Great Falls, MT 59405\_\_\_\_\_

- 3. Classification: \_C\_\_\_\_\_
- 4. Enrollment: \_15\_\_\_\_\_

5. Other schools involved in this application: \_Great Falls High School\_\_\_\_\_

- 6. Which school will considered to be the "host" school: Great Falls High School
- 7. Activity covered by this application: Boys Tennis
- 8. Please describe the conditions that have prompted your request to co-sponsor this activity: We are a state special school located in Great Falls. We have students that attend class at GFHS and encourage them to complete in extracurriculurs. We do not have enough for our own teams.
- 9. This application is for school years: (must be for a full three year period)

2024-2025; 2025-2026; 2026-2027

Contracts do not need to be renewed until the end of the three years. However, verification forms will be sent to you each spring to assure the MHSA that the cooperative agreement is continuing under the contract. The Executive Director, as outlined under PHILOSOPHY Section B of the information accompanying this application, may terminate the cooperative agreement.

10. Please list the number of students in your school that have participated in this activity during each year indicated below. If the school did not sponsor the activity during any of the years listed, please respond "did not sponsor" but please provide your projected number of participants for next year and for two years from now.

Grade Level	12	11	10	9	8	7
Last school year:	0	0	0	0	0	0
Current school year:	0	0	0	0	0	0
Anticipated next year:	0	0	1	0	0	0
Anticipated in two years	0	1	0	0	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	1	2	3	3	1
Current school year:	1	2	3	3	1	1
Anticipated next year:	2	3	3	1	1	0
Anticipated in two years	3	3	1	1	0	0

Grade Level	12	11	10	9	8	7
Last school year:	2	0	3	2	1	2
Current school year:	0	3	2	1	2	0
Anticipated next year:	3	2	1	2	0	4
Anticipated in two years	2	1	2	0	4	0

13. Under cooperative sponsorship, what will be the identity of the team? <u>MSDB/Great Falls Bison</u>

14. Where will practices/rehearsals be held? \_\_Great Falls Public School Fields and Gyms

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16. Indicate the date and place of the school board meeting where filing of this application was approved:

Date: May 9-10, 2024 Place: MT School for the Deaf and Blind Campus / Bitterroot Building

17. Please include in the space provided (or attach) an exact copy of the above motion as it appears or will appear in the official school board minutes:

Approved:	School Board Chairperson	Superintendent	
	For MHSA	Office Use Only:	
	Official Action of the Mor	tana High School Association	
This request application.	for Cooperative Sponsorship is approve	d / denied for the activity for the school years I	isted on the
By:		Date:	
	MHSA Executive Director		

## MSDB STUDENTS

## Public Displays of Affection (PDA) 3201

At the Montana School for the Deaf and the Blind (MSDB), we recognize there are various comfort levels with giving, receiving, and observing Public Displays of Affection (PDA).

Our beliefs:

- 1. We believe one of our goals is to promote and teach appropriate human interactions in order to develop safe, healthy, and appropriate relationships with other people in our lives.
- 2. We believe students will have feelings for each other and those feelings are acceptable.
- 3. We believe that students need to learn when and where certain behaviors are appropriate and acceptable and when and where certain behaviors are not appropriate or not acceptable.

All students, regardless of age or grade, have opportunities to socialize with all genders throughout the academic and cottage settings. Socialization can be permitted at any time of the day for all students or evening for cottage students. There are many opportunities to socialize on campus in chaperoned settings. Some of these areas include assemblies, the gym, and cottage common areas. Male and female students may sit together during lunch and are permitted to sit together both in the classrooms, during assemblies, and in the common areas in the cottage.

#### PDA Definition

Public Displays of Affection (PDA) can refer to any physical contact between any two people. This contact could be in the form of a hug, holding hands, sitting closely, romantic and/or prolonged touching, playing footsies, kissing, and other forms of touching up to and including various forms of sexual contact.

Friendly touches for attention-getting and hugs for greeting or parting are acceptable in the Deaf culture and are not considered PDA. Likewise, touching for sighted (human) guide for students and adults with visual impairments is also not considered PDA.

Typically, PDA applies to couples that are in a romantic relationship. These romantic relationships naturally occur during the young adult and teenage years. Every member of the MSDB community is expected to act in a responsible and respectable manner that will bring praise and positive comments to themselves and to the school.

#### PDA in Academic Settings

PDA is not allowed in any classroom or during any instructional period including school assemblies and field trips.

1. Elementary Level – PDA is not allowed. Friendly hugs and handshakes between students are acceptable when resolving conflicts, when parting for weekends home, or when a student is leaving MSDB.

- 2. Middle School Level Acceptable forms of PDA when students are at the middle school level include holding hands between classes or while walking across campus.
- 3. High School Level Acceptable forms of PDA when students are at the high school level include middle school level allowances, quick kisses on the cheek (less than 5 seconds), and quick hugs (less than 5 seconds).
- 4. When there is a difference in levels of "dating" students, allowances default to youngest level of PDA allowance.

## PDA in Cottage Settings

Students in the cottage settings are allowed to show PDA as listed in the Academic settings. Students who are in romantic relationships may also sit together side-by-side during free times and hold hands. With parent/guardian permission and meeting school and cottage behavior/grade expectations, high school students may go on off-campus dates.

## PDA Infractions

Inappropriate displays of affection may form the basis for legitimate complaints of sexual harassment and other conduct code violations, and are subject to disciplinary action.

Staff may ask students to stop any touching, including PDA at any time. Students are expected to follow these requests immediately.

Conduct or behavior of a sexual nature is never allowed on campus or during any school-related function or activity. Consequences for infractions or violations will be handled by administrators and might possibly involve law enforcement.

Cross Reference:

Legal Reference:

Policy History: Adopted on: 1/19/2018 Revised on:

#### MSDB PERSONNEL

#### Use of Force/Abuse 5710

Ensuring the health, safety and security of the students enrolled at MSDB is the paramount concern of everyone employed by the School. To this end, every employer who has regular supervised or unsupervised contact with students will be familiar with and comply with the procedures outlined within the "progressive discipline plan" contained in the "MSDB Student Handbook". This plan is designed to provide students and staff opportunities to work cooperatively to promote student behaviors necessary and conclusive to learning in a positive learning environment.

Physical or psychological abuse or neglect, as defined in MCA 41-3-102 and MCA 45-5-625, which is inflicted on a student for the purpose of intimidation or coercion, constitutes "Abuse of Force". In no case will faculty or staff utilize an abuse of force to obtain compliance of a student with any directive. In the event that a student demonstrates noncompliant, disrespectful and/or disorderly behavior, faculty and staff are to refer the student to their immediate supervisor for progressive disciplinary action.

Faculty or staff may use physical restraint, intervention techniques or force only in cases when by his/her actions, a student poses a clear and present danger to him/herself or others or to protect property from serious harm. Only in these instances may a faculty or staff member use physical force or restraint to protect herself/himself, another student or another staff member, or to protect property from serious harm as defined in MCA 20-4-302.

When physical restraint is necessary to protect students from injuring himself or others, an administration approved program of restraint techniques will be utilized. Faculty and staff will receive appropriate training before being allowed to use restraint techniques.

If a faculty or staff member is unfamiliar with, untrained or uncomfortable in utilizing approved techniques, he/she must request immediate assistance from an administrator or employee trained to utilize restraint techniques.

In the event that a faculty/staff member uses physical force against a student for any reason, the immediate supervisor or an administrator is to be notified immediately, and a written summary is to be prepared by the employee and submitted to the administration before the end of their scheduled duty day.

Any employee who doesn't have regular supervised or unsupervised contact with students is to avoid any interaction with a noncompliant, disrespectful or disorderly student and is to make an immediate report to their supervisor or administrator.

Any faculty or staff member found to have subjected a student to physical force for any reason other than to protect the student from harming himself or others will be subject to disciplinary action up to and including termination.

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Faculty and staff discovered to have subjected any student to any form of abuse; sexual, physical or psychological will be reported to the Department of Public Health and Human Services and/or local law enforcement for investigation as outlined in MCA 41-3-201.

Any faculty /staff reported for investigation is subject to immediate suspension and possible termination pending the outcome of any investigation.

Legal Reference:	MCA 45-5-625, Sexual abuse of children
	MCA 41-3-102, Definitions
	MCA 20-4-302, Discipline and punishment of pupils
	MCA 41-3-201, Child abuse and neglect, reports

Policy History: Adopted on: 03-15-02 Revised on:

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## MSDB PERSONNEL

#### Use of Physical Restraint 5710P

Faculty or staff may use physical restraint, intervention techniques or force only in cases when by his/her actions, a student poses a clear and present danger to him/herself or others. Only in these instances may a faculty or staff member use physical force or restraint to protect himself, another student or another staff member from serious harm as defined in MCA 20-4-302.

In this statute there are 6 reasons identified in which a School employee may use restraint on a student: **1)** to stop a fight 2) to protect oneself 3) to protect a student or to protect one student from another, 4) to take a weapon or dangerous object from a student, 5) to move a student from one area to another, and 6) to protect School property. Using force or restraint is clearly justified with reasons 1,2, 3, and 4, which constitute emergency situations. It is less clear when a teacher, cottage life attendant or other staff person would be justified in using force to move or redirect a student or to protect property, which are not emergency situations, when the use of force could result in injury to the student or the staff person.

Any adult who uses restraint or force on a student runs the risk of being charged with a misdemeanor, under MCA 20-4-302 section 7, or being held liable, in a civil case under MCA 20-4-302 section 8, for assault or physical abuse if it is found by a injury that the restraint or force was unnecessary or unreasonable.

#### Procedure

- 1) To protect everyone, students and staff alike, teachers, teacher assistants, cottage life attendants, or other staff WILL NOT put their hands on, use physical restraint, or use other force on a student to: 1) relocate a student or 2) protect property.
  - a) When a student needs to be relocated or restrained from leaving an area or restrained to prevent the destruction of property the staff or faculty is to immediately call a supervisor or administrator or the education, cottage or administrative office for assistance.
  - b) An emergency number will be provided to staff or faculty so that they can contact the on-duty supervisor for assistance.
  - c) If the on-duty supervisor does not respond, staff or faculty are to contact the education, cottage or administrative office for assistance.

While waiting for assistance, staff or faculty are to:

i) Clear the area of other students if the offending student's behavior is posing a potential risk to others.

- iii) Seek assistance from another staff person, in the immediate area, to monitor the student while waiting for the on-duty supervisor.
- iv) Attend to the other students after assistance has arrived.
- 2) To protect everyone, students and staff alike, teachers, teacher assistants, cottage life attendants, or other staff MAY use reasonable or necessary physical restraint to protect a student from harming him/herself, other students or staff, or the staff member.
  - a) This includes instances whereby allowing the student to leave an area the student places him/herself in danger or by allowing the student to destroy property the student is at risk of hurting him/herself or others.
    - When physical restraint is necessary to protect students from injuring himself or others, a program of administration approved techniques i.e. the Mandt System, David Mandt and Associates, will be utilized. Faculty and staff will receive appropriate training before being allowed to use restraint techniques.
    - ii) If a faculty or staff member is unfamiliar, untrained or uncomfortable in utilizing approved techniques, he/she must request immediate assistance from an administrator or employee trained to utilize restraint techniques.
  - b) In the event that a faculty/staff member uses physical force against a student for any reason, the immediate supervisor or an administrator is to be notified immediately and a written summary is to be prepared by the employee and submitted to the administration before the end of their scheduled duty day.
  - c) Any employee who does not have regular supervised or unsupervised contact with students is to avoid any interaction with a noncompliant, disrespectful or disorderly student and is to make an immediate report to their supervisor or administrator.

Legal References: MCA 20-4-302. Discipline and Punishment of Pupils

Policy History: Adopted on: 03-15-02 Revised on:

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# Montana School for the Deaf and the Blind SCHOOL FACILITIES

#### **Risk Management**

The Board believes that the District must identify and measure risks of loss which may result from damage to or destruction of District property or claims against the District by persons claiming to have been harmed by action or inaction of the District, its officers or staff. The District will implement a risk management program to reduce or eliminate risks where possible and to determine which risks the District can afford to assume.

#### Security

Security means not only maintenance of buildings, but also protection from fire hazards, intruders, damage, vandalism, and faulty equipment. The District shall implement and safe practices in the use of electrical, plumbing, and heating equipment. The Board requires close cooperation with local police, fire, and sheriff's departments and with insurance company inspectors.

Security also means ensuring the protection of student, faculty and staff from the threat of intruders or unauthorized persons in the school buildings or on the campus grounds at any time.

The Superintendent shall develop and implement a procedure for the control of access to school buildings and grounds during all hours of operations. Access to the academic buildings, the Mustang Center and grounds outside of regular school hours shall be limited to staff whose work requires access completing official duties and authorized individuals or entities requiring access. Access to the residential buildings during the late evening and nighttime hours shall be limited to staff whose work requires such access. An adequate key control system shall be established, which shall limit access to buildings to authorized staff and shall safeguard against the potential entry of unauthorized persons.

MSDB maintains a locked door policy, as the doors to the school buildings, Mustang Center and cottages will remain locked throughout the day except for single points of entry to each building which are within sight of administrative offices. With the exception of activities or events, all visitors must register in the main school or cottage office prior to visiting any building or area of campus.

Locks and other protective devices designed to be used as safeguards against illegal entry and vandalism shall be installed when appropriate to the individual situation. Night watch attendants will be employed in each residential building during late evening and nighttime hours whenever students are in residence. Employment of watchmen may be approved in situations where special risks are involved. All incidents of vandalism and burglary shall be reported to the Superintendent immediately and to law enforcement agencies as appropriate.

Records and funds shall be kept in a safe place and under lock and key when required.

Legal Reference: § 50-61-114, MCA Fire Chief and Fire Inspector to make inspections

Policy History: Adopted on: 11-16-03 Revised on: ----

#### **Montana School for the Deaf and the Blind** NON INSTRUCTIONAL OPERATIONS

## **Service Animals**

For the purpose of this policy, state law defines a service animal as a dog or any other animal that is individually trained to do work or perform tasks for the benefit of an individual with a disability. Federal law definition of a disability includes a physical, sensory, psychiatric, intellectual, or other mental disability.

Montana School for the Deaf and the Blind shall permit the use of a miniature horse by an individual with a disability, according to the assessments factors as outlined in Policy 8425P, if the miniature house has been individually trained to do work or perform tasks for the benefit of the individual with a disability.

Montana School for the Deaf and the Blind will permit the use of service animals by an individual with a disability according to state and federal regulations. Montana School for the Deaf and the Blind will honor requests for service animals in accordance with the applicable Section 504 or Special Education policy adopted by the Board of Public Education. The work or tasks performed by a service animal must be directly related to the handler's disability.

Example of work or tasks performed by the service animal to accommodate an identified disability include, but are not limited to, assisting individuals who are blind or have low vision with navigation and other tasks, alerting individuals who are dear and hard of hearing to the presence of people or sounds, providing nonviolent protection or rescue work, pulling a wheelchair, assisting an individual during a seizure, alerting individuals to the presence of allergens, retrieving items such as medicine or the telephone, providing physical support and assistance with balance and stability to individuals with mobility disabilities, and helping persons with psychiatric and neurological disabilities by preventing or interrupting impulsive or destructive behaviors.

The crime deterrent effects of an animal's presence and the provision of emotional support, wellbeing, comfort, or companionship do not constitute work or tasks for the purpose of this definition.

Montana School for the Deaf and the Blind may ask an individual with a disability to remove a service animal form the premises if:

- The animal is out of control and the animal's handler does not take effective action to control it; or
- The animal is not housebroken

Montana School for the Deaf and the Blind is not responsible for the care or supervision of the service animal.

Individuals with disabilities shall be permitted to be accompanied by their service animals in all areas of Montana School for the Deaf and the Blind facilities where members of the public, participants in services, programs or activities, or invitees, as relevant are allowed to go.

8428P 2161	Procedure for allowance of service animals Special Education
2162	Section 504 of the Rehabilitation Act of 1973
28 CFR 35.136	Service Animals
28 CFR 35.104	Definitions
49-4-203(2), MCA	Definitions
	8428P 2161 2162 28 CFR 35.136 28 CFR 35.104 49-4-203(2), MCA

Policy History: Adopted on: Revised on:

#### **Montana School for the Deaf and the Blind** NON INSTRUCTIONAL OPERATIONS

## Service Animal Allowance Procedure

Montana School for the Deaf and the Blind will honor requests for service animals by student or staff in accordance with the applicable Section 540 or Special Education policy adopted by the Board of the Public Education. The following procedures have been developed which will help guide the administration when a request for the use of a service animal has been presented by an individual with a disability.

<u>Inquiries:</u> The administration shall not ask about the nature or extent of a person's disability but may make tow inquiries to determine whether an animal qualifies as a service animal. The administration may ask if the animal is required because of a disability and what work or task the animal has been trained to perform. The administration shall not require documentation, such as proof that the animal has been certified, trained, or licensed as a service animal. Generally, the administration may not make these inquiries about a service animal when it is readily apparent that an animal is trained to do work or perform tasks for an individual with a disability (e.g., the dog is observed guiding an individual who is blind or has low vision, pulling a person's wheelchair, or providing assistance with stability or balance to an individual with an observable mobility disability).

<u>Exclusions</u>: The administration may ask the individual to remove the service animal form the premises if the animal is out of control and the handler does not take effective action to control it, or if the animal is not housebroken. If the administration properly excluded the service animal, it shall give the individual the opportunity to participate in the service, program, or activity without having the service animal on the premises.

<u>Surcharges:</u> The administration shall not ask or require the individual to pay a surcharge, even if people who are accomplished by pets are required to pay fees, or to comply with other requirements generally not applicable to people without pets. If the Montana School for the Deaf and the Blind normally charges individuals for the damage they cause, the individual may be charged for damage caused by his or her service animal.

<u>Miniature horses assessment factors</u>: In determining whether reasonable modifications can be made to allow a miniature horse into a specific facility, the Montana School for the Deaf and the Blind shall consider:

- The type, size, and weight of the miniature horse
- Whether the miniature horse is housebroken, and
- Whether the miniature horse's presence in a specific facility compromises legitimate safety requirements that are necessary for safe operation

Policy History: Adopted on: Revised on:

#### **Montana School for the Deaf and the Blind** NONINSTRUCTIONAL OPERATIONS

## Automated External Defibrillators (AED)

An automated external defibrillator (AED) is used to treat persons who experience sudden cardiac arrest. It is only to be applied to persons who are unconscious, and not breathing normally. The AED will analyze the heart rhythm and advise the operator if a shockable rhythm is detected. If a shockable rhythm is detected, the AED will charge to the appropriate energy level and advise the operator to deliver a shock. The Montana School for the Deaf and the Blind (MSDB) has implemented use of the Lifepak 1000 model.

## **Responsibilities AED Program Coordinator:**

The AED Program Coordinator is: Director of Health Services located at Camas Cottage and is responsible for:

- Selection of employees for AED training and distribution of AED-trained employee lists as required
- Coordination of training for emergency responders
- Coordinating equipment and accessory maintenance
- Maintain on file a specifications/technical information sheet for each approved AED model assigned or donated to the school
- Revision of this procedure as required
- Monitoring the effectiveness of this system
- Communication with medical director on issues related to medical emergency response program including post-event reviews
- Storing all reports, maintenance records, etc. in Health Services

## **Medical Control:**

The medical advisor of the AED program Director of Health Services. The medical advisor of the AED program has ongoing responsibility for:

- Proving medical direction for use of AEDs
- Writing a prescription for AEDs
- Reviewing and approving guidelines for emergency procedures related to use of AEDs and CPR
- Evaluation of post-event review forms and digital files downloaded from the AED

## **Authorized AED Users:**

• All staff who have successfully completed approved CPR and AED training

## **AED Trained Employee Responsibilities**

- Following the more detailed procedures and guidelines for the AED program
- Requesting emergency medical service (EMS)
- Providing prompt basic life support including AED and cardiopulmonary resuscitation (CPR) according to training and experience.
- Understanding and complying with the requirements of this program.
- Placing the AED unit back into service after each use.
- Understanding and complying with requirements of this policy

## **Volunteer Responder Responsibilities**

• Anyone can, at their discretion, provide voluntary assistance to victims of medical emergencies. The extent to which these individuals respond shall be appropriate to their training and experience. These responders are encouraged to contribute to emergency response only to the extent they are comfortable. The emergency medical response of these individuals may include CPR, AED or medical first aid.

## Limitation of Liability for Volunteer Responder

 The Montana School for the Deaf and the Blind implemented a Public Access AED Program for the benefit of its citizens. MSDB has strategically located AEDs for use by AED trained staff members; however, these strategic locations may also result in members of the public also having access to the AEDs ("volunteer responder"). Although MSDB does not promote the use of AEDs by volunteer responders, MSDB acknowledges that time is of the essence in cases of medical emergency and does not eliminate the public's access to the devices. MSDB is not liable for any civil damages for acts or omissions by a volunteer responder in using the AED in rendering emergency care or assistance. A volunteer responder may be protected from liability pursuant to Mont. Code Ann. § 27-1-714.

#### **School Office Responsibilities**

The school office staff is responsible for:

- Receiving emergency medical calls from internal locations
- Using an established 9-1-1 checklist to assess emergency and determine appropriate level of response
- Contacting the external community 9-1-1 response team (EMS) if required
- Deploying AED-trained employees to emergency location
- Assigning someone to meet responding EMS aid vehicle and direct EMS personnel to site of medical emergency

**Training:** MSDB will maintain training records for trained employees. Trained employees will be offered hepatitis B vaccination free of charge.

## **Initial Training:**

- Complete training on this AED program.
- Complete training and display proficiency in CPR and use of an AED. Training will be a course approved by the Montana State Department of Public Health and Human Services.
- Complete Universal precautions against blood borne pathogens.

## **Refresher Training:**

- Trained employees will renew CPR and AED training every two years.
- AED-trained employees will refresh AED skills and review AED program on an annual basis.

## Volunteer Responders:

- These responders will possess various amounts of training in emergency medical response and their training may be supplied by sources outside of MSDB. Volunteer responders can assist in emergencies, but must only participate to the extent allowed by their training and experience. Volunteer responders may have training adequate to administer first aid, CPR and use the AEDs deployed throughout the campus. Any volunteer wishing to potentially use one of the AEDs deployed on the campus should have successfully completed a state approved.
- AED course including CPR within the last two years. The school will not maintain training records for the volunteer responders.

## **Equipment:**

Each AED will have one set of defibrillation electrodes connected to the device and one spare set of electrodes with the AED. One resuscitation kit will be connected to the handle of the AED. This kit contains two pair latex-free gloves, one razor, one set of trauma shears, and one mouthto-mouth barrier device.

The LIFEPAK 1000<sup>®</sup> Automated External Defibrillators (AEDs) have been approved for this program

- The AED and first aid emergency care kit will be brought to all medical emergencies.
- The AED should be used on any person who is at least 8 years of age and displays

## Location of AEDs:

During school hours, the AED will be at designated locations. These locations shall be specific to each school but should allow the device to be easily seen by staff. The locations should allow staff members to retrieve the device outside of normal school hours.

Contracted and other community activities are not guaranteed access to the AED as part of standard rental contracts.

Stationary AED Locations	Serial Number
Cottages-outside Health Services	
Bitterroot Building Main Entrance	
Mustang Center Main Lobby	

## **Equipment Maintenance:**

All equipment and accessories necessary for support of medical emergency response shall be maintained in a state of readiness. Specific maintenance requirements include:

- The AED Program Coordinator or designee is responsible for having regular equipment maintenance performed. All maintenance tasks will be performed according to equipment maintenance procedures as outlined in the operating instruction.
- The AED Program Coordinator shall inform all staff of changes in availability of emergency medical response equipment. If equipment is withdrawn from service, all staff shall be informed and then notified when equipment is returned to service.
- Following use of emergency response equipment, all equipment shall be cleaned and/or decontaminated as required. If contamination includes body fluids, the equipment shall be disinfected. Pads will be replaced and reconnected to the AED and contents of accompanying resuscitation kit will be replaced if used.
- Maintenance records will be maintained by the AED Program Coordinator and kept in the Director of Health Services office and the online portal.

## **Routine Maintenance:**

- The AED will perform a self-diagnostic test every 24 hours that includes a check of battery strength and an evaluation of the internal components.
- The AED Program Coordinator or designee, will perform a monthly AED check following the procedure checklist. The procedure checklist will be initialed at the completion of the daily check. The procedure checklist will be posted with the AED.
- If the OK icon is NOT present on the readiness display, contact the AED Program Coordinator immediately.

- If the battery icon is visible, the battery or charging unit needs to be replaced. You may continue to use the AED if needed.
- If the wrench icon is visible, the AED needs service. You may attempt to use the AED if needed. If the message CALL SERVICE appears, the AED is not usable. Continue to provide CPR until another AED is brought to the victim or EMS arrives to take over care.
- If the expiration date on the electrode is near, notify the AED Program Coordinator immediately.

## System Verification and Review:

The medical emergency response system is ultimately successful if necessary medical assistance is provided to victims in a timely and safe manner. Since actual use of this system procedure is expected to be very infrequent, other measures of effectiveness are required.

#### **Annual System Assessment:**

Once each calendar year, the AED Program Coordinator or designee shall conduct and document a system readiness review. This review shall include review of the following elements:

- Training records
- · Equipment operation and maintenance records

#### Monthly\* System Check (\*or as specified by the manufacturer)

Once each month\*, the AED Program Coordinator will conduct and document a system check of each AED. These records will be retained at the Director of Nursing office and Superintendent Executive Secretary Office. This check is achieved through the completion of the AED Inspection Form.

#### **Response Criteria:**

An AED may be used on any person who is at least 8 years of age and weighs 55 pounds and displays symptoms of cardiac arrest. For children under the age of 8 or less than 55 pounds, AED may be used if the device is designed with a "child" mode. An AED is never used on infants less than one year old.

The AED will be placed only after the following symptoms are confirmed:

- Person is unconscious
- Person is not breathing normally NOTE: If AED is not immediately available, CPR may be performed until an AED or EMS arrives on scene.

## Application of an AED:

The following steps will be followed:

- Person is not breathing normally Assess scene for safety and use universal precautions
- Determine unresponsiveness
- If unresponsive, contact EMS via 911 (law enforcement may use radio communications)
- Check for normal breathing. If not breathing and unconscious, apply AED immediately
- Apply pads (according to diagram on back of pads) to a person's bare chest. Shave chest hair if it is so excessive it prevents a good seal between pads and skin. Press pads to skin
- Turn ON AED
- Stand clear of person while machine analyzes heart rhythm;
- Follow AED prompts until EMS arrives

#### **Medical Response Documentation:**

#### **Post-Event Documentation:**

It is critical to document each use of an AED.

Form	Send To	Timeframe
AED Incident Report	Superintendent, AED Program	Within 24 hours
	Coordinator	
AED usage report	MTAED.com	Within 24hours
Data Download from AED		
unit		
Copy of AED use	Medical Director of AED program	Within 48hours
information:	Local EMS responding location	
Record data, electronic files		
captured by AED.		

#### **Post Event Review:**

Following each deployment of the response team member, or if a volunteer responder uses an AED, a review shall be conducted to learn from the experience. The AED Program Coordinator or designee shall conduct and document the post-event review. All key participants in the event shall participate in the review. Included in the review shall be the identification of actions that went well and the collection of opportunities for improvement as well as critical incident stress debriefing. A summary of the post event review will be kept on file with the AED Program Coordinator.

#### **Liability Limitations:**

An individual who provides emergency care or treatment by using an AED in compliance with this policy and an individual providing cardiopulmonary resuscitation to an individual upon whom an AED is or may be used are immune from civil liability for a personal injury that results from that care or treatment.

An individual who provides emergency care or treatment by using an AED in compliance with this policy and an individual providing cardiopulmonary resuscitation to an individual upon whom an AED is or may be used are immune from civil liability as a result of any act or failure to act in providing or arranging further medical treatment for the individual upon whom the AED was used, unless the individual using the AED or the person providing CPR, as applicable, acts with gross negligence or with willful or wanton disregard for the care of the person upon whom the AED is or may be used.

The following individuals or entities are immune from civil liability for any personal injury that results from an act or omission that does not amount to willful or wanton misconduct or gross negligence, if applicable provisions of this part have been met by the individual or entity:

- a. A person providing medical oversight of the AED program, as designated in the plan;
- b. The entity responsible for the AED program, as designated in the plan;
- c. An individual providing training to others on the use of an AED.

Legal Reference:	Title 37, Chapter 104, subchapter 6,
-	ARM – Automated External Defibrillators (AED)
	§50-6-501, MCA Definitions
	§50-6-502, MCA AED program – requirements for AED use
	§50-6-503, MCA Rulemaking
	§50-6-505, MCA Liability limitations
	§27-1-714, MCA Montana Good Samaritan Law

Policy History: Adopted on: Revised on:

## **Montana School for the Deaf and the Blind** NONINSTRUCTIONAL OPERATIONS

Automatic External Defibrillator Incident Report			
Name of person completing report:			
Date report is being completed:	Date of Incident: _		
Name of patient on which AED was applied:		Age	
Known status of patient o Student o Parent of Student o Other, explain			
Describe incident:			
List series of events from the start of the emergency	until its conclusion:		
Your Signature:			

Please forward to the Superintendent of Schools no later than forty-eight (48) hours after the incident.

### Montana School for the Deaf and the Blind NONINSTRUCTIONAL OPERATIONS

#### **Operational Services**

8450F2

## Exhibit - School Staff AED Notification Letter

On District letterhead

Date:

To: Staff members

Re: Notification to School Staff of the Physical Fitness Facility Medical Emergency Response Instructions and AED Availability

We would like to notify you about our plan for responding to medical emergencies that might occur in our gymnasium or other indoor physical fitness facility. This plan includes access to an Automatic External Defibrillator (AED) in the following locations in these buildings:

Building	Location	

The AEDs are strategically placed and readily accessible to predetermined AED users to maximize rapid use. The AED is available during school hours and after school during on-site school activities. The predetermined AED users are school nurses and any other person who has received AED training (American Heart Association, American Red Cross, or equivalent training) and has a completion card on file with the Superintendent.

The following information is posted with each AED:

1. Instructions to immediately call 9-1-1 and instructions for emergency care.

- 2. A statement that the AED is to be used only by trained users.
- 3. Instructions for using an AED.

Please contact me if you would like information on becoming a trained AED user. We appreciate your support.

Sincerely,

Superintendent
#### **Montana School for the Deaf and the Blind** NONINSTRUCTIONAL OPERATIONS

#### Automatic External Defibrillator Service Log

Inspected and In- Service	Inspected and Out–of- Service	Signature of Designee
	- 	
	1 	
	Inspected and In- Service	Inspected and In- Service     Inspected and Out-of- Service

Once per month or more often the designee will inspect the AED. If the AED is out-of-service or does not have the appropriate equipment, the designee will contact the Superintendent of Schools or designee immediately.

8450F3

	MSDB / BOPE Bi-Monthly Meeting 2:30 - 4:00 PM	Agenda
Date: 4/10/2024	Attendees:	
Meeting Objectives: Provide BOP     Seek guidance	E Information about all MSDB Programs the BOPE	Future Agenda Items:
Program	Agenda Items	Items Needing Follow-Up
Administration	<ul> <li>Personnel Action Plan</li> <li>Out of State Travel</li> <li>Golden Triangle Agreement</li> <li>MHSA Coop Agreements</li> <li>Policy Reviews <ul> <li>Policies for Final Review</li> <li>3201 - Displays of Affection</li> <li>5710 - Use of Force</li> <li>9320 - Security</li> </ul> </li> <li>Policies for 1st Review <ul> <li>8425 - Service Animals</li> <li>8425P - Service Animals</li> <li>8450 - AED</li> <li>8450F - AED</li> <li>8450F - AED</li> </ul> </li> <li>Lead Report <ul> <li>MSDB Portrait of a Graduate</li> <li>Meeting 3 PowerPoint</li> <li>Meeting 3 Agenda</li> </ul> </li> <li>Longevity Conversation <ul> <li>Administration</li> <li>Specialists</li> </ul> </li> </ul>	<ul> <li>Action Items Needed         <ul> <li>Personnel Action</li> <li>Out of State Travel</li> <li>Golden Triangle Agreement</li> <li>MHSA Coop Agreements</li> <li>Final Reading Policies</li> </ul> </li> </ul>

	<ul> <li>Recruitment Funding</li> <li>School-Based Medical Pay</li> <li>Dean of Students</li> <li>Outreach Director - 2nd</li> <li>Outreach Administration Assistant</li> <li>Outreach Vehicles</li> <li>Transportation Vehicles</li> <li>MCA Changes</li> <li>MCA 20-8-121 - Transportation</li> <li>MCA 20-4-502 - Quality Educator</li> <li>HB 833 - Teacher Residency</li> <li>MCA 20-1-1601 - Transformational</li> <li>Accreditation</li> <li>AER Management Standards</li> <li>MSU Mentoring External Review</li> <li>Green Team April Newsletter</li> <li>Foundation Update</li> <li>BPE / Foundation Agreement</li> </ul>	
Business Office	<ul> <li><u>Financial Report as of 4/10/24</u></li> <li>Recent Major repairs:         <ul> <li>None this quarter</li> </ul> </li> <li>Fiscal Year End</li> </ul>	
Residential	<ul> <li>Student Activities         <ul> <li>Swimming</li> <li>SEL workshops evenings</li> <li>Gaming Club</li> <li>4-H Open house - May 4</li> </ul> </li> <li>Each wing is now involved in PLC/CLC</li> <li>Final Travel May 10-13</li> <li>Student Council trip Billings water park May 18</li> <li>March 2024.pdf</li> </ul>	

ucation: School	<ul> <li>○ LEAP - 2 Participants</li> </ul>	
	Referrals	
	<ul> <li>1 VI HS student recently completed a 10-day</li> <li>waiting for now - maybe fall 2024</li> </ul>	
	<ul> <li>1 DHH HS student recently completed a 10-day - returned to home district at this time</li> </ul>	
	<ul> <li>1 VI preschool student just started a 10-day</li> </ul>	
	<ul> <li>1 VI HS student will start a 10-day April 17th</li> </ul>	
	<ul> <li>1 VI preschool ready for file review - moving to GF this summer</li> </ul>	
	<ul> <li>1 VI PreK - almost all paperwork gathered</li> </ul>	
	<ul> <li>1 VI 4th grade - gathering paperwork - recently moved to GF</li> </ul>	
	<ul> <li>1 VI HS student - working with school on necessary IEP paperwork</li> </ul>	
	<ul> <li>1 DHH preschool student - almost all</li> </ul>	
	<ul> <li>1 DHH 6th grade - almost all paperwork</li> <li>gathered - moving to GE</li> </ul>	
	gathered - moving to of	
	<ul> <li>4 VI students on list but have not received the formal referral letter</li> </ul>	
	<ul> <li>Literacy Consultant on Campus - March 4-5; May 7-8</li> </ul>	
	<ul> <li>ELVS - March 20 - Stuffing Easter Eggs at College of GF MSU</li> </ul>	
	Easter Festival with MAFB - March 22	
	<ul> <li>Spring Program/Arbor Day April 16, 1:00pm</li> <li>SKC students on campus May 9-10</li> </ul>	
	Spring Testing - SBAC, ACT, MAP	

	<ul> <li>TVI staff supporting multiple university students with observations and direct service hours</li> </ul>	
Education: Outreach	<ul> <li>Referrals to Campus (link)</li> <li>MCEC Conference</li> <li>Untangling the Dots Event Friday</li> <li>Deaf Enrichment Weekend April 19-20</li> </ul>	

#### **Board of Public Ed Meeting**

#### **BOPE Meeting - Summary – April 10, 2024**

Those in attendance - Paul Furthmyre, Jim Kelly, Julie-Dee Alt, Donna Schmidt, Tim Tharp, McCall Flynn,

Absent- Renee Rasmussen, Carol Clayton-Bye Note Taker – Paula Mix

Approval of Agenda

Meeting Objectives:

- Provide BOPE information about all MSDB Programs
- Seeking guidance from the BOPE

#### **Administration - Paul**

- Paul reported we had one retiree VI Outreach, three resignations. Our new hires consist of one MSDB staff transferring from Para to VI teacher and one new Interpreter to join our MSDB. We will be advertising for the Outreach Director Position this week.
- We have no Out of State travel, We submitted the Golden Triangle Agreement for approval and will submit the MHSA Coop Agreements as well.
- Final reading for Policies 3201,5710 and 9320. Policies for first review are Policies 8425, 8425P, 8450, 8450F
- Lead testing report was shared those items that were highlighted in red were turned off and the yellow highlighted ones are being worked on. DEQ has a grant for this project that we will be using
- Portrait of the Graduate meetings with great representation from Montana Association of the Blind and Montana Association of the Deaf, and staff. Some schools in the state are using this program, 15 districts.
- Longevity conversations MFPE in their bargaining agreement will be submitting a MOU that will be addressing the longevity issue MCA laws say employees that work at a state school receive 2080 hours and we have been counting actual hours worked. And Lawyers and Union have been working together on this to meet the state statues. We are asking for approval to add longevity to the two Administrators, and the five Specialists
- Legislature items that we are submitting:
  - Recruitment Funding \$10,000 to recruit out of the state
  - School-Based Medical Pay New Specialists and current Specialist raises being they are not Union.
  - Dean of Students working with our students, running our Broadband, LEAP
  - Outreach Director two One for DHH and VI
  - Outreach Administration Assistant Database
  - Outreach Vehicles we asked for new outreach, we didn't ask for new vehicles for them.
  - Transportation Vehicles two vehicles to transport students
  - MCA Changes to have MSDB added or changed
    - MCA 20-8-121 Transportation working with Rep. Beatty to change this rule
    - MCA 20-4-502 Quality Educator Connie Keogh adding loan forgiveness, this would

help in recruiting staff

- HB 833 Teacher Residency
- MCA 20-1-1601 Transformational
- Accreditation received our Accreditation, will be working with MSU Mentoring program for an external review.
- Foundation reminder of the BOPE/Foundation Agreement.
- BOPE meeting in May, Paul has staff that will present Indian Education for All, Mentoring, PLC, Portrait of the Graduate, and we will hear from the Maintenance Dept. BOPE will eat lunch with staff, and will have student performances in the mornings.

#### **Business Office - Donna**

• We went over the financials, and will be transferring funds from Personal Services to cover areas that are highlighted areas. Our spending is in line with last year. No concerns. Submitted our ESSer report to OPI. No major repairs to report. We have some retirees that we did not plan on in the total of \$60,000, feel we can absorb this. There is a Supplemental fund for large payouts if we need it.

#### **Residential - Jim**

- Jim reported the Cottage Newsletter covers all of the Student activities. We will be having a Swimming Competition this Saturday for students in the swim club. Our SEL workshops meet weekly in the evenings. The Gaming Club will be having a competition next week. On May 4, we have invited other 4-H clubs to come on campus, demonstrations regarding DHH and VI, hands on. Our PLC/CLC (Cottage Learning) have had classes on Focusing on Emotions, Behavioral and Hygiene. Our Student Council are planning a trip to Billings to the water park on May 18
- Final travel day is May 10-13.

#### **Education:** School - Julie-Dee

• Julie-Dee reported on our current enrollment of 40 students, 2 LEAP Participants. Our referral deadline is April 15th. We have a number of referrals and 10-days that we are working. Our Literacy Consultant was here in March and will be here on May 7-8. ELVS stuffed Easter eggs at GF MSU, Spring Program is April 16, SKC students will be on campus on May 9-10, Spring testing is going on, TVI staff supporting multiple university students with observations and direct service hours.

#### **Education: Outreach - Carol - Absent**

• Paul reported for Carol - hoping to demo our new Outreach database at our next meeting. We have some out of town referrals that would like to be on campus but transportation is limited. The MCEC conference in Missoula was attended by a couple of our staff. UTD will be this Friday, focusing on Braille Instruction and skills, DEW weekend is April 19-20 and we have 23 students registered.VI games and Prom are scheduled for the same weekend so VI students can attend the Prom. We continue to work on FLW and Summer camps for the Summer.

					Analyte Name Bin 2 Bin 1	Lead 5.00
	1		1	1	Sample Collection	15.1
School Name	Task	Fixture ID	Fixture Type	Fixture Description	Date	Result
MT School For Deaf	Initial	FX001	Bathroom Sink	Room B101d	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX002	Bathroom Sink	Room B101e	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX003	Sink Other	Room B101f	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX004	Classroom Sink	Room B103b	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX005	Classroom Sink	Room B105	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX006	Classroom Sink	Room B110	14 Feb 2024	8 ppb
MT School For Deaf	Initial	FX007	Classroom Sink	Room B111	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX008	Classroom Sink	Room B115	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX009	Sink Other	Pod 1	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX010	Drinking Fountain	Walkway East	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX011	Classroom Sink	Room B119	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX012	Classroom Sink	Room B123	14 Feb 2024	3 ppb
MT School For Deaf	Initial	FX013	Classroom Sink	Room B124	14 Feb 2024	30 ppb
MT School For Deaf	Initial	FX014	Classroom Sink	Room B125	14 Feb 2024	7 ppb
MT School For Deaf	Initial	FX015	Classroom Sink	Room B129	14 Feb 2024	32 ppb
MT School For Deaf	Initial	FX016	Sink Other	Pod 2	14 Feb 2024	5 ppb
MT School For Deaf	Initial	FX017	Sink Other	Room B133	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX018	Bathroom Sink	Room B134 sink 1	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX019	Bathroom Sink	Room B134 sink 2	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX020	Bathroom Sink	Room B138 sink 1	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX021	Bathroom Sink	Room B138 sink 2	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX022	Classroom Sink	Room B141	14 Feb 2024	7 ppb
MT School For Deaf	Initial	FX023	Classroom Sink	Room B145	14 Feb 2024	1 ppb
MT School For Deaf	Initial	FX024	Classroom Sink	Room B146	14 Feb 2024	16 ppb
MT School For Deaf	Initial	FX025	Classroom Sink	Room B147	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX026	Classroom Sink	Room B151	14 Feb 2024	1 ppb
MT School For Deaf	Initial	FX027	Sink Other	Pod 3	14 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX028	Drinking Fountain	Walkway West	14 Feb 2024	2 ppb
MT School For Deaf	Initial	FX029	Kitchen Sink	Room B153 faucet s	14 Feb 2024	<1 ppb

MT School For Deaf Initial	FX030	Classroom Sink	Room B155 Jaucet S	14 Feb 2024	
MT School For Deaf Initial	FX032	Sink Other	Room B155 sink by	14 Feb 2024	<1 nnh
MT School For Deaf Initial	FX033	Bathroom Sink	Room B168 Sink 1	14 Feb 2024	
MT School For Deaf Initial	FX034	Bathroom Sink	Room B168 Sink 2	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX035	Bathroom Sink	Room B164 Sink 1	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX036	Bathroom Sink	Room B164 Sink 2	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX037	Classroom Sink	Room B157	14 Feb 2024	16 ppb
MT School For Deaf Initial	FX038	Classroom Sink	Room B161	14 Feb 2024	1 ppb
MT School For Deaf Initial	FX039	Classroom Sink	Room B163c	14 Feb 2024	18 ppb
MT School For Deaf Initial	FX040	Classroom Sink	Room B163a Sink 1	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX041	Classroom Sink	Room B163b Sink 2	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX042	Classroom Sink	Room B163b Sink 3	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX043	Classroom Sink	Room B163b Sink 4	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX044	Classroom Sink	Room B163b Sink 5	14 Feb 2024	<1 ppb
MT School For Deaf Initial	FX045	Sink Other	Room B172b	15 Feb 2024	26 ppb
MT School For Deaf Initial	FX046	Sink Other	Room B174	15 Feb 2024	10 ppb
MT School For Deaf Initial	FX047	Kitchen Sink	Room BB7 Faucet co	15 Feb 2024	4 ppb
MT School For Deaf Initial	FX048	Bathroom Sink	Room BB8 Sink 1	15 Feb 2024	2 ppb
MT School For Deaf Initial	FX049	Bathroom Sink	Room BB8 Sink 2	15 Feb 2024	3 ppb
MT School For Deaf Initial	FX050	Bathroom Sink	Room BB9	15 Feb 2024	2 ppb
MT School For Deaf Initial	FX051	Bathroom Sink	Room BB10 Sink 1	15 Feb 2024	4 ppb
MT School For Deaf Initial	FX052	Bathroom Sink	Room BB10 Sink 2	15 Feb 2024	6 ppb
MT School For Deaf Initial	FX053	Drinking Fountain	Room VI1	15 Feb 2024	72 ppb
MT School For Deaf Initial	FX054	Bathroom Sink	Room VI1a	15 Feb 2024	2 ppb
MT School For Deaf Initial	FX055	Bathroom Sink	Room VI3a	15 Feb 2024	6 ppb
MT School For Deaf Initial	FX057	Bathroom Sink	Room VI5a	15 Feb 2024	4 ppb
MT School For Deaf Initial	FX058	Bathroom Sink	Room VI7c	15 Feb 2024	3 ppb
MT School For Deaf Initial	FX059	Kitchen Sink	VI8 Kitchen faucet fo	15 Feb 2024	3 ppb
MT School For Deaf Initial	FX060	Bathroom Sink	Room VI8a1	15 Feb 2024	2 ppb
MT School For Deaf Initial	FX062	Kitchen Sink	Room IBO3	21 Feb 2024	11 ppb
MT School For Deaf Initial	FX063	Bathroom Sink	Room IBO3d	21 Feb 2024	20 ppb
MT School For Deaf Initial	FX064	Drinking Fountain	Room IBO5	21 Feb 2024	54 ppb
MT School For Deaf Initial	FX065	Bathroom Sink	Room IBO5b	21 Feb 2024	45 ppb

MT School For Deaf	Initial	FX067	Bathroom Sink	Room IBO7a	21 Feb 2024	3 ppb
MT School For Deaf	Initial	FX068	Drinking Fountain	Room IBO9	21 Feb 2024	681 ppb
MT School For Deaf	Initial	FX069	Bathroom Sink	Room IBO9a	21 Feb 2024	3 ppb
MT School For Deaf	Initial	FX070	Drinking Fountain	Room MC1a	21 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX071	Kitchen Sink	Room MC1c faucet s	21 Feb 2024	2 ppb
MT School For Deaf	Initial	FX072	Kitchen Sink	Room MC1c Faucet	21 Feb 2024	3 ppb
MT School For Deaf	Initial	FX073	Bathroom Sink	Room MC3 Sink 1	21 Feb 2024	5 ppb
MT School For Deaf	Initial	FX074	Bathroom Sink	Room MC3 Sink 2	21 Feb 2024	5 ppb
MT School For Deaf	Initial	FX075	Bathroom Sink	Room MC4 Sink 1	21 Feb 2024	6 ppb
MT School For Deaf	Initial	FX076	Bathroom Sink	Room MC4 Sink 2	21 Feb 2024	9 ppb
MT School For Deaf	Initial	FX077	Bathroom Sink	Room MC8	21 Feb 2024	22 ppb
MT School For Deaf	Initial	FX078	Drinking Fountain	Room MC8	21 Feb 2024	23 ppb
MT School For Deaf	Initial	FX079	Bathroom Sink	Room MC11	21 Feb 2024	26 ppb
MT School For Deaf	Initial	FX080	Drinking Fountain	Room MC11	21 Feb 2024	27 ppb
MT School For Deaf	Initial	FX081	Bathroom Sink	Room MC13a	21 Feb 2024	33 ppb
MT School For Deaf	Initial	FX082	Drinking Fountain	Room GLB	20 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX083	Kitchen Sink	Room GR3	20 Feb 2024	1 ppb
MT School For Deaf	Initial	FX084	Bathroom Sink	Room GR7a	20 Feb 2024	1 ppb
MT School For Deaf	Initial	FX085	Bathroom Sink	Room GR8a	20 Feb 2024	2 ppb
MT School For Deaf	Initial	FX086	Kitchen Sink	Room GR12	20 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX087	Bathroom Sink	Room GR13a	20 Feb 2024	2 ppb
MT School For Deaf	Initial	FX088	Kitchen Sink	Room GR13	20 Feb 2024	1 ppb
MT School For Deaf	Initial	FX089	Bathroom Sink	Room GR18a	20 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX090	Bathroom Sink	Room GR19a	20 Feb 2024	7 ppb
MT School For Deaf	Initial	FX091	Bathroom Sink	Room G3	20 Feb 2024	1 ppb
MT School For Deaf	Initial	FX092	Bathroom Sink	Room G5	20 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX093	Kitchen Sink	Room G7c	20 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX094	Kitchen Sink	Room GG2	20 Feb 2024	7 ppb
MT School For Deaf	Initial	FX095	Bathroom Sink	Room GG11 Sink 1	20 Feb 2024	2 ppb
MT School For Deaf	Initial	FX096	Bathroom Sink	Room GG11 Sink 2	20 Feb 2024	2 ppb
MT School For Deaf	Initial	FX097	Bathroom Sink	Room GG11 Sink 3	20 Feb 2024	4 ppb
MT School For Deaf	Initial	FX098	Bathroom Sink	Room GG12a	20 Feb 2024	1 ppb
MT School For Deaf	Initial	FX099	Kitchen Sink	Room GG12	20 Feb 2024	6 ppb
MT School For Deaf	Initial	FX100	Kitchen Sink	Room GG13	20 Feb 2024	2 ppb

MT School For Deaf Initial	FX101	Bathroom Sink	Room GG15 Sink 1	20 Feb 2024	4 ppb
MT School For Deaf Initial	FX102	Bathroom Sink	Room GG15 Sink 2	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX103	Bathroom Sink	Room GG15 Sink 3	20 Feb 2024	1 ppb
MT School For Deaf Initial	FX104	Kitchen Sink	Room G9	20 Feb 2024	7 ppb
MT School For Deaf Initial	FX105	Kitchen Sink	Room GC7	20 Feb 2024	4 ppb
MT School For Deaf Initial	FX106	Bathroom Sink	Room GC15 Sink 1	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX107	Bathroom Sink	Room GC15 Sink 2	20 Feb 2024	3 ppb
MT School For Deaf Initial	FX108	Bathroom Sink	Room GC15 Sink 3	20 Feb 2024	5 ppb
MT School For Deaf Initial	FX109	Kitchen Sink	Room GC16	20 Feb 2024	4 ppb
MT School For Deaf Initial	FX110	Bathroom Sink	Room GC16a	20 Feb 2024	3 ppb
MT School For Deaf Initial	FX111	Kitchen Sink	Room GC17	20 Feb 2024	105 ppb
MT School For Deaf Initial	FX112	Bathroom Sink	Room GC19 Sink 1	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX113	Bathroom Sink	Room GC19 Sink 2	20 Feb 2024	3 ppb
MT School For Deaf Initial	FX114	Bathroom Sink	Room GC19 Sink 3	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX115	Kitchen Sink	Room GC21	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX116	Drinking Fountain	Room YLB	20 Feb 2024	31 ppb
MT School For Deaf Initial	FX117	Kitchen Sink	Room YS3	20 Feb 2024	7 ppb
MT School For Deaf Initial	FX118	Bathroom Sink	Room YS7a	20 Feb 2024	6 ppb
MT School For Deaf Initial	FX119	Bathroom Sink	Room YS8a	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX120	Kitchen Sink	Room YS12	20 Feb 2024	9 ppb
MT School For Deaf Initial	FX121	Kitchen Sink	Room YS13	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX122	Bathroom Sink	Room YS13a	20 Feb 2024	12 ppb
MT School For Deaf Initial	FX123	Bathroom Sink	Room YS18a	20 Feb 2024	3 ppb
MT School For Deaf Initial	FX124	Bathroom Sink	Room YS16a	20 Feb 2024	5 ppb
MT School For Deaf Initial	FX125	Kitchen Sink	Room YS16	20 Feb 2024	7 ppb
MT School For Deaf Initial	FX126	Bathroom Sink	Room Y3	20 Feb 2024	4 ppb
MT School For Deaf Initial	FX127	Bathroom Sink	Room Y5	20 Feb 2024	4 ppb
MT School For Deaf Initial	FX128	Kitchen Sink	Room Y7c	20 Feb 2024	14 ppb
MT School For Deaf Initial	FX129	Kitchen Sink	Room YO2	20 Feb 2024	3 ppb
MT School For Deaf Initial	FX130	Bathroom Sink	Room YO6a	20 Feb 2024	7 ppb
MT School For Deaf Initial	FX131	Bathroom Sink	Room YO7a	20 Feb 2024	7 ppb
MT School For Deaf Initial	FX132	Kitchen Sink	Room YO11	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX133	Kitchen Sink	Room YO12	20 Feb 2024	2 ppb
MT School For Deaf Initial	FX134	Bathroom Sink	Room YO12a	20 Feb 2024	<1 ppb

MT School For Deaf	Initial	FX135	Bathroom Sink	Room YO15a	20 Feb 2024	9 ppb
MT School For Deaf	Initial	FX136	Bathroom Sink	Room YO16a	20 Feb 2024	3 ppb
MT School For Deaf	Initial	FX137	Kitchen Sink	Room YO16	20 Feb 2024	9 ppb
MT School For Deaf	Initial	FX138	Kitchen Sink	Room YG7	21 Feb 2024	1 ppb
MT School For Deaf	Initial	FX139	Bathroom Sink	Room YG10a	21 Feb 2024	9 ppb
MT School For Deaf	Initial	FX140	Bathroom Sink	Room YG11a	21 Feb 2024	6 ppb
MT School For Deaf	Initial	FX141	Sink Other	Room YG15	21 Feb 2024	14 ppb
MT School For Deaf	Initial	FX142	Kitchen Sink	Room YG16	21 Feb 2024	2 ppb
MT School For Deaf	Initial	FX143	Bathroom Sink	Room YG16a	21 Feb 2024	2 ppb
MT School For Deaf	Initial	FX144	Bathroom Sink	Room YG19a	21 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX145	Bathroom Sink	Room YG20a	21 Feb 2024	7 ppb
MT School For Deaf	Initial	FX146	Bathroom Sink	Room K7 Sink 1	21 Feb 2024	2 ppb
MT School For Deaf	Initial	FX147	Bathroom Sink	Room K7 Sink 2	21 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX148	Drinking Fountain	Room K5	21 Feb 2024	19 ppb
MT School For Deaf	Initial	FX149	Bathroom Sink	Room K9 Sink 1	21 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX150	Bathroom Sink	Room K9 Sink 2	21 Feb 2024	7 ppb
MT School For Deaf	Initial	FX151	Kitchen Sink	Room K11 faucet Sir	21 Feb 2024	29 ppb
MT School For Deaf	Initial	FX152	Kitchen Sink	Room K11 Faucet Si	21 Feb 2024	1 ppb
MT School For Deaf	Initial	FX153	Kitchen Sink	by Room K11b	21 Feb 2024	<1 ppb
MT School For Deaf	Initial	FX154	Bathroom Sink	Room K11c	21 Feb 2024	<1 ppb

# Portrait of a Graduate

## **DESIGN TEAM MEETING 3 MEETING GUIDE**

April 9th, 2024 | 6:00-8:00 p.m.

### Objectives

- Contextualize the competencies that are part of Montana School for the Deaf and Blind's shared vision for a graduate.
- Discuss how to make our locally developed, globally positioned Portrait a reality for every student.

#### Agenda

Time	Торіс
10 minutes	<ul> <li>Welcome and Feedback Review</li> <li>Welcome</li> <li>Review of last meeting, including feedback</li> </ul>
70 minutes (Break)	Your Competency and Visual Feedback Review draft competency list.         • Group Activity 1: Competency starter definition "I like/I wonder/What if?" Groups will provide feedback on how each competency should be defined. Padlet: Padlet.com/jharding89/MSDB         Review visual to represent the portrait of a graduate.         • Individual/Group Activity 2: Visual Voting and Input "I like/I wonder/What if?" Review visual to represent the portrait of a graduate.         • Padlet: Padlet.com/jharding89/Visual Meeting Pulse: Meet.bfk.org/MSDB
10 minutes	Closing <ul> <li>Gratitude</li> <li>Before you leave, share your feedback</li> <li>Meeting Pulse: Meet.bfk.org/MSDB</li> </ul>

## **Meeting Pulse Link:**

## **Padlet Links:**

Meet.bfk.org/MSDB

Padlet.com/jharding89/MSDB Padlet.com/jharding89/Visual

## **DRAFT COMPETENCIES & DESCRIPTIONS**

#### COMMUNICATOR

Demonstrates thoughts and ideas effectively using oral, written, and nonverbal communication such as AAC devices, skills in a variety of forms and contexts.

Listens effectively to decipher meaning, including knowledge, values, attitudes, and intentions. Uses communication skills for a range of purposes and audiences (e.g. to advocate, to inform, instruct, motivate, and persuade).

#### **RESPONSIBLE CITIZEN**

Demonstrates honesty and care for the interests of the larger community and greater good. Including honoring commitments and owning the outcomes, whether positive or negative.

#### **INDEPENDENT PERSON**

Demonstrates their own learning and academic skills. Including an ability to research, ask questions, set goals, and monitor progress.

Demonstrate social and developmental skills that in order to lead independent lives, apart from school and family structures.

#### **PROBLEM SOLVER**

Demonstrates ability to identify, evaluate, and select solutions to difficult or complex situations. Including the ability to implement and reflect critically on the feedback in a situation. As well as respond productively to feedback, praise, setbacks, and criticism. Demonstrate the ability to self-advocate in various situations.

#### FLEXABLE THINKER

Demonstrate the ability to work effectively in a climate of ambiguity and changing priorities. Demonstrate agility in thoughts and actions.

Including the ability to understand, negotiate, and balance diverse views and beliefs to reach workable solutions.

Demonstrate flexibility when acclimating to various roles and situations.

#### **DIGITALLY LITERATE LEARNER**

Demonstrates willingness to learn, use, and master digital tools to maximize access to opportunities and learning.

Including the use of social networking tools safely, ethically, and efficiently.

Leverage appropriate tools to consume, create, communicate, and connect.

Demonstrate ability to appropriately integrate assistive technology into daily life.





#### A note about technology

We will be screen sharing and spotlighting our interpreters during the meeting today. It will be best to use a laptop or desktop computer if possible.



BattelleforKids

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#### **Battelle**for**Kids**

We are a not-for-profit organization committed to collaborating with school systems and communities to realize the power and promise of 21st century learning for every student.

#### **Meeting Guide Overview**

 We have provided a guide for today's meeting and on that guide, you will find information that will assist you in engaging meaningfully during our time together. On the guide, you will find the following:

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- Our agenda for today
- Meeting Pulse link and QR code/Padlet Link and QR Code
- The meeting calendar
- The meeting process roadmap
- Competency descriptions for our portrait of a learner
   Directions for our small group discussion
- Directions for our small group discu

**BattelleforKids** 

#### Summary of Agenda

 We will provide feedback on the competencies that are part of the MSDB's shared vision for a graduate

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BattelleforKids

• We will review visual options





BattelleforKids



	On the Hard of Hilds	
<ul> <li>I really enjoy meeting and connecting with the many different people who are so committed to Montana students.</li> </ul>		<ul> <li>It seemed like we still had some users that did not have or understand how access some of the materials, but I am not sure how we can improve that process.</li> </ul>
<ul> <li>Our small group had good discussion and was respectful of each other's opinions and input.</li> <li>Everyone got to speak, Facilitator did a good</li> </ul>		<ul> <li>Need more than just 4 meetings because there are some things we still needed to decide but felt rushed to decide.</li> </ul>
Vhat went well?		
our Feedback from Meeting 1		Your Feedback from Meeting 1





COMMUNICATION	INDEPENDENT	PROBLEN	SOLVING	ADAPTABILITY	CRITICAL THINKIN
4 groups	3 gro.	Ips	21	roup	1 group
TECHNOLOGY LITERACY RESPONSIBILITY	FINANCIAL I MEDIA LIT CONFID PERSERVE	ITERACY ERACY ENCE ERNACE	RESO	URCEFUL	EMPATHY SELF-GOAL DIRECTED CIVIC LIVERACY conscientious

Competency	Group(s)
COMMUNICATION	9
INDEPENDENT	8
PROBLEM SOLVING	7
ADAPTABILITY	6
CRITICAL THINKING	5



#### Initial Student Draft Competency Set



#### Final Draft Competency List

Communicator Responsible Citizen Independent Person Problem Solver Flexable Thinker Digitally Literate Learner



























			Administrators		
	24-25 Base Salary	Years Service	Current Position Up to 35	Longevity Rate	Longevity Pay
Jim Kelly	91,933.49	41.00	26.00	0.095	8733.68155
Julie-Dee Alt	92,072.24	32.00	14.00	0.035	3222.5284
			Specialists		
aurie McRae	69345.31	41	35	0.125	8668.16375
Stephanie Annis	63102.96	19	19	0.055	3470.6628
Sherri Widhelm	62816	6	6	0.015	942.24
Catie Lynch	72564.96	2	2	0.000	0
3eri Darko	67275	1	1	0.000	0
				Total Pay	25037.2765
				With Benefits	31046.22286

August 1998 became dean of students July 2010 became supervising teacher



# Montana School for the Deaf and the Blind

Is hereby awarded

# **CERTIFICATE OF ACCREDITATION**

For meeting national standards for blind and low vision services in the areas of:

Management Services: Policy and Administration & Financial & Staff & Volunteers Building & Grounds & Community Relations/Public Education/Fundraising & Community and Consumer Involvement & Program Evaluation

The tenure of accreditation extends through February 26, 2029

Lee Sonnahey

Lee Sonnenberg, Chair AER Accreditation Council



"Embrace the Squiggle 2023 - 2024"

## ............

# Green Team April Newsletter

#### Accreditation – Jen Wasson

Accreditation Happenings Since Last Update:

The Association for Education and Rehabilitation of the Blind and Visually Impaired (AER) has given accreditation to MSDB for their Management Standards. The accreditation team will decide in the fall if we will go forward with the program accreditations next.

#### During the next month, accreditation hopes to achieve:

MSDB has submitted our strategic plan from COGNIA to the state for our OPI accreditation. We are waiting for feedback from them to see if it's acceptable. Areas of focus for us to submit data are our math intervention strategies, high school career and college readiness, Indian Education For All, Math, Portrait of a Graduate, and PreEts reports. The accreditation team will be meeting with groups to find out what we need next, and make a decision about the AER Program Standards for accreditation and whether or not to pursue the Conference of Educational Administrators of Schools and Programs for the Deaf (CEASD) accreditation.

Accreditation Documents:

#### Assessment - Jessteene Clifford

#### Assessment Happenings Since Last Update:

The Portrait of a Graduate Leadership team has used the month of March to prepare for the 3rd Design Team meeting which will happen on April 9th. We were able to have our student POG focus group for the 2nd meeting and present the data from a student perspective to the Battelle for Kids Team. BfK analyzed this data as well as the data from the 2nd Design Team meeting and presented us with our top 6 competencies. These competencies will be revealed at the 3rd Design Team Meeting. Also using the feedback from the student focus group and the 2nd meeting Battelle will be providing 3-4 concept visuals for the Design Team to comment on during the April 9th meeting. Additionally during that meeting we will choose our visuals title which will probably include "Learner" instead of "Graduate". The 4th meeting in May will be our reveal and next steps which I will give more details on in the next newsletter. We are continuing to meet with the AIR consultant for DBI training. We have also engaged a new consultant who will help us implement our finalized POG.

#### During the next month, assessment hopes to achieve:

Our third meeting will take place on April 9th. We will have another student focus group for meeting #3 in late April - possibly Monday the 29th. We will have our initial meeting with our new consultant and continue with our AIR meetings and DBI training. We will begin preparing for our last Design Team meeting scheduled for May 14th.

#### Assessment Documents

POG Leadership Team Meeting 3-1-24 POG Leadership Team Meeting 3-22-24

#### Cottage – Jim Kelly

Cottage Happenings Since Last Update:

Students in the Cottage continue to be involved with the many after school activities.

The third Student of the Quarter was awarded to Gracie Jones. These students' success shows how the Cottage program effectively prepares students by encouraging improvements in caring for themselves, caring for their property and managing their chores, interacting with staff and students, being more responsible with time management and organization, and improvement in overall behavior. Geyser cottage will be awarded a dinner out (or brought in) of Gracie's choosing.

The Student Life Department Activity Room Design Team has met with the Director of Student Life to share some of their ideas. Suggestions were made and questions were asked. This is a work in progress with no final design plan in place yet. This team meets on Sundays to discuss their ideas further.

The last 6 weeks of Community classes begin March 11 to April 22. Please note no class April 1. Three new staff members requested to be added to the schedule. Options have been emailed.

During the next month, the cottage hopes to achieve:

The three Cottage Learning Communities will continue to meet weekly, more about this in the PCL section.

The 4-H Club will host an educational/hands on fair for other clubs in the area. This will happen on March 4 in our Mustang Center. Club members will do specific demonstrations and activities to share the challenges our students face.

The 2nd and final Gaming Club competition will be held on Friday, May 3 from 3:30 to 5:00 PM in the Yellowstone activity room.

The Health Services Department is working on getting an Electronic Health Record system.

Cottage end of the year trip is tentatively planned for Billings at the water park May 16.

Attendance and schedules are available through the Director of Student Life or ASL Mentors. The ASL Mentors and The Malmstrom Air Force Base will continue the ASL after the ASL class to focus on their easter theme.

Cottage Documents March 2024.pdf

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Education – Julie-Dee Alt

#### Education Happenings Since Last Update:

3rd quarter has ended. Students and staff participated in Read Across America, the Braille Challenge, Curious Minds Science Fair, and VIEW. The Goalball tournament was canceled for weather-related reasons in Denver. Hopefully the goalball team will be able to play at a tournament next year! Several 10-day observations have been taking place as well.

Specialists are continuing to support classrooms, lunchroom procedures, individuals and groups of students. MSDB's behavior specialist attended an SEL conference in Atlanta, Georgia and share information and resources with the specialist group recently.

The transition coordinator with all departments of Vocational Rehabilitation (VR) to share about MSDB, our transition services, LEAP, and our transition camp: DHH Team, BLV Team, and Pre-ETS Team and is continuing to coordinate the application process for students to receive VR services and support

She is continuing to make employer contacts for potential Work Based Learning opportunities (WBLE) and currently two students have started community WBLE paid positions. As part of WBLE, services have been set up with Westaff to pay wages to students when the employer is not able to. As part of this process, the coordinator is also working on WBLE contracts to establish learning goals and evaluations for the students.

English classes are working on applications for the MYLF (Montana Youth Leadership Forum). Transition Camp recruitment continues with students, parents, outreach and teachers. Many students express interest, but have not completed the registration process.

During the next month, the education hopes to achieve:

Education Documents

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#### Mentoring - Missie Williams

#### Mentoring Happenings Since Last Update:

We have begun to work on "partner in practice" activities. These include reading an article and discussing it with your mentor/mentee. Our last article was about tips for working with the visually impaired to promote independence.

We have also begun having mentoring meetings both in the mornings and afternoons on Thursdays to make sure to reach all mentees.

During the next month, the mentoring hopes to achieve:

We will be doing another partner in practice activity for the deaf and hard of hearing. This will be done as a large group.

#### Mentoring Documents

Tips for Teaching Blind or Visually Impaired Students.docx
 Tips for Teaching Students who are Deaf or Hard of Hearing

#### Outreach - Carol Clayton-Bye

<u>Outreach Happenings Since Last Update:</u> Completed VIEW Event. Planning for DEW and UTD(See info on the web page). Hiring new Outreach staff. Presenting at MCEC.

During the next month, the outreach hopes to achieve: Working on AER Accreditation for Outreach updates.

#### **Outreach Documents**

#### Professional Learning Communities – Alissa Kline

#### PLC Happenings Since Last Update:

PLC teams in the Education Department finished up their 2nd round of PLCs: Explicit Instruction, Morphemes (word parts), Managing Emotions, Responsible Decision Making, VI ECC (Expanded Core Curriculum). For the World Cafe at the end of the round, teams prepared posters to showcase their data and the implications that can be taken from the team's learning. Teams participated in a gallery walk and engaged in discussion about the work of the other teams. The para team also participated in the World Cafe to learn about the work the teachers/staff have been doing this past quarter.

In the Cottage, CLCs are in full swing. Shoshone is finishing up their round on [helping students] Identifying Emotions. They are working on their own World Cafe to showcase their data and the work they have done. Geyser is in the midst of working on [helping students] Managing Emotions. Obsidian is working on [helping students] Manage Hygiene.

Activators in Education continue to meet once a week to collaborate and plan for PLC meetings. Activators in the Cottage continue to meet (separately from Education) once a week to collaborate and plan for PLC meetings.

#### During the next month, the PLC hopes to achieve:

In the Education Department, staff members will begin their final round of the year: Morphemes (word parts), Managing Emotions, Responsible Decision Making, VI ECC, Independence Skills and Growth Mindset. The Growth Mindset team will also include three staff members from Outreach in preparation for implementation of PLCs in Outreach next year. Teams will continue to meet weekly.

In the Cottage, teams will continue their work alongside learning the 5 Guiding Questions and the 4 Cross-cutting Values of CLCs. Teams will continue to meet weekly.

PLC Documents CLC: Introduction Presentation CLC: Question 1 Presentation CLC: Questions 2 & 3 Presentation

#### Stakeholder Engagement – Joel Auers

#### Stakeholder Engagement Happenings Since Last Update:

In cooperation with Bighorn Outdoor Specialists in Great Falls we were able to secure 7 new premium bikes at cost and assembled for free for our MSDB student body. They are safer, more reliable, and will provide many years of quality exercise and experiences for our students. Pictures are available on our Social Media platforms.

We just finished up our 3rd annual MSDB/Malmstrom Air Force Base Easter Festival which took place on March 22nd. Activities included egg decoration arts and crafts, Robot navigation, a large bouncy obstacle course, and egg hunt. Students received prizes and gift bags for their experiences with the activities.

Malmstrom personnel also were able to practice their newly adaptive sign-language skills with our students which were coordinated and collaborated with our sign instructors at MSDB.

We are currently continuing to work with Leadership Great Falls in their fundraising efforts for the non-profit organization Eagle Mount. Information is also posted on our MSDB Social Media pages. We are currently selling raffle tickets for a Meat and Gun drawing that will take place in May that is available in our Main Office. We are currently at 29% with 45 days left to go, so please put the word out and help support in any way for us to reach our goal! Below is the link for further information and the donation page.

#### https://go.rallyup.com/lgf2024/Campaign/Details

Family Engagement: (N/A)

#### Student Ambassador: (Cheyanne Tucker)

The Student Ambassadors have had the opportunity to share with Visually Impaired Enrichment Weekend participants a story of the day in the life of a student. They chose to describe a typical Wednesday after school so that the students visiting could have an idea of their routines. The Ambassadors are planning to share the same story for Deaf Enrichment Weekend as well. In line with putting the Ambassadors strengths into practice, they were given the opportunity to create introduction videos for Mustang News. Unfortunately, the original videos were not able to be used. That will be the new goal for this month moving forward, making new introduction videos to have shared on Mustang News. One of the Ambassadors had the opportunity to give a Montana Artist named Jim Dolan, a brief campus tour during his visit for an Art Experience. Along with these ideas coming to fruition, the Ambassadors have been discussing many other ideas and hopes for MSDB within weekly meetings.

During the next month, the stakeholder engagement hopes to achieve: The ability to reach our goal in supporting Eagle Mount and their new tractor.

Stakeholder Engagement Documents N/A

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#### Superintendent – Paul Furthmyre

Superintendent Happenings Since Last Update:

Ever since the shooter on the base incident, we have been working to get our emergency alert system in place. Some of this has included purchasing add-ons to our Layered Solution products. We now have the capability to share to the TVs, Computer Screens, email, and text everyone from the system. Josh and I will be receiving some training soon to set up the various buildings and set up our messages. We will then begin testing the program once again. We get charged by the user for Layered Solution. Therefore, we have entered into an agreement with Remind Hub. We will begin working on setting this up. This will have the capability to send emergency notifications to anyone, including parents. This will be a much better price solution for that.

Our broadband project is getting close to starting. It has been almost four years since we applied for the grant and within the next 30 days, we will have this project start. Before school begins in August MSDB will be upgraded to the best CAT6 wiring, new network hardware, updated wifi access, and fiber optic speed serving the school. The hope will be to have the correct setup to start doing some online offerings.

Along with the broadband project, our updated camera system will be getting installed over the summer as well. This will include having cameras that cover all of the outside areas and many locations inside. We currently don't have the finances to pay for the entire system this year. All of the wiring will be pulled and when we have some funding, we will finish the project by purchasing the cameras and having them installed. We hope this is completed by summer of 2025.

Another project that will be completed soon is a fence that runs the length of 38th street and then down half of 2nd avenue. This has been a safety request for the past couple of years due to our neighbors walking through the middle of campus frequently.

As we begin to finish projects that we have identified, I want to share how we spend our carryforward money from 2023. We had roughly around \$120,000 that could be put back into our facilities. This money cannot be used for salaries. The money was used to finish paying for all the needs to get Layered Solutions ready, pay for the outside fence, make sure we had all

the money for the broadband project, and finally paid for some of the cameras for the camera install.

As some of our outreach staff are starting to work with families that speak different languages, we have signed a contract with Language Link to provide the services. This was completed just this week and will be training those outreach workers that need the training soon. This program will allow our outreach to have access to interpreters that speak nearly every language we could encounter. The best part of the program is that the State of Montana has a contract with them. This lowers the cost for us dramatically.

We are beginning to work with the Governor's Office on our proposals for the next legislative session. In no particular order at this time we will be asking to have a budget created for recruiting. This will allow us to attend job fairs outside of Montana that develop those positions we need. We will propose creating a salary chart for our school-based medical professional similar to what Great Falls public schools have. This would include a starting salary for anyone in those positions, the addition of longevity. We will be asking the legislature to fund the remaining longevity costs to get all MFPE members at their current longevity level. This would replace the planned five year implementation of longevity. We will be asking for a Dean of Students program for the education department. This will help us broaden our services and support our staff with student regulation and parent communication. We will also be asking for either a second Outreach Director or DHH Outreach member. This will depend on which way the current open Outreach Direction position is filled.

We have several positions open at this time and are actively in HR mode with recruiting. The open VI Teaching position has two applicants and we are in the process of interviewing this week. We have no applicants for the two DHH Teaching positions at this time. We will be participating in a virtual job fair this week and have 4 candidates that have been selected to meet with us. We have two applicants for the open VI Great Falls Outreach position. We have two applications for the two open LPN positions. We will be setting up a timeline soon to begin working on advertising for the open Outreach Director position. We have an offer on the table for an interpreter candidate and are waiting to hear back from her.

Preparing for the legislative session, we are in talks with the Governor's Office and State HR to update our organizational chart. If you look at our current chart, it will show that we have around 90 FTE. In reality, we have about 118 people that work for MSDB. The problem is that a majority of the 118 staff members work about 9 months of year and therefore show up as .73 employees. This has created a great amount of confusion every two years getting ready for the session. It is our hope to have our FTE changed to 118 FTE. In addition to trying to get our numbers changed, we are also asking to have everyone's position labels be updated to reflect their current position.

Similar to preparing for our legislative asks for next session, we are also in the process to submit our projects for consideration for long-range planning. The projects that will be submitted will consist of developing a plan and installing some or all of a HVAC system for the cottages. This will be our priority for this session. We will ask for the vocational/business building to receive a complete remodel (electrical, plumbing, windows, ventilation, HVAC). We will also be applying for funding to update the HVAC system in Mustang Center to include better ventilation and add a cooling component to it.

Working with the MFPE LMC this year, we began looking at policies to make sure we had the correct policies, up-to-date policies, etc. This has been a daunting task and will take some time. Therefore, we will continue with having our staff update our policies because that created a way to include all staff in the process. But instead of leaving the LMC committee to do all of the work, we will be working with the MT School Boards Association. They will be reviewing our policies and making suggestions. We will then bring it to the staff and the BPE. By doing this, we will also have access to a program via MTSBA that will make using and finding policies much easier. Here is a link as an example of what it will look like in the end. <u>Belt Example</u>.

One of the major priorities of our strategic plan includes community engagement. We now have a staff member beginning to work on developing a communication plan for MSDB. The plan will consist of internal communications, parent/family communications, marketing communications, crisis communication. This will take time but we are excited to begin the journey. You should have noticed a change with Facebook right now. This could turn into developing a possible logo for MSDB that shows are entire brand.

As Jen mentioned in her report, we just submitted our state accreditation documentation. This was the first year with this new reporting method and it will be interesting how MSDB does under the new system. I personally feel MSDB will do fine and receive accreditation but it is not I who will have the final say. For the first time we had to provide our IEFA plan and lessons. Thanks Missie and to the 5 or so teachers that do IEFA and document it regularly. We will see if the state takes our Cognia format with critical initiatives and annual implementation plans to satisfy their SMART goal expectation. Our accreditation team has done great work on this topic over the last couple of years and we had everything they wanted in our documentation. Our NWEA data showed growth with both ELA and Math. Our focus on PLCs provided good documentation as well, especially the vocab PLC. Our ELVS activities and all of the stakeholder events met all the requirements for family and community engagement. Lastly, the work on the Portrait meets all the requirements for that section of the accreditation.

Nearly two years ago we began working with the state to test the lead levels in our water fixtures. We were finally able to get the test done and have received the results. We have about 20 fixtures that had to be turned off immediately. We are looking to get a plumber to address our issues as the state has a grant to help with the remediation.

During the next month, the superintendent engagement hopes to achieve: Finalize Sprinkler System Project

Finalize Legislative Asks and LRBP Get outline for our first annual report complete Set up dates for mentoring audit Set up outline for collection State Accreditation data Meet with accreditation teams

Superintendent Engagement Documents

If you have any comments/questions/concerns about this newsletter, please let Paul Furthmyre know at <u>pfurthmyre@msdb.k12.mt.us</u> We want this newsletter to cover the happenings of MSDB. Magic happens every month and we need to tell our story.

#### **Future Green Team Meetings**

May 2 - June TBD

#### 51130 School for the Deaf & Blind ORG Budget Summary - No A Accruals Data Selected for Month/FY: 01 (Jul)/2024 through 10 (Apr)/2024

This report compares ORG Budgets (ORG\_BD) to Actuals expended amounts

<b>Business Unit</b>	(All)
Program Year	2024
FY_BudPer	(All)
Month	(All)
Source of Auth	(All)
Fund Type	(All)
Account	(All)
Org	(All)
Acct Lvl 2	(All)
Account Type	E
Project	(All)
Ledger	(All)

Menu!A1

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						4/4/2023
OBPP Program Fund Subclass	Acct Lvl 1	ORG Budget	Actuals Amt	Balance	YTD %	Prior Year %
01 ADMINISTRATION PROGRAM		710,406.93	562,342.74	148,064.19	79.16%	78.51%
01100 General Fund		694,987.00	546,922.81	148,064.19		
300H1 ADMINISTRATION		536,440.00	423,383.41	113,056.59		
	61000 Personal Services	477,819.00	366,429.56	111,389.44		
	62000 Operating Expenses	58,621.00	56,953.85	1,667.15		
300H5 STATE ITSD (RST)		158,547.00	123,539.40	35,007.60		
	62000 Operating Expenses	158,547.00	123,539.40	35,007.60		
02050 School Trust Interest/Income		3,394.00	3,394.00	0.00		
300H1 ADMINISTRATION		3,394.00	3,394.00	0.00		
	61000 Personal Services	3,394.00	3,394.00	0.00		
02259 MSDB MISC MOUS		12,025.93	12,025.93	0.00		
300A1 DIGITAL ACADEMY	1	12,025,93	12,025,93	0.00		
	61000 Personal Services	11,637.99	11,637.99	0.00		
	62000 Operating Expenses	387.94	387.94	0.00		
02 GENERAL SERVICES		667,665.54	568,778.07	98,887.47	85.19%	85.29%
01100 General Fund		667,665.54	568,778.07	98,887.47		
305F2 FY2022 CARRYFORWARD		76,590.54	76,590.54	0.00		
	63000 Equipment & Intangible Assets	76,590.54	76,590.54	0.00		
305H1 GENERAL SERVICES		591.075.00	492,187,53	98,887,47		
	61000 Personal Services	331,465.00	260,631.23	70,833.77		
	62000 Operating Expenses	230,159.00	231,556.30	(1,397.30)		

-

	68000 Transfers-out	1,000.00	0.00	1,000.00		
	69000 Debt Service	28,451.00	0.00	28,451.00		
TUDENT SERVICES		2,025,330.00	1,572,394.75	452,935.25	77.64%	69.45%
01100 General Fund		1,990,601.00	1,549,681.08	440,919.92		
310H1 STUDENT SERVICES		1,878,101.00	1,527,349.07	350,751.93		
	61000 Personal Services	1,745,494.00	1,410,681.83	334,812.17		
	62000 Operating Expenses	132,607.00	116,667.24	15,939.76		
310H4 FAMILY ENGAGEMENT	OPP	42,500,00	6.336.43	36,163,57		
	61000 Personal Services	42,500.00	6,336.43	36,163.57		
310H6 STUDENT TRAVEL		45,000.00	14,163.60	30,836.40		
	62000 Operating Expenses	45,000.00	14,163.60	30,836.40		
310H7 STUDENT EXTRACURI	TRAVEL	25 000 00	1 924 0.9	22 469 02		
STOL STOBELL EXTRAGOL	62000 Operating Expenses	25,000.00	1 831 98	23,168,02		
	jozooo operating Expenses	20,000.00	1,001.00	20,100.02 ;		
03167 National School Lunch		34,729.00	22,713.67	12,015.33		
310H1 STUDENT SERVICES		34,729.00	22,713.67	12,015.33		
	62000 Operating Expenses	34,729.00	22,713.67	12,015.33		
CATION		6 735 171 54	4 500 612 63	2 234 558 91	66 82%	67.63%
01100 General Fund		5,830,464.00	4,184,882.75	1,645,581.25	00.0270	0110070
315H1 EDUCATION		5,768,526.00	4,171,156.58	1,597,369.42		
	61000 Personal Services	5,479,938.00	3,875,878.67	1,604,059.33		
	62000 Operating Expenses	288,588.00	295,277.91	(6,689.91)		
315H3 PROFESSIONAL DEVE	OPMENT	35 000 00	12 476 17	22 523 83		
	62000 Operating Expenses	35,000.00	12 476 17	22 523 83		
	toron operating Expension	00,000,000				
315H4 EXTRACURIC COMP		26,938.00	1,250.00	25,688.00		
	61000 Personal Services	26,938.00	1,250.00	25,688.00		
02050 Calcal Trust Internet/Income		200 047 00	00 405 64	402 554 20		
315H1 EDUCATION		290,047.00	96,495,64	103 551 36		
SISH EDOCATION	61000 Personal Services	290,047.00	96,495.64	193,551.36		
		200,011100				
02243 Medicaid		11,534.00	0.00	11,534.00		
315H1 EDUCATION		11,534.00	0.00	11,534.00		
	:62000 Operating Expenses	11,534.00	0.00	11,534.00		
03012 E.C.I.A. Chapter I		50,842,00	0.00	50,842.00		
315H1 EDUCATION		50.842.00	0.00	50,842.00		
	61000 Personal Services	50,842.00	0.00	50,842.00		
		444.075.00	400 477 07	14 207 72		
U3064 EHA, Part B		114,875.00	100,477.27	14,397.73		
STORT EDUCATION	61000 Personal Services	104 875 00	100,477.27	4 875 00		
	O TOUT FEISUNAL SELVICES	104,075.00	100,000.00	4,073.00		

62000 Operating Expenses	10,000.00	477.27	9,522.73
	26,375.00	4,209 <u>.32</u>	22,165.68
	26,375.00	4,209.32	22,165.68
62000 Operating Expenses	26,375.00	4,209.32	22,165.68
	29,884.16	171.66	29,712.50
	29,884.16	171.66	29,712.50
61000 Personal Services	13,000.00	0.00	13,000.00
62000 Operating Expenses	16,884.16	171.66	16,712.50
	328,544.95	96,960.92	231,584.03
	72,979.95	62,600.92	10,379.03
61000 Personal Services	17,414.00	17,414.00	0.00
62000 Operating Expenses	55,565.95	45,186.92	10,379.03
	255,565.00	34,360.00	221,205.00
61000 Personal Services	94,500.00	0.00	94,500.00
62000 Operating Expenses	161,065.00	34,360.00	126,705.00
	1,405.79	1,405.78	0.01
	1,405.79	1,405.78	0.01
61000 Personal Services	1,278.50	1,277.98	0.52
62000 Operating Expenses	127.29	127.80	(0.51
	51,199.64	16,009.29	35,190.35
	51,199.64	16,009.29	35,190.35
61000 Personal Services	0.00	0.00	0.00
increase and the second second	51 100 GA	16 000 20	25 100 25
62000 Operating Expenses	51,199.04	10,009.29	55,190.50
	62000 Operating Expenses 62000 Operating Expenses 61000 Personal Services 62000 Operating Expenses 61000 Personal Services 62000 Operating Expenses 61000 Personal Services 62000 Operating Expenses 61000 Personal Services 62000 Operating Expenses	62000 Operating Expenses       10,000.00         26,375.00       26,375.00         62000 Operating Expenses       26,375.00         29,884.16       29,884.16         61000 Personal Services       13,000.00         62000 Operating Expenses       16,884.16         328,544.95       72,979.95         61000 Personal Services       17,414.00         62000 Operating Expenses       55,565.95         61000 Personal Services       94,500.00         61000 Personal Services       94,500.00         61000 Personal Services       94,500.00         61000 Personal Services       94,500.00         61000 Personal Services       12,729         61000 Personal Services       1,278.50         62000 Operating Expenses       127.29         51,199.64       51,199.64         61000 Personal Services       0.00	62000 Operating Expenses       10,000.00       477.27         26,375.00       4,209.32         26,375.00       4,209.32         26,375.00       4,209.32         26,375.00       4,209.32         29,884.16       171.66         29,884.16       171.66         61000 Personal Services       13,000.00       0.00         62000 Operating Expenses       16,884.16       171.66         328,544.95       96,960.92       72,979.95       62,600.92         61000 Personal Services       17,414.00       17,414.00         62000 Operating Expenses       55,565.95       45,186.92         61000 Personal Services       94,500.00       0.00         61000 Personal Services       94,500.00       0.00         61000 Personal Services       1,405.79       1,405.78         1405.79       1,405.78       1,277.98         62000 Operating Expenses       127.29       127.80         51,199.64       16,009.29       51,199.64       16,009.29         61000 Personal Services       0.00       0.00       0.00

69.93%

#### 9089 Mont Sch for Deaf & Blind District

#### **Student Enrollment Summary Report**

Effective Date: 04/10/2024 Enrollment Types: P, S, N Total Race/Ethnicities: 6 of 7 Total Schools: 2 Race/Ethnicity Source: Federal Male/Female/Total: 21/18/39

#### 3911 Central Avenue, Great Falls, MT 59405 Generated on 04/10/2024 07:06:44 PM Page 1 of 1

#### Student Population by Race/Ethnicity and Grade Level (Male/Female/Total)

#### MT Sch For Deaf & Bind El

Grade	1:Hispanic/Latino	2:American Indian or Alaska Native	3:Asian	4:Black or African American	5:Native Hawaiian or Other Pacific Islander	6:White	7:Two or more races	Total
01					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2/2/4		2/2/4
02				-		0/1/1		0/1/1
3			-	10 m		1/2/3	1.00	1/2/3
4	1.6			÷.	<u>े</u> स	1/0/1	1/0/1	2/0/2
6				0/1/1		0/3/3		0/4/4
7			1/0/1		<u></u>			1/0/1
8		1/0/1		-		0/2/2	-	1/2/3
K					-	2/1/3		2/1/3
S	1/0/1	•	÷.,	-	-	2/0/2	÷.,	3/0/3
II Grades	1/0/1	1/0/1	1/0/1	0/1/1		8/11/19	1/0/1	12/12/24

#### MT Sch For Deaf & Bind HS

Grade	1:Hispanic/Latino	2:American Indian or Alaska Native	3:Asian	4:Black or African American	5:Native Hawaiian or Other Pacific Islander	6:White	7:Two or more races	Total
09		1/0/1		-		2/1/3	· · · · ·	3/1/4
10		1/0/1				2/2/4		3/2/5
11	· · · ·	0/1/1		0/1/1		2/1/3		2/3/5
12	-		÷		-	1/0/1	-	1/0/1
All Grades	1	2/1/3		0/1/1	्रे	7/4/11		9/6/15

#### Student Population Excluding White not of Hispanic Origin

School	Total	Percentage
MT Sch For Deaf & Blnd El	5	20.83%
MT Sch For Deaf & Blnd HS	4	26.67%
Total	9	23.08%

# ✤ MACIE LIAISON – (Item 7)

# Susie Hedalen

# <u>ITEM 7</u>

# MACIE REPORT

Jordann Lankford Forster


## MONTANA ADVISORY COUNCIL ON INDIAN EDUCATION ADVISORY TO THE BOARD OF PUBLIC EDUCATION AND SUPERINTENDENT OF PUBLIC INSTRUCTION

## Montana Board of Public Education MACIE Summary

May 2024

Presentation	MACIE Report	
Presenter	Jordann Lankford Forster	
Position Title	MACIE Chair	
Overview	The purpose of MACIE is to provide recommendations and guidance to the Board of Public Education and the Office of Public Instruction on initiatives and actions aimed at increasing American Indian student achievement. As your advisory board, and partner in American Indian education improvement, we offer the following report:	
<b>Requested Decision</b>	None	
Related Issue(s)	May MACIE Meeting	
	Montana Indian Education Association	
	Letter from National Education Association Update	
	Letter from Superintendent's Office	
	Public Concern on American Indian Academic Achievement	

Elsie Arntzen, Superintendent

PO Box 202501 Helena, MT 59620-2501 406;44,5643 In-State Toll-free: 1.888.231.9393 TTY Users: 406;444.0235 opi.mt.gov OFFICE OF PUBLIC INSTRUCTION STATE OF MONTANA





April 30, 2024

Jordann Forster, Chairperson Montana Advisory Council for Indian Education (MACIE) 2400 Central Avenue Great Falls, MT 59405

Re: Letter of Commitment

Dear Ms. Forster,

My intention is to positively impact MACIE's good work by memorializing the Office of Public Instruction (OPI)'s financial commitment to MACIE. My goal, through this Letter of Commitment, is to support OPI's future request that the legislature provide funding specifically for MACIE in the next biennium.

OPI hereby re-affirms its commitment to funding at least \$10,000 of MACIE's expenses during the current biennium. Some, but not all, of that amount has been paid out by OPI in the first year of the current biennium. Additionally, MACIE is always free to request that OPI provide reimbursement for its expenditures that exceed \$10,000 each biennium, and any such request may be considered by the State Superintendent then in office.

I would also encourage MACIE to request funding from the Board of Public Education, as they, too, may request the legislature to provide funding specifically for MACIE. 2-15-122, MCA.

Thank you for recognizing OPI's commitment to the Montana Constitution and Indian Education for All!

Sincerely,

Elsie Arntzen Montana Superintendent of Public Instruction

# ✤ <u>REPORTS – (Item 8)</u>

# Dr. Tim Tharp

## **ITEM 8**

# **STUDENT REPRESENTATIVE REPORT**

**Gavin Mow** 

# **\***<u>ASSESSMENT COMMITTEE – (Items 9-11)</u>

## Renee Rasmussen

# **ITEM 9**

# ACTION ON AND RESPONSE TO PUBLIC COMMENTS SUBMITTED ON REVISIONS TO ARM TITLE 10, CHAPTER 56, ASSESSMENT STANDARDS

Renee Rasmussen

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## BEFORE THE BOARD OF PUBLIC EDUCATION OF THE STATE OF MONTANA

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In the matter of the amendment of ARM 10.56.101, 10.56.102, and 10.56.105 pertaining to Assessment Standards NOTICE OF PUBLIC HEARING ON PROPOSED AMENDMENT

**TO: All Concerned Persons** 

1. On May 2, 2024, at 10:00 a.m., the Board of Public Education (board) will hold a public hearing in Room 152 of Montana State Capitol, in Helena, Montana, to consider the proposed amendment of the above-stated rules.

2. The board will make reasonable accommodations for persons with disabilities who wish to participate in this rulemaking process or need an alternative accessible format of this notice. If you require an accommodation, contact the board no later than 5:00 p.m. on April 22, 2024, to advise us of the nature of the accommodation that you need. Please contact McCall Flynn, Executive Director, 46 North Last Chance Gulch, P.O. Box 200601, Helena, MT, 59620-0601; or email bpe@mt.gov.

3. The rules as proposed to be amended provide as follows, new matter underlined, deleted matter interlined:

<u>10.56.101</u> STATEWIDE ASSESSMENT (1) By the authority of 20-2-121(12), MCA and ARM 10.55.603, the <u>The</u> Board of Public Education adopts rules for state level assessment <u>statewide assessments</u> in the public schools and those private schools seeking accreditation.

(2) The Board of Public Education (board) recognizes that the primary purpose of assessment is to serve learning. A balanced assessment system including formative, interim, and summative assessments aligned to state content standards, will provide an integrated approach to meeting both classroom learning needs and school and state level information needs. An assessment system that includes multiple measures and is aligned to state content and program delivery standards will provide an integrated approach to inform student learning, progression, growth, and proficiency. A balanced An assessment system is structured to continuously improve teaching and learning and to inform education policy.

(3) The obligation for funding the <u>statewide</u> assessments is the responsibility of the state. This chapter may not be construed to require a school district to provide these assessments if the state does not have a current contract with test vendors for provision of these assessments to Montana school districts.

(4) The Superintendent of Public Instruction shall recommend in writing to the board Board of Public Education any modifications to the single system of state level assessment statewide assessments as set forth in (2). The board Board of Public Education may consider recommended modifications as an information item on an

agenda at a board <u>Board of Public Education</u> meeting. At that meeting, the board <u>Board of Public Education</u> may vote to list the recommendations as an action item on the agenda of a subsequent board <u>Board of Public Education</u> meeting. Unless approved by the board <u>Board of Public Education</u>, no recommended modifications are effective and no accredited schools may implement the recommended modifications.

(5) When developing a recommendation to the board Board of Public Education for adopting statewide assessments the Superintendent of Public Instruction will include implications including alignment to content standards.

(6) through (6)(b) remain the same.

(c) request approval from the board <u>Board of Public Education</u> to allow for census field testing before determining proficiencies.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-121, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-7-402, MCA

<u>10.56.102</u> PARTICIPATION (1) By the authority of 20-2-121(11), MCA, and ARM 10.55.603, the Board of Public of Education (board) adopts rules for statewide assessment in all public and accredited nonpublic schools.

(2) Statewide assessments approved by the Board <u>of Public Education</u> shall be administered in all public and accredited nonpublic schools.

(3) School districts shall annually administer statewide assessments to all students in accordance with state and federal laws and regulations that meet or exceed the following specifications:

(a) English language arts and mathematics assessments shall be aligned to Montana content standards in English language arts and mathematics and administered in grades 3-8 and <del>11</del> at least once in grades 9-12;

(b) Science assessments shall be aligned to Montana content standards for science and administered in not less than one time during grades 5, 8, and 11 3-5, 6-9, and 10-12; and

(c) Assessments shall be administered in the spring of each year. <u>Statewide</u> assessments shall be administered in all public and accredited nonpublic schools within the statewide assessment windows established by the Superintendent of Public Instruction.

(4) State-level Statewide assessments aligned to Montana-English language proficiency standards shall be administered to all students identified as English Learners (EL) in grades (K-12). These assessments shall be administered midschool year. within the statewide assessment windows established by the Superintendent of Public Instruction.

(5) remains the same.

(6) School districts shall use guidance provided by the Office of Public Instruction to inform parents/guardians about statewide assessments, <u>pursuant to</u> <u>ARM 10.55.601 and 10.55.722</u>, including:

(a) and (b) remain the same.

(c) when the information about student performance is provided to teachers relevant educators and specialists and parents/guardians;

(d) how teachers relevant educators and specialists, principals, and district officials use the information about student performance; and

(e) how parents/guardians can use that information to help their child.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-121, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-7-402, MCA

<u>10.56.105 REPORTING</u> (1) The Superintendent of Public Instruction shall provide a <u>an annual</u> report of the <del>annual state</del> <u>statewide</u> assessment results to the Legislature and the Board of Public Education.

(2) The Superintendent of Public Instruction shall make available student assessment data results in compliance with confidentiality requirements of federal and state law (20-7-104, MCA). To facilitate transparency, the statewide assessment results released to the public shall be accompanied by a clear statement of the purpose, subject areas assessed, description of proficiency levels, and the percentage of students who participated in the assessments.

(3) Statewide <u>Annual</u> assessment results are a part of each student's permanent record as described in compliance with 20-1-213 and 20-7-104, MCA.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-121, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-7-402, MCA

REASON: The board proposes these amendments to better align the assessment standards with the Elementary and Secondary Education Act (ESEA). This alignment allows assessments to be administered during broader grade bands rather than during specific grade levels. The proposed amendments also provide flexibility by establishing statewide assessment windows when the assessments could be administered during the school year. The proposed amendments also include cross-references to accreditation standards from ARM Title 10, chapter 55 to emphasize the importance of communication with parents/guardians about statewide assessments. The proposed amendments also include clarity and consistency of language used in the rules.

4. Concerned persons may submit their data, views, or arguments either orally or in writing at the hearing. Written data, views, or arguments may also be submitted to: McCall Flynn, Executive Director, 46 North Last Chance Gulch, P.O. Box 200601, Helena, Montana, 59620-0601; telephone (406) 444-0300; or email bpe@mt.gov and must be received no later than 5:00 p.m. on May 10, 2024.

5. McCall Flynn, executive director of the board, has been designated to preside over and conduct this hearing.

6. The board maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, email, and mailing address of the person to receive notices and specifies for which

program the person wishes to receive notices. Notices will be sent by email unless a mailing preference is noted in the request. Such written request may be mailed or delivered to the contact person in paragraph 4 or may be made by completing a request form at any rules hearing held by the board.

7. An electronic copy of this proposal notice is available through the Secretary of State's web site at http://sosmt.gov/ARM/Register.

8. The bill sponsor contact requirements of 2-4-302, MCA, do not apply.

9. With regard to the requirements of 2-4-111, MCA, the board has determined that the amendment of the above-referenced rules will not significantly and directly impact small businesses.

/s/ McCall Flynn	
McCall Flynn	
Executive Director	
Board of Public Education	

<u>/s/ Tim Tharp</u> Tim Tharp Chair Board of Public Education

Certified to the Secretary of State April 2, 2024.

# Montana Board of Public Education Executive Summary

Date: April 2024

Presentation	Economic Impact Statement on the Chapter 56 Assessment Revisions	
Presenter	Marie Judisch	
Position Title	Senior Manager of Teaching and Learning	
Overview	Economic Impact Statement on the Chapter 56 Assessment Revisions	
Requested Decision(s)	Information Item	
Related Issue(s)	N/A	
Recommendation(s)	N/A	

# Economic Impact Statement Administrative Rule of Montana, Chapter 56: Assessment Standards

Prepared by the Office of Public Instruction - April 2024



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## **Executive Summary**

The Superintendent of Public Instruction, supported by the staff of the Montana Office of Public Instruction (OPI), launched a process to review the Administrative Rule of Montana (ARM), <u>Title 10, Chapter 56, Subchapter 1</u>, the Assessment Standards. The Superintendent's vision was to update this set of standards after revising the accreditation standards, <u>Title 10, Chapter 55</u>, in order to provide flexibility and clarity. Her vision and direction were to ensure the assessment standards and accreditation standards worked together for a comprehensive and coordinated set of educational standards. Alignment with <u>Elementary and Secondary Education Act (ESEA</u>), the federal regulations on student assessment, was also a priority in revisions.

The assessment standards, as part of the accreditation standards, are adopted by the BPE, upon the recommendation of the Superintendent, and developed through the negotiated

rulemaking process, per §20-7-101, MCA. The agency has created this economic impact statement in consultation with the NRC under the provisions of § 2-4-405, MCA.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed rule amendments for ARM 10.56. The survey was distributed through the monthly OPI Compass newsletter sent to 18,116 stakeholders in the OPI bulk email system, as well as in a press release posted on February 23, 2024. Upon too few stakeholders responding, it was also sent directly to superintendents and school board trustees through a listserv and was kept open for an additional three weeks, gaining 12 more respondents, totaling 19 submissions.

Even though the updated rules provide general assessment policies and do not address specific assessments, respondents for the economic survey referenced the implementation of the Montana Aligned to Standards Through-Year assessment (MAST) assessment... MAST will be fully implemented for 3rd-8th grade English language arts and math during the 2024-2025 school year. When reviewing the survey responses, it was clear that respondents who have participated in the MAST pilot have indicated that these rules would have no economic impact on districts, outside of professional learning for staff.

## Introduction

Superintendent Arntzen selected 13 members to serve on the Negotiated Rulemaking Committee (NRC) which reflects the necessary role diversity. The NRC, listed in <u>Appendix B</u>, met virtually and considered all five rules from Chapter 56. Out of these five rules, the NRC chose to make amendments to three of them.

## The rules that were amended are listed below with a brief summary of changes:

- 10.56.101 ASSESSMENT Amendments include:
  - Alignment with Title 10, Chapter 55 definitions of assessment systems
  - Updating language for consistency
- 10.56.102 PARTICIPATION Amendments include:
  - Aligning grade levels with the Elementary and Secondary Education Act (ESEA)
  - Updating from assessments being conducted in the spring of each year to the established statewide assessment windows
  - Alignment with Title 10, Chapter 55 language
  - Identifying who has access to assessment information for students
  - Updating language for consistency
- 10.56.105 REPORTING Amendments include:
  - Renaming data to results
  - Updating language for consistency

## **Economic Impact Statement Required Elements**

As required by § 20-7-101(1), MCA, the Montana Superintendent of Public Instruction, has prepared this economic impact statement in consultation with the NRC under the provisions of § 2-4-405, MCA. Each of the elements required to be addressed in the economic impact statement is outlined below.

#### a) Affected Classes of Persons

Describe the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule. Refer to § 2-4- 405 (2)(a), MCA.

The classes of persons affected by the rule changes include individuals from the following groups: school district trustees, K-12 school administrators, K-12 teachers, school counselors, school librarians, school clerks/business officials, parents, and taxpayers.

Costs associated with the rule changes are the responsibility of local school districts.

The beneficiaries of the rule changes are trustees, administrators, teachers, and students of local school districts, as well as Montana communities served by accredited schools.

#### b) Economic Impact

Describe the probable economic impact of the proposed rule upon affected classes of persons, including but not limited to providers of services under contracts with the state and affected small businesses, and quantify, to the extent practicable, that impact. Refer to § 2-4405 (2)(b), MCA.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed amendments for ARM 10.56 with a single survey, sent in multiple manners as listed previously. Stakeholders who responded included teachers, superintendents, building principals, a school business manager, a district trustee, district curriculum directors, a parent, taxpayers, instructional coaches, a county superintendent, a school counselor, and an education policy advisor.

The summary results of the surveys are shown in Appendix A.

#### **Cost to State Agencies**

Describe and estimate the probable costs to the agency and any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue. Refer to 2-4- 405 (2)(c), MCA

The Office of Public Instruction (OPI), per <u>§ 20-7-101, MCA</u>, has incurred costs associated with the negotiated rulemaking process, including contracting with a facilitator and convening the NRC. The total cost to the OPI for the negotiated rulemaking process is approximately \$2,500. The OPI does not anticipate additional costs associated with implementing the proposed rule changes.

The BPE is responsible for filing fees of notices of public hearing of proposed rule changes and publication fees of notices of adoption and amendments with the Secretary of State at \$60 per page. The costs associated with board member attendance at public hearings will be paid within the existing budget of the BPE.

#### c) Costs and Benefits of the Proposed Rule

Analyze and compare the costs and benefits of the proposed rule to the costs and benefits of inaction. Refer to  $\S 2-4-405$  (2)(d), MCA.

The State Superintendent initiated the process of amending the assessment standards. The agency did not undertake an analysis of the costs and benefits of "inaction."

#### d) Less Costly or Less Intrusive Methods

Are there less costly or less intrusive methods for achieving the purpose of the proposed rule? Refer to § 2-4-405 (2)(e), MCA.

There is no less costly or less intrusive method for achieving the purpose of the proposed rule changes.

#### e) Selection of Proposed Rule

Analyze any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule. Refer to § 2-4-405 (2)(f), MCA.

The agency explored alternative methods to achieve the purpose of the proposed rule. However, since assessment standards significantly influence school quality and instruction, and negotiated rulemaking is statutorily required, it was concluded that any alternative method would not yield assessment standards based on learner outcomes leading to education excellence.

#### f) Efficient Allocation of Public and Private Resources

Does the proposed rule represent an efficient allocation of public and private resources? Refer to 2-4-405 (2)(g), MCA.

The proposed rule amendments do not involve any specific allocation of public and private resources.

## Conclusion

The NRC, through consensus, determined that the three rule amendments should be surveyed for their economic impact. <u>Appendix A</u> shows the responses and the demographics of those who submitted responses. No specific comments were made about the individual rule amendments, just overall impressions of the probable economic impact.

As mentioned previously, survey results varied greatly depending upon the respondent's understanding of the <u>Montana Aligned to Standards Through-Year (MAST)</u> assessment for grades 3-8 in ELA and Math. It appeared that several of the responses were not directly related to the rule changes themselves, but rather to the new assessment. The OPI has included those responses, despite the understanding that some responses did not respond directly to the rule changes.

The primary focus of concern centered around the time required to equip staff with the necessary professional development for the implementation of the new assessments. Survey participants emphasized that freely available online training conducted outside of regular student instructional hours would be highly advantageous. Such an approach eliminates the need for substitute teachers or travel expenses, making it the most practical option for staff development.

Respondents expressed apprehension regarding their ability to meet the technological requirements for through-year assessments, contingent upon the current capabilities of each district. Participants who had previously engaged in the pilot program reported no discernible rise in technology demands. This is attributed to the fact that the technology utilized for the current state assessment, the Smarter Balanced Assessment, aligns with the requirements for the new assessment. However, there is a potential necessity for additional devices in schools for through-year assessments, particularly if schools were previously sharing devices among different classes.

The Superintendent's recommendations to the BPE will be evaluated by the BPE and then facilitated through the Montana Administrative Procedure Act (MAPA) process before any adoption of proposed standards changes are implemented.

Please share your role in the district you serve or reside in:

19 responses



Please identify the size of the district you serve: 19 responses



Would the proposed standards impose a cost for assessment materials beyond that required to implement the current assessment standards? 19 responses



Would the proposed standards impose a cost for administering the assessments (technology hardware, bandwidth, etc.) beyond that required to implement the current assessment standards?



What increase in total dollars would be required to cover the cost associated with technology (technology hardware, bandwidth, etc.)? (best estimate)



Would the proposed standards impose a cost for personnel beyond what is required to implement the current assessment standards?



If you answered "yes, please provide additional information:

- We currently have a difficult time finding personal Substitute teachers for certified teachers required to proctor the testing.
- The new assessment system could require additional personnel, especially in large school districts. Districts/schools will now have multiple testing portals to maintain (TIDE and KITE), which is time-consuming, especially with the inputting of accommodations/PNPs. Additionally, student attendance is at historic lows, getting the 95% completion rate on each testlet is going to be difficult and require a lot of make-up. This often requires substitute teachers, which is an additional cost to the district.
- Curriculum and materials to support learning.
- -T staffing increases are likely to maintain the assessment devices and ensure bandwidth and reliability of the network.
- Depends on the requirements for personnel per room, per headcount No additional cost will be needed.
- We may need more personnel to facilitate testing for SpEd and make-up testing (due to the large number of testing days).
- Purchases would be needed. The district is already anticipating a budget shortfall for FY24-25 and making difficult choices in order to balance. Any additional and unplanned expenses are not feasible without a positive influx of funding.
- Widespread and consistent student truancy and excessive tardies are a huge reason for our current situation. We need a team of staff members who just focus on this.
- Without knowing exactly what the assessment will be, cannot determine this

Will your district have difficulty funding professional development opportunities to support implementation of the proposed assessment standards?



#### If you answered "yes, please provide additional information:

- Finding substitutes is a difficult task.
- District SY budgets are bare bones now. Any additional mandates would have impacts.
- Like many of the other AAs, our District is struggling to balance its budget. There will likely be limited funds to send teachers to training and/or get them substitute teachers, so that they can attend (virtually or in-person).
- The school is in debt.
- Just not much time during PIR days when the District actually has time to meet with teachers---may have to add more PIR days which would mean more salary for districts.
- It would be hard to say right now.

- There are always funds that are set aside for PD regarding testing.
- I need a better understanding of what the MAST test will look like for the students before I can answer this question.
- The District is already anticipating a budget shortfall for FY24-25 and making difficult choices in order to balance. Any additional and unplanned expenses are not feasible without a positive influx of funding.
- There is not any extra money in the budget, for extras it is getting to bare bones and training is a luxury we can't spend money on.
- PD should be provided by the state.
- Time is always critical for teachers. The district may need to contract teachers for professional development time outside of their school day to implement the new statewide assessment system(s).
- Professional development concerning assessment standards will not have the availability of large funding. Changes to assessment standards and the resulting need for professional development will become the responsibility of individual or collaborative employee efforts.

# What type, format and frequency of professional development would be needed to support the implementation of the proposed assessment standards?

- Time out of classrooms by teachers required to proctor these assessments.
  - In-person in the summer would be fantastic for teachers that opt to attend. For the school year, a virtual monthly session would be really helpful. It would help teachers prepare for the testlets, learn how to administer them, and most importantly--what to do with the student data.
- Phonics curriculum and instruction on how to implement it; Training should include paras who conduct intervention lessons.
- On-demand PD would be ideal so new staff can learn without missing work or traveling.
- Fall workshops/webinars that ARE NOT scheduled during school hours it is hard to attend webinars when you are in the middle of class or counseling time after school would be best (between 3:30-5).
- Hard to say at this time.
- PD to support the new test implementation.
- Virtual, in-person, yearly, quarterly.
- NA (not applicable).
- Uncertain given the information known at this time.
- Time is necessary for subject area collaboration and individualized meaningful classroom management PD.
- Depends on the need.
- We would have to be introduced to what the assessment is, how it operates, how to set it up, and how to deliver it to our students. We would also have to be trained on how to interpret the results.
- Initial training, monitoring, and follow-up training after each testing mini-cycle, and a year-end review to clarify information for the next school year's implementation of statewide assessments.
- Short informational webinars and interactive meetings would be helpful for support.
- MSSA meetings.

# What are the time implications related to your district implementing the proposed assessment standards (administration of assessments, determining and setting accommodations, scheduling, professional development, personnel, etc.)?

- Time is always an issue for our teachers.
- Master Schedules will need adjustments whether 4 or 5-day school weeks.
- I'm nervous about the loss of instructional time due to the number of assessment windows. Additionally, this is a lot of extra time for SPED staff (admins, school psychs, case managers) to continually check accommodations/PNPs in multiple assessment portals. It's also difficult to find time within the contract to provide the necessary PD to staff. Additionally, if a school/district is not 1:1 with devices, then these testing windows could greatly impact instructional time.
- Quarterly assessments conducted online in the classroom provide data necessary to identify areas of concern and gaps in learning.

- Unknown at this time.
- Depends on requirements for personnel per room, per headcount, and the number of accommodated students included in the district's caseload.
- 6 months to a year.
- 40 hours per employee.
- There will be more time required before the start of testing as we need to build testing schedules etc.
- As I have stated earlier, I am very concerned about the loss of instructional time due to the large number of testing days required with the new test. Additionally, the duration of the feedback time from the tests is not beneficial to use for instructional purposes. The assessments appear to be very similar to our end-of-topic tests. I am not sure that I see the point and benefit of the new testing structure.
- 12 months.
- Lack of time is a huge problem. Currently, I use every prep period, every lunch period, 2-3 hours every evening, plus most of my Sundays trying to keep up with what we are required to do now by my district and I honestly feel like I'm just treading water.
- We can arrange schedules, with the staff that is available but not add extra staff.
- After all information is reviewed a determination will be made.
- If we are trained too early, we will forget everything by the time we need to test.
- Approximately 16-24 hours.
- This area has received the largest impact. Learning new assessment standards, administrations and accommodations have caused a large uptick in required time. I fully expect this to decrease as we continue and the newness wears off.
- One school year.

## Appendix B: Negotiated Rulemaking Committee (NRC)

NRC Member Name	NRC Role	Location
Michael Grizzaffi	K-12 Educator	Columbus
Dana Haring	K-12 Educator	Kalispell
Beverly Chin	Higher Education Faculty, Taxpayer	Missoula
Justine Alberts	Parent, Higher Education	Helena
Erin Hunt	K-12 Educator	Helena
Heather Marcella	School Business Manager	Clinton
Brian Kessler	K-12 School Administrator	East Helena
Corey Barron	K-12 School Administrator	Harlem
Leslie DiMaio	K-12 Educator	Columbia Falls
Jordann Lankford	K-12 Educator, MT Tribe Representative	Great Falls
Sue Corrigan	School District Trustee	Kalispell
Julie Murgel	Office of Public Instruction	Helena
Marie Judisch	Office of Public Instruction	Ledger

## **Appendix C: Montana Office of Public Instruction Project Leadership**

Elsie Arntzen, Superintendent of Public Instruction Christy Mock-Stutz, Assistant Superintendent Julie Murgel, Chief Program Officer Marie Judisch, Teaching and Learning Senior Manager Cedar Rose, Assessment Director Aimee Konzen, Professional Learning Manager Sheri Harlow, Administrative Support

## **ITEM 10**

# ACTION ON EARLY LITERACY TARGETED INTERVENTION HOME-BASED PROGRAM REQUEST FOR PROPOSAL

Marie Judisch

# Montana Board of Public Education Executive Summary

## Date:

Presentation	Home-based Learning Program Recommendation from BPE Early Literacy Advisory Council and OPI Staff	
Presenter	Marie Judisch	
Position Title	Senior Manager of Teaching and Learning	
Overview	A Request for Proposals (RFP) was posted in collaboration with BPE and OPI. A collaborative team scored the applicants and has a recommendation for the Board's approval.	
Requested Decision(s)	Action Item	
Related Issue(s)	N/A	
Recommendation(s)	Approval of Waterford Research Institute as the adopted Home-based Learning Program	





State Financial Services Division Greg Gianforte, Governor Misty Ann Giles, Director

## NOTICE OF INTENT TO AWARD

Solicitation Title/Event Name:

Solicitation Number:

Solicitation Close Date:

Notice of Intent to Award Posting Date:

Issuing Contracts Officer/Contact Information:

The State intends to award a contract to the apparent successful offeror(s) of the above-mentioned solicitation. The Notice of Intent to Award shall not be considered a binding commitment by the state.

In accordance with the Montana Procurement Act, the State has made available for public inspection the relevant scoring matrix/bid tab for the above-mentioned solicitation. Comments from the public regarding the proposed award must be submitted to the Contracts Officer listed above within this 7-day notice period.

## APPARENT SUCCESSFUL OFFEROR(S)

UNSUCCESSFUL OFFEROR(S)

#### OPI-RFP-2024-0129AB Early Childhood Interventions SCORE SUMMARY WORKSHEET

Possible	Waterford Research
Points	Institute
	Possible Points

Evaluated RFP Section		
Mandatory Requirement		
Non-Profit Status	P/F	Р
Specifications		
Description of applicant's abilities to meet or exceed the		
Purposes and Objectives		
Objective 1: Essential components of early literacy	15	15
Objective 2: Assessment and reporting	15	15
Objective 3: Tools and services for implementation	15	13
Company Profile and Experience:		
Relevant Experience/ Past Projects	4	4
Evidence of Quality Work Samples	4	4
Provider Capabilities	4	4
Privacy and Security Requirements	3	3
Implementation Plan	10	10
Key Staff Resumes	P/F	Р
Complete contact information	P/F	Р
Demonstrations	10	
Cost Proposal		
All Inclusive	15	15
Under Budget	5	5
Equal Pay for Women (+5 points)		5
References	P/F	Р
Financial Stability and Internal Assessment:	P/F	
Financial Stability		
Internal Control Assessments		
Total Possible Points	100	93

## Early Childhood Interventions OPI-RFP-2024-0129AB Individual Scoring Matrix The evaluation committee will review and evaluate the offers according to the following criteria based on a total number of 100 points. The Ability to Meet Provision of

Services, Company Profile and Experience, Resumes, and portions of the proposal will be evaluated based on the following Scoring Guide. The Mandatory Requirement in the Scope of Services portion of the proposal will be evaluated on a pass/fail basis, with any offeror receiving a "fail" eliminated from further consideration.

Offeror (Company) Name: Waterford Research Institute			Total Points Awarded: 93 points
Category	Possible Points	Points Awarded	Mandatory Justification Comments for Points Awarded
Evaluated REP Section			
Mandatory Requirement			
Non-Profit Status	P/F	Р	
Specifications			
Description of applicant's abilities to meet or exceed the Purposes and Objectives			
Objective 1: Essential components of early literacy	15	15	100% correlation with MELS, the science of reading requirements. Emphasis on family connection with young children.
Objective 2: Assessment and reporting	15	15	Noticed that the reports are available well above and beyond, what we ask for in the RFP. The assessment tool used and reporting timeline are well documented and laid out. Good timelines for when we need to report will work with OPI to develop custom reports. Well laid out and clear, how are individual school districts access this on timelines with other tasks? District level, reports are aligned with science and reading, and custom reports we can get at the state as well.
Objective 3: Tools and services for implementation	15	13	The implementation plan was provided in documents, sound good but don't know if in actual implementation they will be as effective. Appreciate the fact will supply a computer and hotspot if fmaily needed it, shipping of computer goes to either LEA or family, including a document stating if participants are rural, do support English and Spanish but what about other languages. Good overall project, couple of concerns were 1) didn't have a clear enough path to work with local agencies, experience with 220 MT families, 2) liked the computer and internet, felt similar on language piece that we are seeing more than spanish need, 3) references are great, new way to deploy with school districs would like more reference. Recruitmenet and outreach has been done previously, needs to be in collaboration with states, language components and in-benefit state project manger. Implementation plan is of upmost importance.
Company Profile and Experience:			

Offeror (Company) Name: Waterford Research Institute			Total Points Awarded: 93 points
Category	Possible Points	Points Awarded	Mandatory Justification Comments for Points Awarded
Relevant Experience/ Past Projects	4	4	Gave ample evidence for implementation and looking at past projects in other states. Similar reasons, did like to see diversity in dual language and income diversity. Prior experience in montana, limited due to pandemic. Company with long-standing success offered all the proof. Enjoyed reading about other projects.
Evidence of Quality Work Samples	4	4	Sufficient, would have liked more interactive. Montana EIR grant. Work samples were organized and sufficient to reflect program success. Appreciated work samples provided and consistently making sure this infroamtion is up to date and relevant.
Provider Capabilities	4	4	Family liaison, live chat, and in-app support. Family support technician so the family has someone to reach out to directly and work with in all aspects. Well-documented and history of service with waterford. How will interactions work when districts run into poblems?
Privacy and Security Requirements	3	3	Would follow codes, COPPA and FERPA. Did have sufficient statements that they would adhere to student demographics. Encryption on specific sensitive data was helpful.
Implementation Plan	10	10	Appreciate the workflow chart based on family experience milestones had visual and walked through the experience a family would engage in. Appreciated the workflow and family engagement piece, concerned about how they will work with family. The implementation plan is wonderfully laid out and timelines. Not implemented until September of 2024, the plan was thorough. Noted initial placement for kids.
Key Staff Resumes	P/F	Р	
Complete contact information	P/F	Р	
Demonstrations	10		
Cost Proposal			
All Inclusive	15	15	
Under Budget	5	5	
Equal Pay for Women (+5 points)		5	
References	P/F	Р	
Financial Stability and Internal Assessment:	P/F		
Financial Stability			
Internal Control Assessments			
Total Possible Points	100	93	

#### OPI-RFP-2024-0129AB Early Childhood Interventions Cost Worksheet

Lowest overall cost receives the maximum allotted points. All other proposals receive a percentage of the points available based on their cost relationship to the lowest. Example: Total possible points for cost are 300. Offeror A's cost is \$20,000. Offeror B's cost is \$30,000. Offeror A would receive 300 points. Offeror B would receive 200 points (\$20,000/\$30,000) = 67% x 300 points = 200).

			Cost
Points Available	15		
Lowest Cost	\$1,500,000.00		
		Points	
Vendor Name	Proposed Cost	Earned	Notes:
Waterford	\$1,500,000.00	15.0	

## **ITEM 11**

# PANEL PRESENTATION ON MONTANA ALIGNED TO STANDARDS THROUGH-YEAR (MAST) PILOT

Rachel Cutler, Curriculum Coordinator, Great Falls Public Schools; Jackie Mainwaring, Student Achievement, Great Falls Public Schools; Superintendent Laurie Barron, Evergreen School District; Superintendent Les Meyer, Frenchtown School District; Principal Riley Devins, Frenchtown School District; Superintendent Craig Crawford, Stanford Public Schools 

# ✤ <u>LICENSURE COMMITTEE – (Items 12-16)</u>

## Susie Hedalen

## **ITEM 12**

## NOTICE OF THE SURRENDER OF BPE CASE #2024-05

# **Brenton Craggs, OPI Legal Counsel**

## **ITEM 13**

# ACTION ON INITIAL REVIEW OF BPE CASE #2024-03, NO RUNNER

**Brenton Craggs, OPI Legal Counsel** 

## **ITEM 14**

# ACTION ON COUNCIL FOR THE ACCREDITATION OF EDUCATOR PREPARATION MEMORANDUM OF UNDERSTANDING

Dr. Julie Murgel Crystal Andrews

# Montana Board of Public Education Executive Summary

Date: May 9-10, 2024

Presentation	Council for Accreditation of Educator Preparation (CAEP) Agreement
Presenter(s)	Julie Murgel and Crystal Andrews
Position Title	Chief Program Officer and Director of Accreditation and Licensure at the Office of Public Instruction
Overview	<ul> <li>The Partnership Agreement is between three parties: the Montana Board of Public Education, the Montana State Superintendent of Public Education, and the Council for the Accreditation of Educator Preparation (CAEP).</li> <li><b>CAEP</b> is a nongovernment, voluntary association that is a nationally recognized accreditor by the Council for Higher Education Accreditation (CHEA). Through an Accreditation Council, CAEP accredits Educator Preparation Programs EPP).</li> <li>The purpose of this partnership agreement is to: <ul> <li>Outline preferences about program review options,</li> <li>Review team compositions for accreditation site review conducted by CAEP of the Montana EPPs, and</li> <li>Establish the responsibilities that each party has in supporting CAEP Accreditation activities for EPPS voluntarily requesting joint reviews.</li> </ul> </li> <li>This partnership agreement is for MT EPPs that elect to have a joint accreditation for the State and CAEP.</li> <li>The agreement is for 1 year, from July 1, 2024, to June 30, 2025.</li> </ul>
Requested Decision(s)	Action Item
Related Issue(s)	None
Recommendation(s)	None

## Montana Board of Public Education,

#### The Montana State Superintendent of Public Instruction and The Council for the Accreditation of Educator Preparation (CAEP) Partnership Agreement

Whereas, CAEP is a nongovernmental, voluntary membership organization committed to the effective preparation of teachers and other P-12 professional educators; and

Whereas, CAEP, through an autonomous Accreditation Council, accredits educator preparation providers (EPP's) and advances excellent educator preparation through evidence-based accreditation that assures quality and supports continuous improvement to strengthen P-12 student learning; and

Whereas, CAEP is a nationally recognized accreditor, having earned recognition by the Council for Higher Education Accreditation (CHEA), and is seeking recognition by the United States Secretary of Education, and, therefore, develops policy and procedures aligned with all applicable requirements of CHEA and, to the extent practicable, the U.S. Department of Education; and

Whereas, the Montana Board of Public Education (MBPE), and the Montana State Superintendent, herein referred to as the State, support continuous improvement in educator preparation; shall be.

CAEP, and the State hereby enter into this agreement detailing the State's preferences with regard to program review options and review team composition for accreditation Site Reviews conducted by CAEP of EPP's operating within the State and establishing the primary responsibilities each party has in supporting CAEP's accreditation activities involving all such EPP's.

## 1. CAEP Standards and Scope of Accreditation

The Parties understand and agree that:

The CAEP Board of Directors (CAEP Board or Board) has adopted standards (CAEP Standards or Standards) that serve as the basis for all accreditation reviews undertaken by CAEP.

1.1. As a result of the ongoing critical self-review that CAEP undertakes to maintain and improve the quality of CAEP accreditation, the CAEP Board will undertake a comprehensive review and revision of the CAEP Standards on a schedule set by the Board and may, as needed, make interim amendments to the Standards. In making any such changes, CAEP will seek stakeholder and public input, including input from the State and its EPP's.
- 1.2. It is the responsibility of the State and any EPP's seeking or continuing CAEP accreditation to stay informed of any changes made to the CAEP Standards and the timeline(s) set by the Board for the implementation of or transition to new or revised Standards.
- 1.3. The CAEP scope of accreditation, defined in policy, distinguishes between two levels of educator preparation:
  - 1.3.1. Initial-Licensure Preparation is provided through programs at the baccalaureate or post-baccalaureate levels leading to initial-licensure, certification, or endorsement that are designed to develop P-12 teachers. All Initial-Licensure Preparation programs within the Scope of Accreditation will be reviewed under CAEP Standards for Initial-Licensure.
  - 1.3.2. Advanced-Level Preparation is provided through programs at the postbaccalaureate or graduate level leading to licensure, certification, or endorsement. Advanced-Level Programs are designed to develop P-12 teachers who have already completed an initial-licensure program, currently licensed administrators, other certificated (or similar state language) school professionals for employment in P-12 schools/districts. All Advanced-Level programs within the Scope of Accreditation will be reviewed under CAEP Standards for Advanced-Level Preparation.

#### 2. CAEP's Responsibility for Education Preparation Provider (EPP) Accreditation

The Parties understand and agree that:

- 2.1. CAEP, through the Accreditation Council, has sole responsibility for granting CAEP accreditation to an EPP, and for supporting and overseeing NCATE- and TEAC- accredited EPP's through continuous accreditation and the CAEP eligibility processes described in CAEP policy.
- 2.2. The process required for accreditation by CAEP is outlined in policies and procedures. Policies and procedures may be revised from time to time. It is the responsibility of the State and any EPP seeking CAEP accreditation to stay informed of any such changes as they may impact the CAEP accreditation process from the time of their adoption or publication.

#### 3. State's Responsibility for Program Approval

The Parties understand and agree that:

3.1. The State has responsibility for program approval. In granting program approval, the State will utilize information generated from CAEP's review(s) of an EPP, including but not limited to an Accreditation Council decision on CAEP accreditation and the assignment of any Areas for Improvement (AFIs) and Stipulations, as described in CAEP policy. Although the State may elect to have state-specific standards and/or requirements incorporated into the CAEP review, consistent with the program review options outlined below, only information

gathered on an EPP's compliance with CAEP Standards and requirements will be used by the Accreditation Council to make a decision.

3.2. The State will periodically review its program review requirements against the CAEP Standards and policies and will, in a timely manner, make CAEP aware of any conflicts or potential inconsistencies so that all parties to this agreement are aware of any such issues and can work constructively together to minimize any challenges that may arise from them.

#### 4. CAEP Accreditation Cycle

The Parties understand and agree that:

- 4.1. The CAEP accreditation cycle involves an EPP in continuous improvement and requires an EPP to demonstrate that it meets CAEP's high standards of quality required to improve P-12 student learning.
- 4.2. To merit full accreditation by CAEP, an EPP must meet all CAEP Standards on the basis of sufficient and accurate evidence.
- 4.3. A Site Review, carried out by an Evaluation Team, is an essential part of the accreditation process. Members of the assigned team investigate the quality of an EPP's evidence, including the accuracy and consistency of the evidence provided in relation to CAEP Standards. In accordance with CAEP policy, CAEP may utilize a virtual site review or may have one or more Evaluation Team members participating using electronic means.
- 4.4. The State elects that CAEP's reviews of EPPs in the State will be carried out using Evaluation Teams composed as follows:
  - 4.4.1. **Joint Review Team**. For any review except one required in conjunction with an accreditation decision of Accreditation with Stipulations or Probationary Accreditation, the composition of the Evaluation Team will be as follows:
    - 4.4.1.1. For a Review involving only one level of accreditation (i.e., initial or advanced), the Joint Review Team includes four national reviewers appointed by CAEP and up to three reviewers appointed by the State.
    - 4.4.1.2. For a Review involving both levels of accreditation, initial and advancedlevel, the Evaluation Team will include five CAEP-appointed reviewers and up to four state-appointed reviewers.
    - 4.4.1.3. For a Stipulation or Probation review, the Evaluation Team is comprised of two CAEP-appointed reviewers. The state may choose to add one reviewer for a total of a three-person team. The lead reviewer is appointed by CAEP.
    - 4.4.1.4. The State shall provide CAEP with its recommended Evaluation Team members within any timelines established by CAEP. If the State is unable to appoint members, CAEP will appoint from its pool of volunteers trained to serve as Evaluation Team members a CAEP-only team. All such teams are led by an Evaluation Team chair (or Evaluation Team leader) appointed by CAEP.
- 4.5. Prior to assignment to any CAEP Evaluation Team, an individual must have successfully

completed CAEP training for review team members and must acknowledge understanding of, and agreement to, adhere to CAEP's code of conduct, including with regard to confidentiality and conflicts of interest.

- 4.6. Each Evaluation Team shall include a P-12 practitioner, when possible. The State will make recommendations for P-12 practitioners through the CAEP accreditation platform.
- 4.7. At the discretion of the State, the State's teachers' association(s) may appoint one (1) representative per association to observe the Site Review. Any expenses associated with the attendance of an observer must be covered by the association(s) or State. Prior to participation, any observer must acknowledge understanding of an agreement to adhere to CAEP's policies and procedures regarding Site Reviews and the CAEP code of conduct, including with regard to confidentiality and conflicts of interest.
- 4.8. All Site Review activities undertaken by a CAEP Evaluation Team will be conducted in accordance with CAEP policies and procedures.
- 4.9. CAEP is not responsible for Site Review expenses for state-assigned personnel.
- 4.10. An EPP that is subject to the jurisdiction of the State may choose from among any of the following program review options for CAEP accreditation:
  - 4.10.1. **Specialty Program Review with National Recognition**. The goal of the specialized professional association (SPA) Program Review with National Recognition is to align specialty licensure area data with national standards developed by SPAs in order to receive national recognition at the program level. The Evaluation Team will consider evidence that the EPP presents as gathered from the National Recognition decision-making process and made available in SPA program level reports to meet the sufficiency criteria related to CAEP Standard R1, Component R1.2 (Initial) and/or Standard RA.1, Component RA1.2 (Advanced).
  - 4.10.2. **State Review by State Authority**. The State conducts program reviews for purposes of State approval and to inform CAEP accreditation. An EPP undergoing the State Review option will follow State guidelines. The State provides forms and instructions on how to meet all State standards for licensure/certificate program approval. Upon an EPP's completion of the State authority forms, trained reviewers are selected and assigned within appropriate content areas. Reviewers make recommendations for further action and/or approval. The State makes the final decision on the approval of any program. The CAEP Evaluation Team will consider evidence that the EPP presents as gathered from the State Review process to meet the sufficiency criteria related to CAEP Standard R1, Component RA1.2 (Initial) and/or Standard RA1, Component RA1.2 (Advanced).
  - 4.10.3. **CAEP Evidence Review of Standard 1/A.1.** Evidence for the CAEP Evidence Review of Standard 1/A.1 process is developed through the analysis of an EPP's outcome assessment data aligned to specialty licensure area standards delineated in CAEP Standard R1, Component RA1.2 (Initial) and/or Standard A1, Component RA1.2 (Advanced). Evidence from the EPP's internal assessment may be used by

the state to determine its alignment with state required standards in the respective area(s) of licensure to demonstrate candidates' ability to apply content and pedagogical knowledge in the area of licensure.

- 4.11. The specific timeline established for the review of an EPP, as well as CAEP's consideration of any request for an extension, will be decided by CAEP or the Accreditation Council, as appropriate, on a case-by-case basis and in accordance with CAEP policies.
- 4.12. Once granted full accreditation by CAEP, an EPP's term of accreditation shall be seven (7) years. Shorter terms are granted with a decision of Accreditation with Stipulations or Probationary Accreditation. Throughout its term, to maintain accreditation, an EPP must comply with CAEP policies, including policies regarding payment of annual dues and the submission of annual reports.
- 4.13. An EPP for which the Accreditation Council issues a decision to deny or revoke accreditation may have a right to petition for an appeal subject to CAEP's policy on appeals.
- 4.14. The State will provide to CAEP its policy leading to a "Change in State Status." The State will notify CAEP within thirty (30) days of action taken when a CAEP-accredited EPP has had a "Change in State Status" as a result of a decision on specialized professional association (SPA) program status by the State.
- 4.15. Accreditation-specific terminology and definitions used by CAEP as part of its EPP review and accreditation processes may vary from similar terms and definitions used by the State. Any definitions of key terms and glossaries created by CAEP are available on the CAEP website [http://caepnet.org/glossary]. The State should inquire with CAEP about the definition of any term if there is uncertainty regarding its meaning in the CAEP accreditation context.

#### 5. Opportunities for State Input

The Parties understand and agree that:

- 5.1. CAEP will afford the State multiple opportunities to provide CAEP, the Evaluation Team, and members of the Accreditation Council with any information or data the State deems relevant to the accreditation of an EPP, as follows:
- 5.2. At least sixteen (16) weeks prior to any scheduled Site Review, CAEP will give the State notice of the upcoming Site Review. At any time, up to six (6) weeks before the scheduled Site Review, the State may provide CAEP with comments and information on the EPP for consideration by the Evaluation Team. EPP's will be given an opportunity to respond to any such comments prior to the Site Review.
- 5.3. At any time, the State may file a complaint regarding an EPP with the Accreditation Council for investigation and consideration as part of the EPP's ongoing cycle of CAEP accreditation. In accordance with CAEP policy, adverse action may result from any such

investigation.

5.4. In the event an EPP within the State petitions for the appeal of an adverse action of the Accreditation Council, CAEP will notify the State that such petition has been received. Any notification of a decision made by an ad-hoc appeal panel will be made in accordance with Section 7, below, and the detailed notification provisions included in CAEP policy.

#### 6. Decisions of the Accreditation Council and an Ad-Hoc Appeals Council

The Parties understand and agree that:

- 6.1. The Accreditation Council makes decisions regarding the accreditation of EPP's at meetings held not less than two (2) times each year.
- 6.2. Following any decision of the Accreditation Council to deny or revoke the accreditation of an EPP, the EPP is promptly informed of its option to file a petition for an appeal and appeal requirements. Appeals criteria and process information are included in CAEP's policies on appeals.
- 6.3. CAEP provides written notice of each decision of the Accreditation Council and an Ad-hoc Appeal Panel in accordance with CAEP policies.
- 6.4. The written notice CAEP provides regarding its accrediting decisions, includes notice to the appropriate State licensing or authorizing agency which may be a party to this agreement. CAEP's policies regarding notices specify the parties to which notice must be provided and the respective timelines for each.

#### 7. Data Sharing

The Parties understand and agree that:

- 7.1. The CAEP Standards and process for CAEP Accreditation require an EPP to collect and share data. To the extent that the State maintains data necessary for CAEP's review of an EPP, subject to any data sharing agreement that may exist between an EPP and the State, CAEP expects that the State will make the relevant data available to EPP's at no cost, in a timely manner, with all personally identifiable information removed or redacted, and with all appropriate permissions to use the data for CAEP accreditation activities.
- 7.2. In order to facilitate the reviews necessary for CAEP accreditation, CAEP will provide the State and each dues paying EPP in the State with access to the CAEP accreditation platform, CAEP's data and information management system. Should the State or any EPP fail to pay annual dues to CAEP in a timely manner, CAEP reserves the right to suspend access to the CAEP accreditation platform until any outstanding dues are paid.
- 7.3. CAEP policies and the CAEP accreditation platform include information on the confidential nature of information maintained within the CAEP accreditation platform. All CAEP

accreditation platform users must acknowledge CAEP's confidentiality policy and agree to adhere to it.

#### 8. Partnership Dues, State Benefits, and Fees for Additional Services

The Parties understand and agree that:

- 8.1 The State will be responsible for payment of annual State Partnership dues (See Appendix A). Dues may be reviewed and updated annually by CAEP. Should the amount of the State's annual State Partnership dues be changed during the term of this agreement, CAEP will notify the State of the new dues amount and the effective date.
- 8.2 CAEP will provide up to three (3) individuals employed by the State with access to the CAEP accreditation platform.
- 8.3 During each year covered by this agreement, CAEP will waive the CAEP Conference registration fee for one (1) designated State representative; however, the State or State representative must assume other expenses associated with conference participation.
- 8.4 CAEP offers states access to CAEP National Training for up to five (5) site reviewers a year, including training and travel (additional participants may be added based on need and on a cost-recovery basis). CAEP may also offer supplemental training opportunities for state reviewers. Supplemental training events that are arranged, including events in the State, will be provided by CAEP on a cost-recovery basis and with specific arrangements negotiated according to CAEP's policies regarding fees and expenses for training.
- 8.5 The State will work with associations that represent P-12 educators (NEA, AFT, NBPTS), EPP's, and education administrators to establish credit toward continuing education units or professional development requirements at the local district level in return for the State's P-12 educators' professional contributions to the work of CAEP as site review team members.

#### 9. State and CAEP Contacts

The Parties understand and agree that:

- 9.1. The State will designate a liaison to serve as the primary contact for CAEP throughout the term of this agreement.
- 9.2. CAEP will designate a liaison to serve as the primary contact for the State through the term of this agreement.

#### 10. Agreement Term and Amendments

The Parties understand and agree that:

10.1. CAEP and the State enter into this partnership agreement for one (1)-year beginning July 1,

2024 and ending on June 30, 2025.

- 10.2. The Parties will review this agreement at least annually and, as necessary, propose any amendment deemed appropriate and which may be adopted upon the agreement of the Parties.
- 10.3. Should any provision of this agreement be determined to be in conflict with CAEP policy, CAEP policy will be the prevailing authority and this agreement will be required to be amended to resolve the conflict.
- 10.4. Notwithstanding the annual review described above, this agreement may be modified by consent of the Parties at any point.

Christopher Koch, President Council for the Accreditation of Educator Preparation

By signing this agreement, the undersigned agrees to be bound by the terms outlined above and affirms that he or she has the authority to enter into this agreement on behalf of the State.

Board of Public Education, Chair Dr. Tim Tharp

State Superintendent of Public Instruction Elsie Arntzen

02/09/2024 DATE

DATE

DATE

#### **Appendix A: State Dues Structure**

Annual costs for supporting activities associated with State Partnerships have both fixed and proportional components which include costs associated with the CAEP Clinic, fall and spring CAEP Conferences, staff time, technology costs for maintaining workspaces within CAEP's accreditation platform, and other indirect expenses.

For the fixed and proportional amounts, states would be assessed \$1,500 annually (reviewed on an annual basis) to cover expenses for the spring convening and conference registration plus a portion of indirect expenses which are based on the actual percentage of CAEP member EPPs within each state.

#### Example: State A (Joint Reviews)

State A has 25 CAEP member EPPs, or 3.99% of total CAEP EPPs.

- The fixed amount is set at \$1,500 per state.
- The proportional amount is set at 3.99% of \$325,000 (current total=services to all states) = \$12,960.
- The variable joint review fee (for 25 joint reviews) is 25 x \$2,500 = \$62,500/7years = \$8,930.

Therefore, the total fees for State B will be: \$1,500 (fixed) + \$12,960 (proportional) + \$8,930 (variable joint review fee) = \$23,390.

## **ITEM 15**

## ACTION ON PROPOSED PRAXIS TEST SCORE FOR SPECIAL EDUCATION

**Crystal Andrews** 

## Montana Board of Public Education Executive Summary

Date: May 9-10 2024

Presentation	Praxis Test Review- Special Education
Presenter	Crystal Andrews Lisa Colon Durham
Position Title	Director of Accreditation and Licensure Office of Public Instruction Director, Educational Partnerships Educational Testing Service
Overview	Montana's current Praxis test for Special Education will expire and no longer be available after August 30, 2024. The recommended passing scores from the Praxis Review Panel, the Praxis Working Committee, and the MT Council of Deans of Education will be presented. This meeting is to seek approval of the new test score.
Requested Decision(s)	Action Item- To recommend approval of the regenerated test #5355 Special Education and the qualifying score of 153.
Related Issue(s)	
Recommendation(s)	Recommend the adoption of test #5355 Special Education with a qualifying score of 153.





OPI.MT.GOV



Crystal Andrews Office of Public Instruction (OPI)

Lisa Colon Durham Educational Testing Service (ETS)

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# WHY THE NEED?

Montana's current Praxis test for Special Education (5354) will expire and no longer be available after August 30, 2024.





# BACKGROUND

## Special Education Test Review

Panel met virtually on February 7, 2024, 2-4pm

 14 voting panelists – 2 OPI, 2 EPP, 10 teachers and/or district/coop-level sped directors

Test #5355 Special Education Foundational Knowledge

regenerated test with current test sunsetting in August 2024

 test shifted from P-12 to K-12 (ETS now has K-12 and birth to age 8 tests)





# WHAT HAS CHANGED?

## What has Changed?

Previous 5354		Redesigned 5355			
Content Categories	Approximate Percentage of Examination	Content Categories	Approximate Percentage of Examination		
I. Development and Characteristics of Learners	20%	I. Human Development and Individual Learning Differences	26 %		
II. Planning and the Learning Environment	23%	II. Effective Planning and Instruction and Productive Learning Environments	32 %		
III. Instruction	23%	Productive Learning Litwitonments			
IV. Assessment	18%	III. Assessment	23 %		
V. Foundations and Professional Responsibilities	20%	IV. Professional Learning, Practice, and Collaboration	19 %		



# **RECOMMENDED PASSING SCORE**

## **Technical Report**

Special Education: Foundational Knowledge (5355)

## **Participating States**

Panelists from 14 states were recommended by their respective education agencies. The education agencies recommended panelists with (a) experience as special education teachers or college faculty who prepare those special education teachers and (b) familiarity with the knowledge and skills required of beginning special education teachers.

### **Recommended Passing Score**

ETS provides a recommended passing score from the multistate standard-setting study to help education agencies determine an appropriate operational passing score. For the *Praxis* Special Education: Foundational Knowledge test, the recommended passing score is 62 cut of a possible 110 raw-score points. The scale score associated with a raw score of 62 is 145 on a 100–200 scale.





# STATE ADOPTIONS

## **Adopting Passing Scores**

Special Education: Foundational Knowledge (5355)

State/Province	Qualifying Score
American Samoa	145
Delaware	145
District of Columbia	145
Guam	151
Idaho	145
Indiana	145
Kansas	145
Kentucky	139
Louisiana	145
Mississippi	139

State/Province	Qualifying Score
Nevada	145
New Mexico	151
North Carolina	145
North Dakota	151 🧲
Northern Mariana Islands	140
Pennsylvania	145
Rhode Island	156
South Carolina	145
South Dakota	145 🧲
West Virginia	145



6

# NATIONAL DATA

Mid: 145 93.4

93.4% passing

Mid: 153

## 85.12% passing



Test Take	er Statistics	State / Agency Statistics	Institution	al Statistic	s Catego	ry Scores					
st: 5355 Sp sting perio	ecial Ed: Foun d: SEP-2023 T(	dational Knowledge D AUG-2024		Test Taker A Include All D Scale score	Attempts: Hig Delivery Mod range: 100-2	hest Score es: Yes 00 by 1		Ŀ	Frequency Distril	outions	
		Number of	Per	Adjust cent Pass	At			Standard	Average Performance	Highest Observed	Lowest Observed
	Variable	es Test Takers	left: 145	mid: 153	right: 159	Median	Mean	Deviation	Range	Score	Score
otal											
1	fotal	652	93.40	85.12	79.29	172.00	168.29	14.13	161 - 179	196	103
tes:											
rage Perfor	mance Range - Th	he range of scores earned by the m	Iddle 50% of a	group of test i	takers.						



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# RECOMMENDATIONS

ASL Expert Panel	<ol> <li>&lt; 145- 0, 145- 4, &gt; 145- 10</li> <li>159- 3, 153- 11, Other- 0</li> <li><b>153 Yes- 12 votes, 153 No- 2 votes</b></li> </ol>
Praxis Working Committee	Unanimous vote 153
Montana Council of Deans	Unanimous vote for 153



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# TO COME

## ➢Upcoming Test Reviews Needed (2024-25)

- Family and Consumer Sciences #5122 replaced with #5123 (same name)
- Technology Education #5051 replaced with #5053 Technology and Engineering Education
- Social Studies: Content Knowledge #5081 replaced with #5581 Social Studies



## **ITEM 16**

ACTION ON THE NOTICE OF ADOPTION PERTAINING TO THE AMENDMENT OF ARM, TITLE 10, CHAPTER 57, EDUCATOR LICENSURE STANDARDS, AND AUTHORIZE FILING OF THE NOTICE WITH THE SECRETARY OF STATE'S OFFICE FOR PUBLICATION IN THE MONTANA ADMINISTRATIVE REGISTER

Susie Hedalen

#### BEFORE THE BOARD OF PUBLIC EDUCATION OF THE STATE OF MONTANA

In the matter of the amendment of ARM 10.57.102, 10.57.114, 10.57.215, 10.57.410, 10.57.411, 10.57.412, 10.57.414, 10.57.415, 10.57.418, 10.57.419, 10.57.420, 10.57.421, 10.57.424, 10.57.425, 10.57.427, 10.57.428, 10.57.431, 10.57.432, 10.57.434, 10.57.435, and 10.57.437 pertaining to Educator Licensure Standards NOTICE OF ADOPTION

TO: All Concerned Persons

1. On February 9, 2024, the Board of Public Education (board) published MAR No. 10-57-289 pertaining to the public hearing on the proposed adoption of the above-stated rules at page 175 of the 2024 Montana Administrative Register, Issue Number 3.

2. The board has amended the following rules as proposed: ARM 10.57.102, 10.57.114, 10.57.215, 10.57.410, 10.57.411, 10.57.412, 10.57.414, 10.57.415, 10.57.418, 10.57.419, 10.57.420, 10.57.421, 10.57.424, 10.57.425, 10.57.427, 10.57.428, 10.57.431, 10.57.432, 10.57.434, 10.57.435, and 10.57.437.

3. The board has thoroughly considered the comments and testimony received. A summary of the comments received, and the board's responses are as follows:

COMMENT 1: One commenter opposed the revisions to ARM 10.57.102(2) and stated that the "a state board of public education or state agency" language is unclear on how this constitutes an accrediting body for higher education that is equivalent to CHEA or other similar institutions and has requested the Board maintain licensing criteria that aligns to nationally recognized standards.

RESPONSE: The Board disagreed with Comment 1 and stated that this language aligns with accredited specialist programs for school counselors ARM 10.57.102(2)(b)(ii) and approved preparation programs for educators ARM 10.57.102(5)(b).

COMMENT 2: Two commenters and MSCA opposed the removal of "school counseling K-12" in ARM 10.57.425(4) and stated that the Montana State University Counseling Department is currently working on a hybrid school counseling endorsement that would fulfill these licensure requirements and would allow vested and licensed educators to stay in their home communities, receive school counseling

RESPONSE: The Board disagreed with Comment 2 and stated the provisions for receiving a Class 5 Provisional License for school counselors is outlined in ARM 10.57.435.

COMMENT 3: Seven commenters, LDA, MASP, MPA, MSCA, NASP, and NCLD opposed the revisions to ARM 10.57.432 and stated it is unclear how OPI would determine whether people who have a degree in another field but taking courses concurrently would have sufficient course content and experience to be successful, and encourages the Board to consider modifying or revising the proposal to ensure that school psychologists have affiliated school psychologist training, and has requested that the Board maintain the requirement for verification from an accredited specialist-level program in school psychology and maintain the requirement to be within 4 course deficiencies of completion.

COMMENT 4: The MCASE Board and SAM Board supported the revisions in ARM 10.57.432 and stated that the revisions allow for more flexibility for recruitment into the field and that the proposal would not allow for individuals to become licensed who do not have the appropriate education or experience.

RESPONSE: The Board disagreed with Comment 3 and agreed with Comment 4 and stated that the proposed revisions in ARM 10.57.432 allow for more flexibility by allowing more participation, rather than only those who are within 4 course deficiencies.

COMMENT 5: Seven commenters, LDA, MASP, MSCA, NASP, and NCLD opposed the revisions to ARM 10.57.434 and stated that due to the reduction in hours, Montana would no longer meet the standard requirements set forth by the National Association of School Psychologists. This reduction could potentially harm the ability to negotiate the opportunity to participate in an interstate compact, which they're currently working on, receive federal funding and grants, and support recruitment in the profession. The commenters have requested the Board maintain the 1200-hour requirement.

COMMENT 6: The MCASE Board and SAM Board supported the revisions in ARM 10.57.434 and stated that the revisions allow for more flexibility for recruitment into the field and that the proposal would not allow for individuals to become licensed who do not have the appropriate education or experience.

RESPONSE: The Board disagreed with Comment 5 and agreed with Comment 6 and stated that the reduction in hours in ARM 10.57.434 allows for a pathway for those seeking a Class 6 Specialist Licensure from out-of-state.

4. The rules adopted in this notice are effective July 1, 2024.

<u>/s/ McCall Flynn</u> McCall Flynn Executive Director Board of Public Education <u>/s/ Tim Tharp</u> Tim Tharp Chair Board of Public Education

Certified to the Secretary of State May 14, 2024.

## ✤ <u>EXECUTIVE COMMITTEE – (Item 17)</u>

## **Tim Tharp**

## GOALBALL ACTIVITY WITH MSDB STUDENTS

https://www.usaba.org/clubs-sports/goalball/

## **ITEM 17**

## EXECUTIVE DIRECTOR PERFORMANCE EVALUATION

Dr. Tim Tharp

## Friday, May 10, 2024

## CALL TO ORDER

- A. Pledge of Allegiance
- B. Roll Call
- C. Statement of Public Participation
- D. Welcome Visitors

## **♦** ACCREDITATION COMMITTEE – (Items 18-19)

## Madalyn Quinlan

## **ITEM 18**

## INITIAL REVIEW OF SUPERINTENDENT'S PROPOSED REVISIONS TO ARM TITLE 10, CHAPTER 54, WORLD LANGUAGE CONTENT STANDARDS

Marie Judisch

## Montana Board of Public Education Executive Summary

Date: May 2024

Presentation	World Languages Content Standards Revision
Presenter	Marie Judisch
Position Title	Senior Manager of Teaching and Learning Montana Office of Public Instruction
Overview	Review of Proposed Rules- World Languages Content Standards - Repeal Title 10, Chapter 54, Subchapter 85 - Adopt Title 10, Chapter 53, Subchapter 14
Requested Decision(s)	Informational Item
Related Issue(s)	Content Standards, Accreditation
Recommendation(s)	None



#### Elsie Arntzen, Superintendent

PO Box 202501 Helena, MT 59620-2501 406.444.5643 In-State Toll-free: 1.888.231.9393 TTY Users: 406.444.0235 opi.mt.gov

#### OFFICE OF PUBLIC INSTRUCTION STATE OF MONTANA





## Proposed Amendments to the Administrative Rules of Montana World Languages Content Standards, Title 10, Chapter 54 Subchapter 85

Submitted April 2024 by the Superintendent of Public Instruction

Prepared for: The Montana Board of Public Education

Prepared by:

- · Marie Judisch, Senior Manager, Montana Office of Public Instruction
- Stephanie Swigart, English Language Arts & Literacy Instructional Coordinator, Montana Office of Public Instruction

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### Introduction

The Superintendent of Public Instruction, supported by staff of the Montana Office of Public Instruction (OPI), launched a comprehensive process to review, revise, and update Montana's World Languages Standards. The Superintendent's vision was to update this set of standards that had not been updated in more than 24 years so that they reflected the most current research and developments on how students learn languages. Her vision and direction included the charge to make the revised standards more approachable and understandable by parents and other non-educators while retaining rigor and high expectations for students. Specifically, the Superintendent sought to improve the standards to provide **simplicity**, **practicality**, and **clarity**.

### **Historical Context**

In 1999 Montana educators came together to develop a set of standards for learning world languages that were in alignment with the models established by the American Council on the Teaching of Foreign Languages (ACTFL) Those standards provided a guidepost for teachers and students in their language development. Since those standards were adopted in 1999, the national ACTFL standards, guidelines, and framework have undergone several revisions and additions.

Details of Montana's current World Language Standards can be found in <u>ARM Title 10</u>, <u>Chapter 54</u>, <u>Subchapter 85</u>, <u>10.54.85</u>, as well as in guidance documents provided by OPI[1]. In addition to the development of revised standards, the Superintendent and OPI staff proposed moving the revised standards from Chapter 54 to Chapter 53 to align with the classification and ARM location of other Montana Content Standards.

The Montana World Languages Standards influence and guide educators and schools on the preparation, development, and adoption of curricula, assessment, and World Languages pathways for older students. The amendments and updates proposed in this document are focused on keeping the legacy of this thoughtful work by earlier educators and stakeholders while evolving Montana's World Languages Standards to be more approachable for the public and supporting teachers and schools to continually improve the innovative ways that they **put Montana students first**.



<sup>[1] &</sup>lt;u>Montana Content Standards for World Languages, October 1999</u> (https://opi.mt.gov/LinkClick.aspx?fileticket=bP9gccE0Tt0%3D&portalid=182)

### **Table 1: World Languages Amendment Timeline**

Content	Research/	Revision	Negotiated	Negotiated		Begin
Standards	Review		Rulemaking	Rulemaking Adoption Phase		Implementation
World	January - March	April - August	September -	January - June	June 2024-June	July 1, 2025
Languages	2023	2023	December 2023	2024	2025	

The first three steps (Research and Review, Revision, and Negotiated Rulemaking) are described in detail below. The remaining steps in the process are under the purview of the BPE, although OPI staff will support the BPE as it carries out its responsibilities in considering the Superintendent's proposed changes and moving forward with those recommendations that they accept.



## Summary of Research, Review, and Revision Activities by the World Languages Task Force

#### **Research Phase**

As guided by the rulemaking policy of OPI and summarized in Table 1 below, the Superintendent and OPI staff organized and implemented a series of formal and informal, internal and external research and stakeholder engagement activities to facilitate the development of proposed revisions to Montana's World Languages Standards. Beginning in January of 2023, the Montana Office of Public Instruction (OPI) conducted preliminary research to guide the review and revision process. This included OPI staff engaging the leadership of the Montana Association of Language Teachers (MALT) for guidance on key considerations such as research, national trends, alignment with evidence-based best practices, local Montana curriculum, and the Montana Seal of Biliteracy. The internal OPI World Languages standards team also conducted a comprehensive review of state World Languages Standards to identify the inclusion of three components identified as priorities for inclusion by the Superintendent: This research informed the creation of considerations to guide the development of research questions that the OPI submitted to the Regional Educational Laboratory Northwest (REL-NW) at WestEd, who provided review of literature and Ask an Expert Research Support with Annotated Bibliography in six areas identified by OPI related to World Language Standards:

- proficiency-based world language standards,
- grade-banded world language standards,
- appropriate assessments in world language settings,
- world language standards and considerations for Indigenous language learners,
- world language standards and considerations for American Sign Language (ASL), and
- advantages and disadvantages of American Council on the Teaching of Foreign Languages (ACTFL) proficiency standards.

The full report describes elements of effective teaching in each of these categories and summarizes the evidence supporting each element.

See <u>REL NW WestEd Fact Sheet Content Standards Revision</u> https://drive.google.com/file/d/1wYjj69aDyY580E06iJ60XXvK58sIksp2/view?usp=drive\_link

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### **Revision Phase**

Informed by the research the Superintendent and OPI staff launched a World Languages Standards Revision Task Force. The Task Force consisted of both a Development Team and a Review Team composed of current and former Montana World Languages K-12 classroom teachers, administrators, tribal education leaders, higher education faculty, and other stakeholders including two ASL advocates (See Appendix A for a complete list). The OPI recruited Task Force members from schools, institutions, and communities across the state to get a broad representation of school communities and sizes as well as a broad range of professional expertise in K-12 World Language instruction.

The Development Team was tasked with using the research and data collected in the Research and Review phase to propose revisions to the Montana World Languages Standards. The Review Team was tasked with reviewing the work of the Development team and providing feedback. A final cohort of representatives from both the Writing and Review teams then met as a Reconciliation team to make final revisions to the proposed standards that they proposed to the Superintendent and ultimately to the Negotiated Rulemaking Committee convened during the Negotiated Rulemaking phase.

The OPI convened the Development Team several times virtually between May and November of 2023 and in person in Helena July 24-25, 2023. The OPI convened the Review Team virtually several times between May and October 2023. The OPI used a specially developed course on the Teacher Learning Hub to train and connect members of the Task Force and provide a common workspace and file repository. The OPI also posted information about the Revision Phase and the work of the Task Force on the OPI website and shared files, including research considerations and ACTFL guiding documents with the Writing and Review Teams virtually.

OPI staff worked collaboratively with the task force to design and facilitate inclusive, collaborative, and productive in-person and virtual work sessions.

Designing guidance documents for OPI to use to provide educators with elaborations and detailed examples that support each standard that did not need to be added to ARM, and The Task Force generated a set of proposed revisions to the Montana State World Languages Standards and provided an overview of their rationale to members of the Negotiated Rulemaking Committee during their orientation.

The Content Standards Revision Team from OPI shared the drafted standards with the Montana Advisory Council on Indian Education (MACIE), asking for feedback on the general standards and specifically the task force's approach to authentic integration of Indian Education for All and honoring Montana Indigenous languages within the World Languages Standards.



### **Negotiated Rulemaking**

As required by (MCA) 2021 2.4.405 and building on the contributions and outputs of the research and review and revision phases, the Superintendent convened a Negotiated Rulemaking Committee (NRC) to undertake an expanded public-engagement and fact-finding process and to inform the articulation of her recommended revisions to the Montana World Languages Standards. The NRC consisted of the twelve members fulfilling the required roles, as listed in MCA (See Appendix B for a complete list)

## Summary of Notes and Minutes from the Negotiated Rulemaking Committee on World Languages Standards Revision

The Negotiated Rulemaking Committee for World Languages Standards Revision reached consensus to repeal <u>ARM Chapter 54 10.54.8510 to</u> <u>10.54.8593 - World Languages Content Standards</u> and move them to ARM Subchapter 10.53.1401-1408 as well as consensus to create standards new standards for 10.53.1401-1408

The NRC made changes to the draft developed by the Review and Revision Task Force and proposed by the Superintendent to ensure consistency in IEFA language and to replace the Proficiency Level Descriptors (PLDs) created by the task force and aligned to the ACTFL PLDs with the PLDS published by ACTFL. They first decided on "Montana Indigenous Nations" and removed the repetitive language. The Performance Level Descriptors in 10.53.1406-10.53.1408 were revised in consideration of alignment with College and Career Readiness exams, including those used for the Montana Seal of Bi-literacy, high-quality curriculum, and teacher preparation readily available to Montana schools. The NRC reached a consensus to fully adopt the ACTFL Performance Descriptors. It was clarified that using ACTFL wording doesn't pose a copyright issue.

The NRC also recognized the need for an Economic Impact Survey, reaching a consensus on the requirement for an economic impact statement. They believed that rule changes would impact economics, citing the need for professional development, time, and resources aligned with ACTFL standards. Concerns included the impact on American Sign Language learners, the need for new curriculum and tools, potential technology requirements, and teacher shortages. The survey aims to gather more information, including the need for professional development and potential impacts on curriculum and testing in teaching world languages.

See also Negotiated Rulemaking Process Overview:

https://opi.mt.gov/Portals/182/Page%20Files/School%20Accreditation/N%20Rulemaking%2010.55.701/Negotiated%20Rulemaking%20Process%20Overview%20Process%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Process%20Overview%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Proces%20Pro

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### Superintendent's Recommended Revisions to Montana World Languages Standards

The Superintendent's recommended revisions to Montana's World Languages standards are based on a thoughtful consideration of the myriad and intersecting conditions, inputs, challenges, and opportunities confronting public schools in Montana. They are informed by the research and stakeholder input collected through the methods described above, as well as the contributions of the World Languages Standards Task Force. The following sections provide the Superintendent's final recommended revisions, including both proposed detailed revision language (i.e., "redlines") and a rationale for each articulated by the Task Force and/or the Superintendent. It should be noted that the recommended revisions are ultimately the Superintendent's and reflect her prerogative and responsibility to present to the BPE those that she deems worth moving forward.


## Montana World Languages Standards Revision NRC Proposed Standards Revisions

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
<ul> <li>10.54.8510 - Content Standard 1 - Students engage in conversation, provide and obtain information, express feelings and emotions, and exchange opinions.</li> <li>10.54.8511 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 1 (1) The benchmark for world languages content standard 1 for a student at the end of benchmark 1 is the ability to: (a) express feelings, likes, and dislikes; (b) respond in one on one interactions; (c) create simple descriptions of people and things within a context; (d) express agreement and disagreement; and (e) express basic needs.</li> <li>10.54.8512 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 2</li> </ul>	10.53.1401 - WORLD LANGUAGE CONTENT STANDARD 1 - COMMUNICATION (1) Communicate effectively in more than one language in order to function in a variety of situations and for multiple purposes: (a) interpersonal communication: learners interact and negotiate meaning in spoken, signed, or written conversations to share: (i) information; (ii) reactions; (iii) feelings; and (iv) opinions. (b) interpretive communication: when learners hear, read, or view a variety of topics in the target language they can: (i) understand a variety of topics; (ii) interpret a variety of topics; (ii) analyze a variety of topics.	Superintendent's Task Force Alignment to ACTFL ACTFL plays a pivotal role in advancing best practices for teaching world languages. ACTFL, with its rich history since 1967, stands as a respected and influential professional organization, annually convening experts and educators at a comprehensive conference. The organization's contributions, such as the world readiness standards and proficiency guidelines, have become foundational in language programs nationwide. The commitment to supporting language educators and initiatives at both local and national levels demonstrates

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(1) The benchmark for world languages content standard 1 for a student at the end of benchmark 2 is the ability to:	(c) presentational communication: learners present information, concepts, and ideas pertaining to a variety of topics using	ACTFL's comprehensive approach to language education.
(a) qualify feelings, likes, and dislikes; (b) exchange information using appropriate gestures; (c) create detailed descriptions within a	appropriate media and adapting to various audiences of listeners, readers, or viewers in order to: (i) inform;	Furthermore, the transformative shift in language education during the 2000s, moving from traditional approaches to a
<del>context;</del> (d) describe a problem and suggest and recommend solutions; and (e) elaborate on needs and interact in <del>basic survival situations.</del>	(ii) explain; (iii) persuade; and (iv) narrate. 10.53.1402 - WORLD LANGUAGE CONTENT STANDARD 2 - CULTURES	introduction of the five C's framework (communication, cultures, connections, comparisons, communities) reflects a holistic understanding of language
10.54.8513 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 1 for a student at the end of benchmark 3 is the ability to: (a) exchange personal ideas and support them; (b) initiate, sustain, and conclude conversations appropriate to the setting on a variety of topics;	<ul> <li>(1) Interact with cultural competence and understanding;</li> <li>(a) relating cultural practices to perspectives: learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied, and, where appropriate, the cultures of Montana Indigenous Tribes; and</li> <li>(i) relating cultural products to</li> </ul>	learning, aligning with contemporary educational needs. By aligning the task force with ACTFL standards, the task force advocates for a pedagogical approach that goes beyond verb conjugation, prioritizing meaningful communication and student involvement. The incorporation of performance descriptors, considering various learning

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<ul> <li>(c) create more elaborate descriptions and add opinions;</li> <li>(d) collaborate and compromise to develop, propose, and negotiate solutions; and</li> <li>(e) manage unforescen situations.</li> <li>10.54.8520 WORLD LANGUAGES</li> <li>CONTENT STANDARD 2</li> <li>(1) To satisfy the requirements of world languages content standard 2, a student must understand and interpret spoken and/or written language on a variety of topics.</li> <li>10.54.8521 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2</li> <li>FOR END OF BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2</li> <li>FOR END OF BENCHMARK 1</li> <li>(1) The benchmark for world languages content at the end of benchmark 1 is the ability to:</li> <li>(a) identify people and objects using aural, visual, and contextual cues;</li> </ul>	investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied, and, where appropriate, the cultures of Montana Indigenous Tribes. <b>10.53.1403 - WORLD LANGUAGE</b> <b>CONTENT STANDARD 3 -</b> <b>CONNECTIONS</b> (1) Connect with other disciplines and acquire information and diverse perspectives, including Montana Tribes, in order to use the language to function in academic and career-related situations; (a) making connections: learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and solve problems creatively: and (b) acquiring information and diverse perspectives: learners access and evaluate information and diverse perspectives that are available through studying the language and its cultures.	environments, reinforces the adaptability and relevance of ACTFL standards in diverse educational settings. In conclusion, the rationale for aligning the Montana World Language Standards to ACTFL standards lies in its esteemed reputation, its significant contributions to language education, and its forward-thinking approach that aligns with the evolving landscape of language learning, which emphasizes effective communication and student engagement. <b>Alignment to the Seal of Biliteracy</b> The Montana Seal of Biliteracy is recognized as a valuable measure of students' proficiency levels, celebrating their competence in English and an additional language. The inclusivity of the Seal is emphasized, encompassing traditionally taught world languages,

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<ul> <li>(b) comprehend and respond appropriately to simple oral and written communications; and</li> <li>(c) read and respond to developmentally appropriate material and identify the main idea.</li> <li>10.54.8522 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2 FOR END OF BENCHMARK 2</li> <li>(1) The benchmark for world languages content standard 2 for a student at the end of benchmark 2 is the ability to:</li> <li>(a) respond appropriately to complex aural, visual, written, or contextual cues;</li> <li>(b) comprehend and respond appropriately to complex oral and written communications; and</li> <li>(c) interpret the main idea and significant details from authentic materials and literary samples.</li> <li>10.54.8523 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2 FOR END OF BENCHMARK 50</li> </ul>	10.53.1404 - WORLD LANGUAGE CONTENT STANDARD 4 - COMPARISONS (1) Develop insight into the nature of language and culture to interact with cultural competence, with a particular emphasis on Montana Indigenous cultures; (a) language comparisons: learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied, their own language, and, when appropriate, Montana Indigenous Languages; and (b) cultural comparisons: learners use the language to investigate, explain, and reflect on the concept of culture through comparisons between the cultures, their own way of life, and Montana Indigenous culture's history, diversity, and sovereignty.	American Sign Language, Indigenous languages, and any other measurable language. The Seal's significance is underscored by its tangible presence on diplomas and transcripts, allowing students to carry their language proficiency acknowledgment into post-secondary education or employment. The origin of the seal in acknowledging heritage languages, particularly Spanish, adds a cultural dimension to its purpose. The two proficiency levels, intermediate-mid (gold seal) and advanced-low (platinum seal), are discussed, with a focus on the unrehearsed language situations measured for proficiency. The Montana Seal of Biliteracy is especially important for students without access to Advanced Placement (AP) or International Baccalaureate (IB) programs, providing a



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<ul> <li>(1) The benchmark for world languages content standard 2 for a student at the end of benchmark 3 is the ability to:         <ul> <li>(a) analyze information based on complex aural, visual, written, or contextual cues;</li> <li>(b) comprehend and respond appropriately to oral and written communications intended for native speakers; and</li> <li>(c) interpret and analyze relationships, sequences, mood, cause and effect, and applied meaning in authentic materials and literary samples.</li> </ul> </li> <li>10.54.8530 WORLD LANGUAGES CONTENT STANDARD 3         <ul> <li>(1) To satisfy the requirements of world languages content standard 3, a student must convey information, concepts, and ideas to listeners and/or readers for a variety of purposes.</li> </ul> </li> <li>10.54.8531 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3         <ul> <li>(1).54.8531 BENCHMARK FOR WORLD ANGUAGES CONTENT STANDARD 3</li> <li>(1).54.8531 BENCHMARK FOR WORLD ANGUAGES CONTENT STANDARD 3</li> <li>(1).54.8531 BENCHMARK FOR WORLD ANGUAGES CONTENT STANDARD 3</li> <li>(1) FOR END OF BENCHMARK 1</li> </ul> </li></ul>	<ul> <li>10.53.1405 - WORLD LANGUAGE CONTENT STANDARD 5 - COMMUNITIES</li> <li>(1) Communicate and interact with cultural competence in order to participate in multilingual communities at home and around the world:         <ul> <li>(a) school, local, and global communities: learners use the language, both within and beyond the classroom, to interact and collaborate with their local, state, and global communities, including Montana Indigenous Nations.</li> </ul> </li> <li>10.53.1406 WORLD LANGUAGES PERFORMANCE DESCRIPTORS AT THE NOVICE LEVEL:         <ul> <li>(1) At the novice level for the interpersonal mode of communication, a language learner expresses self in conversations on very familiar topics using a variety of words, phrases, simple sentences, and</li> </ul> </li> </ul>	more accessible and universally applicable measure of language proficiency. Crucially, the Seal is positioned as an opportunity for students across Montana to gauge and showcase their language proficiency, irrespective of the availability of AP or IB programs in their high schools. The proficiency tests associated with the seal are presented as more inclusive and representative of a student's skill level than traditional AP and IB exams. In the context of standards development, the seal of biliteracy is framed as an "exit ticket" or midpoint check-in, offering a tangible and ongoing measure of students' language proficiency aligned with the evolving standards. It is positioned as a goal rather than an endpoint, providing students and teachers with a pathway for continuous improvement beyond high school.



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<ul> <li>(1) The benchmark for world languages content standard 3 for a student at the end of benchmark 1 is the ability to:</li> <li>(a) give directions, commands, and instructions;</li> <li>(b) give a description orally and/or in writing using simple phrases;</li> <li>(c) write a personal communication (e.g., note, letter, invitation); and</li> <li>(d) summarize main idea of selected authentic and/or contextualized material.</li> </ul>	<ul> <li>questions that have been highly practiced and memorized. A learner: <ul> <li>(a) can ask highly predictable and</li> <li>formulaic questions and respond to such questions by listing, naming, and</li> <li>identifying;</li> <li>(b) may show emerging evidence of the ability to engage in simple conversation;</li> <li>(c) is able to function in some personally relevant contexts on topics that relate to basic biographical information;</li> </ul> </li> </ul>	Overall, the rationale for aligning with the Montana Seal of Biliteracy lies in its ability to offer a comprehensive and inclusive measure of language proficiency, addressing accessibility concerns and providing students with meaningful recognition of their skills as they navigate their educational and professional journeys.
10.54.8532 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3 FOR END OF BENCHMARK 2 (1) The benchmark for world languages content standard 3 for a student at the end of benchmark 2 is the ability to: (a) explain a process based on prior knowledge and/or experience; (b) give a description orally and/or in writing using complex sentences; (c) produce formal and informal written and/or oral communication; and	(d) may show emerging evidence of the ability to communicate in highly practiced contexts related to oneself and one's immediate environment; (e) understands and produces highly practiced words and phrases and an occasional sentence. Able to ask formulaic or memorized questions; (f) can usually comprehend highly practiced and basic messages when supported by visual or contextual clues, redundancy or restatement, and when the message contains familiar structures;	Integration of Standards Language to Support Montana Indian Education for All The commitment to incorporating IEFA into the standards is acknowledged as a constitutional and legal obligation, reflecting the distinct and unique cultural heritage of Montana's Indigenous communities. The task force was guided by experts in the field of Indian Education and Language Learning, including those from the Montana Office of Public Instruction's

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(d) interpret information from authentic material for an audience.	(g) can control memorized language sufficiently to be appropriate to the context	Indian Education for All Unit. The task force embraced their guidance, focusing
10.54.8533 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3 FOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 3 for a student at the end of benchmark 3 is the ability to: (a) explain a complex process incorporating detailed instructions; (b) give a description orally and in writing using complex, detailed paragraphs;	and understood by those accustomed to dealing with language learners, however at times with difficulty; (h) is able to understand and produce a number of high-frequency words, highly practiced expressions, and formulaic questions; (i) may use some or all of the following strategies to maintain communication, able to: (i) imitate modeled words;	on the four themes of The Essential Understandings Regarding Montana Indians—diversity, history, culture, and sovereignty. This ensures a meaningful and substantial integration of IEFA into the state content standards. The task force's approach goes beyond superficial mentions and tokenism, aiming for transformative and fully inclusive representation.
<ul> <li>(c) produce a written sample to convey a mood, implied meaning, or abstract idea; and</li> <li>(d) create an analysis of authentic media or literary samples and present it to an audience.</li> <li>10.54.8540 WORLD LANGUAGES CONTENT STANDARD 4</li> <li>(1) To satisfy the requirements of world languages content standard 4, a student</li> </ul>	<ul> <li>(ii) Use facial expressions and gestures;</li> <li>(iii) Repeat words;</li> <li>(iv) Resort to first language;</li> <li>(v) Ask for repetition; and</li> <li>(vi) Indicate lack of understanding</li> <li>(j) may use culturally appropriate gestures and formulaic expressions in highly practiced applications. May show</li> <li>awareness of the most obvious cultural</li> <li>differences or prohibitions, but may often miss cues indicating miscommunication.</li> </ul>	An emphasis on substance is highlighted, moving beyond the "heroes and holidays" approach to deeper, more transformative inclusion. The task force scrutinizes other states' models, drawing inspiration from work on Crow Language Standards and seeking a model that not only incorporates but also amplifies the voices of Montana's Indigenous communities.

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must demonstrate an understanding of the relationship between the perspectives, practices, and products/contributions of cultures studied, and use this knowledge to interact effectively in cultural contexts. 10.54.8541 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 1 (1) The benchmark for world languages content standard 4 for a student at the end of benchmark 1 is the ability to: (a) identify significant cultural perspectives and practices; (b) recognize and interpret language and	<ul> <li>(2) At the novice level for the interpretive mode of communication, a language learner understands words, phrases, and formulaic language that have been practiced and memorized to get the meaning of the main idea from simple, highly predictable oral or written texts, with strong visual support. A learner:</li> <li>(a) comprehends meaning through recognition of key words and phrases;</li> <li>(b) may show emerging evidence of the ability to make inferences based on background and prior knowledge;</li> <li>(c) comprehends texts with highly</li> </ul>	The task force places importance on not just mentioning resources but also bringing the voices of the community into the classroom. The focus on student voices, self-worth, and a sense of belonging aligns with the goal of making the standards respectful, relational, relevant, reciprocal, responsible, and truly representational. Guiding questions such as "Is it respectful? Is it relational? Is it relevant? Is it reciprocal? Is it responsible? And is it truly representational?" serve as a compass in crafting the standards. The task force recognizes the role of world languages as
behaviors that reflect the culture; (c) identify objects, images, symbols, products, and other contributions of the culture; and (d) identify the expressive forms of the culture (e.g., art, architecture, music, dance).	predictable, familiar contexts (those related to personal background, prior knowledge, or experiences); (d) derives meaning when authentic texts (listening, reading, or viewing) are supported by visuals or when the topic is very familiar; (e) comprehends texts ranging in length from lists, to phrases, to simple sentences,	a vehicle for exploring Montana's tribal and individual diversity, indigenous cultures, history, stories, beliefs, worldviews, perspectives, and tribal sovereignty. Practical considerations, such as accessibility for Montana learners and teachers, and the need for measurable and usable content standards, are carefully

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10.54.8542 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 2 (1) The benchmark for world languages content standard 4 for a student at the end of benchmark 2 is the ability to: (a) describe cultural characteristics and behaviors of everyday life (e.g., social and geographic factors); (b) produce language and behaviors appropriate to the culture;	often with graphically organized information; (f) primarily relies on vocabulary to derive meaning from texts; (g) may derive meaning by recognizing structural patterns that have been used in familiar and some new contexts; (h) comprehends some, but not all of the time, highly predictable vocabulary, a limited number of words related to familiar topics, and formulaic expressions;	addressed. The task force emphasizes the connection to local communities, leveraging the ACTFL's five C's—cultures, connections, and communities—to seamlessly integrate IEFA concepts into world language classrooms. In summary, the rationale for grounding the task force's work in the inclusivity of Montana Indian Education for All lies in its constitutional mandate, legal obligation,
(c) explain objects, images, symbols, products, and other contributions of the culture; and (d) describe and discuss the expressive forms of the culture (e.g., art, architecture, music, dance).	(i) may use some or all of the following strategies to comprehend texts: (i) skim and scan; (ii) rely on visual support and background knowledge; (iii) predict meaning based on context,	and commitment to the transformative, respectful, and fully inclusive representation of Montana's Indigenous cultures within the state's world language standards.
10.54.8543 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 4 for a student at the end of benchmark 3 is the ability to:	prior knowledge, and experience; (iv) for alphabetic languages: (A) rely on recognition of cognates; (B) may recognize word family roots, prefixes, and suffixes; and (j) uses own culture to derive meaning from texts that are heard, read, or viewed.	Inclusion of Proficiency Level Descriptors The rationale for the Montana World Languages Revision Task Force emphasizes the importance of understanding that the proficiency scale is



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<ul> <li>(a) analyze the development of different cultural practices (e.g., social and geographic factors);</li> <li>(b) apply language and behaviors that reflect the culture in an authentic situation;</li> <li>(c) analyze and evaluate the cultural significance of objects, images, symbols, products, and other contributions of the culture; and</li> <li>(d) analyze and evaluate the expressive forms of the culture (e.g., art, architecture, music, dance).</li> <li>10.54.8550 WORLD LANGUAGES CONTENT STANDARD 5</li> <li>(1) To satisfy the requirements of world languages content standard 5, a student must reinforce and increase his/her knowledge of other disciplines through world languages.</li> <li>10.54.8551 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5</li> <li>(D.54.8551 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5</li> </ul>	<ul> <li>(3) At the novice level for the presentational mode of communication, a language learner communicates information on very familiar topics using a variety of words, phrases, and sentences that have been practiced and memorized. A learner: <ul> <li>(a) presents simple, basic information on very familiar topics by producing words, list, notes, and formulaic language using highly practiced language;</li> <li>(b) may show emerging evidence of the ability to express own thoughts and preferences;</li> <li>(c) creates messages in some personally relevant contexts on topics that relate to basic biographical information;</li> <li>(d) may show emerging evidence of the ability to create messages in highly practiced contexts related to oneself and their immediate environment;</li> <li>(e) produces words and phrases and highly practiced sentences or formulaic guestions;</li> </ul> </li> </ul>	not a methodology itself but has implications for methodology. The scale describes the progression of language acquisition, detailing the order in which individuals can perform language tasks as they acquire proficiency. The task force recognizes the implication that curricula should align with the progression described in the proficiency scale. Traditionally, language programs have often adopted a grammar coverage approach, focusing on more complex structures even when students may not be ready to acquire them. The need to spend more time solidifying the base before delving into advanced structures is highlighted. The task force emphasizes the significance of performance level descriptors, can-do statements, and other tools for classroom

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<ul> <li>(1) The benchmark for world languages content standard 5 for a student at the end of benchmark 1 is the ability to:         <ul> <li>(a) identify and apply, within a familiar context, information and skills shared by the language classroom and other disciplines; and</li> <li>(b) identify, through world language resources, information for use in other disciplines.</li> </ul> </li> <li>10.54.8552 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5 EOR END OF RENCHMARK 2</li> </ul>	<ul> <li>(f) produces memorized language that is appropriate to the context; limited language control may require a sympathetic audience to be understood;</li> <li>(g) with practice, polish, or editing, may show emerging evidence of Intermediate-level language control;</li> <li>(h) produces a number of high-frequency words and formulaic expressions; able to use a limited variety of vocabulary on familiar topics;</li> <li>(i) may use some or all of the following strategies to communicate:</li> <li>(i) rely on a practiced format;</li> </ul>	use to move students along the proficiency scale. It is acknowledged that a significant portion of day-to-day communication, even for Superior Level speakers, occurs at the Intermediate Level. Therefore, it is crucial to provide students with the skills necessary to function effectively at this level. The unique nature of language programs, which may vary in terms of when students start and the languages offered, poses
<ul> <li>(1) The benchmark for world languages content standard 5 for a student at the end of benchmark 2 is the ability to:         <ul> <li>(a) transfer and apply, within a designated context, information and skills common to the language classroom and other disciplines; and</li> <li>(b) analyze information gathered through world language resources for use in other disciplines.</li> </ul> </li> </ul>	<ul> <li>(ii) use facial expressions and gestures;</li> <li>(iii) repeat words;</li> <li>(iv) resort to first language;</li> <li>(v) use graphic organizers to present information;</li> <li>(vi) rely on multiple drafts and practice sessions with feedback;</li> <li>(vii) support presentational speaking with visuals and notes; and</li> </ul>	benchmarks. Unlike subjects such as math or English language arts, where students progress through standardized benchmarks, language programs exhibit diversity in their structure and starting points.

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10.54.8553 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5(viii) suppriseFOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 5 for a student at the end 	ort presentational writing with prompts; and e some memorized culturally e gestures, formulaic hs, and basic writing hs. <b>7 WORLD LANGUAGES</b> MANCE DESCRIPTORS AT RMEDIATE LEVEL: Intermediate level for the hal mode of communication, a learner expresses oneself and es in conversations on familiar hg sentences and series of . Handles short social is in everyday situations by d answering a variety of Can communicate about self, d everyday life. A learner: mmunicate by understanding hg personal meaning; derstand, ask, and answer a	To address this challenge, the task force proposes a set of performance level descriptors that provide a framework for districts and schools to set their own benchmarks based on the specifics of their programs. This approach acknowledges the flexibility required to accommodate different languages, starting points, and program structures. The goal is to allow districts to tailor benchmarks to their unique circumstances while ensuring accountability mechanisms are in place. The task force recognizes the effort and rigor involved in developing these proficiency-level descriptors, with a special acknowledgment of the writing team for their thorough work. The descriptors aim to provide nuance, depth, and breadth, allowing for a comprehensive understanding of language proficiency at

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10.54.8561 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 6 FOR END OF BENCHMARK 1 (1) The benchmark for world languages content standard 6 for a student at the end of benchmark 1 is the ability to: (a) gather information from sources intended for native speakers of the language; and (b) use authentic sources to identify perspectives of world cultures.	<ul> <li>(c) consistently is able to initiate, maintain, and end a conversation to satisfy basic needs and/or to handle a simple transaction;</li> <li>(d) may sow emerging evidence of the ability to communicate about more than the "here and now";</li> <li>(e) is able to communicate in contexts relevant to oneself and others, and one's immediate environment;</li> <li>(f) may show emerging evidence of the ability to communicate in contexts of occasionally unfamiliar topics;</li> <li>(g) is able to understand and produce discrete sentences, strings of sentences,</li> </ul>	various levels. The task force expresses gratitude for the collective effort in crafting a document that aligns with the principles of the proficiency scale and meets the diverse needs of Montana's language programs. <b>Negotiated Rulemaking</b> The Negotiated Rulemaking Committee for World Languages Standards Revision reached a consensus to repeal <u>ARM</u> <u>Chapter 54 10.54.8510 to 10.54.8593 -</u>
10.54.8562BENCHMARK FOR WORLDLANGUAGES CONTENT STANDARD 6FOR END OF BENCHMARK 2(1) The benchmark for world languagescontent standard 6 for a student at the endof benchmark 2 is the ability to:(a) analyze and apply information fromsources intended for native speakers of the	and some connected sentences. able to ask questions to initiate and sustain conversations; (h) understands straightforward language that contains mostly familiar structures; (i) has control of language sufficient to be understood by those accustomed to dealing with language learners;	World Languages Content Standards and move them to ARM Subchapter 10.53.1401-1408 as well as consensus to create standards new standards for 10.53.1401-1408 The NRC made changes to the draft developed by the Review and Revision

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language; and (b) use authentic sources to analyze perspectives of world cultures. 10.54.8563 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 6 FOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 6 for a student at the end of benchmark 3 is the ability to: (a) acquire and synthesize information from sources intended for native speakers of the language; and (b) use authentic sources to synthesize perspectives of world cultures.	<ul> <li>(j) communicates using high-frequency and personalized vocabulary within familiar themes or topics;</li> <li>(k) uses some of the following strategies to maintain communication, but not all of the time and inconsistently, able to: <ul> <li>(i) ask questions;</li> <li>(ii) ask for clarification;</li> <li>(iii) self-correct or restate when not understood; and</li> <li>(iv) circumlocute; and</li> <li>(l) recognizes and uses some culturally appropriate vocabulary, expressions, and gestures when participating in everyday interactions. Recognizes that differences exist in cultural behaviors and perspectives and can conform in familiar situations</li> </ul> </li> </ul>	Task Force and proposed by the Superintendent to ensure consistency in IEFA language and to replaced the Proficiency Level Descriptors (PLDs) created by the task force and aligned to the ACTFL PLDs with the PLDS published by ACTFL. They first decided on the term "Montana Indigenous Nations" and removed repetitive language. The Performance Level Descriptors in 10.53.1406-10.53.1408 were revised in consideration of alignment with College and Career Readiness exams, including those used for the Montana Seal of Bi-literacy, high-quality curriculum, and
10.54.8570 WORLD LANGUAGES CONTENT STANDARD 7 (1) To satisfy the requirements of world languages content standard 7, a student must recognize that different languages	(2) At the intermediate level for the interpretive mode of communication, a language learner understands main ideas and some supporting details on familiar topics from a variety of texts. a learner: (a) comprehends main ideas and identifies some supporting details;	teacher preparation readily available to Montana schools. The NRC reached a consensus to fully adopt ACTFL Performance Descriptors. It was clarified

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use different patterns and apply this(]knowledge to his/her own language.akk	(b) may show emerging evidence of the ability to make inferences by identifying key details from the text;	that using ACTFL wording doesn't pose a copyright issue.
10.54.8571BENCHMARK FOR WORLDLANGUAGES CONTENT STANDARD 7FOR END OF BENCHMARK 1(1) The benchmark for world languagescontent standard 7 for a student at the endof benchmark 1 is the ability to:(a) identify sound patterns of the targetlanguage and compare them to thestudent's own language;(b) identify structural patterns of the targetlanguage;(c) identify idiomatic expressions of thetarget language; and(d) identify connections among languages:10.54.8572DENCHMARK FOR WORLDLANGUAGES CONTENT STANDARD 7FOR END OF BENCHMARK 2	key details from the text: (c) comprehends information related to basic personal and social needs and relevant to one's immediate environment such as self and everyday life, school, community, and particular interests; (d) comprehends simple stories, routine correspondence, short descriptive texts, or other selections within familiar contexts; (e) generally comprehends connected sentences and most paragraph-like discourse; (f) comprehends information-rich texts with highly predictable order; (g)has sufficient control of language (vocabulary, structures, conventions of spoken and written language, etc.) to understand fully and with ease short, non-complex texts on familiar topics; limited control of language to understand some more complex texts:	The NRC also recognized the need for an Economic Impact Survey, reaching a consensus on the requirement for an economic impact statement. They believed that rule changes would impact economics, citing the need for professional development, time, and resources aligned with ACTFL standards. Concerns included the impact on American Sign Language learners, the need for new curriculum and tools, potential technology requirements, and teacher shortages. The survey aims to gather more information, including the need for professional development and potential impacts on curriculum and testing in teaching world languages.



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<ul> <li>(1) The benchmark for world languages content standard 7 for a student at the end of benchmark 2 is the ability to:</li> <li>(a) apply, within limited contexts, sound patterns of the target language;</li> <li>(b) apply, within limited contexts, structural patterns of the target language;</li> <li>(c) compare and contrast idiomatic expressions of the target language and the student's own language; and</li> <li>(d) explain the changing nature of languages.</li> <li>10.54.8573 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 7 FOR END OF BENCHMARK 3</li> <li>(1) The benchmark for world languages content standard 7 for a student at the end of benchmark 3 is the ability to:</li> <li>(a) apply, in a variety of contexts, sound patterns of the target language:</li> </ul>	<ul> <li>(i) comparing target language structures with those of their native language; and</li> <li>(ii) recognizing parallels in structure between new and familiar language;</li> <li>(i) comprehends high-frequency</li> <li>vocabulary related to everyday topics and high-frequency idiomatic expressions;</li> <li>(j) uses some or all of the following strategies to comprehend texts:</li> <li>(i) skim and scan;</li> <li>(ii) use visual support and background knowledge;</li> <li>(iii) predict meaning based on context, prior ;knowledge, and/or experience;</li> <li>(iv) use context clues; and</li> <li>(v) recognize word family roots, prefixes, and suffixes;</li> <li>(k) for non-alphabetic languages, recognize radicals; and</li> <li>(l) generally rely heavily on knowledge of own culture with increasing knowledge of the target culture(s) to interpret texts that are heard, read, or viewed.</li> </ul>	
patterns of the target language;		

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<ul> <li>(b) use knowledge of structural patterns in both the target language and the student's own language to communicate effectively;</li> <li>(c) use idiomatic expressions of the target language in the correct context; and</li> <li>(d) describe how languages influence each other.</li> </ul> 10.54.8580 WORLD LANGUAGES CONTENT STANDARD 8 (1) To satisfy the requirements of world languages content standard 8, a student must demonstrate understanding of the concept of culture through comparisons of the cultures studied and his/her own. 10.54.8581 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 1 (1) The benchmark for world languages content standard 8 for a student at the end of benchmark 1 is the ability to recognize	<ul> <li>(3) At the intermediate level for the presentational mode of communication, a language learner communicates information and expresses own thoughts about familiar topics using sentences and series of sentences. a learner:</li> <li>(a) expresses own thoughts and presents information and personal preferences on familiar topics by creating with language primarily in present time;</li> <li>(b) may show emerging evidence of the ability to tell or retell a story and provide additional description; (c) creates messages in contexts relevant to oneself and others, and one's immediate environment;</li> <li>(d) may show emerging evidence of the ability to create messages on general interest and work-related topics;</li> <li>(e) produces sentences, series of sentences, and some connected sentences:</li> </ul>	

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similarities and differences, including behavior patterns, among target cultures and the student's own culture using evidence from authentic sources.	(f) control of language is sufficient to be understood by audiences accustomed to language produced by language learners; (g) with practice, polish, or editing, may show emerging evidence of advanced-level language control;	
10.54.8582 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 2 (1) The benchmark for world languages content standard 8 for a student at the end of benchmark 2 is the ability to analyze similarities and differences, including behavior patterns, among target cultures and the student's own culture using evidence from authentic sources.	<ul> <li>(h) produces vocabulary on a variety of everyday topics, topics of personal interest, and topics that have been studied;</li> <li>(i) may use some or all of the following strategies to communicate and maintain audience interest, able to:</li> <li>(i) show an increasing awareness of errors and able to self-correct or edit;</li> <li>(ii) use phrases, imagery, or content;</li> <li>(iii) simplify;</li> <li>(iv) use known language to compensate for missing vocabulary;</li> </ul>	
10.54.8583 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 3	(v) use graphic organizer; and (vi) use reference resources as appropriate; and (j) uses some culturally appropriate vocabulary, expressions, and gestures. reflects some knowledge of cultural	



## **Newly Proposed Montana World** Montana World Languages Summary of Task Force and Standards, Adopted 1999 Languages Standards, NRC **Negotiated Rulemaking Revisions** and Rationale (Current) **Consensus Approved November** 2023 (1) The benchmark for world languages differences related to written and spoken communication. content standard 8 for a student at the end of benchmark 3 is the ability to: 10.53.1408 WORLD LANGUAGES (a) analyze and explain significance of PERFORMANCE DESCRIPTORS AT similarities and differences among target THE ADVANCED LEVEL: cultures and the student's own culture (1) At the advanced level for the using evidence from authentic sources; interpersonal mode of communication, a and language learner expresses self fully to (b) use knowledge of similar and different maintain conversations on familiar topics behavioral patterns to interact effectively in and new concrete social, academic, and work-related topics. Can communicate in a variety of social contexts in target paragraph-length conversations about cultures and the student's own culture. events with detail and organization. Confidently handles situations with an 10.54.8590 WORLD LANGUAGES unexpected complication. Shares point of **CONTENT STANDARD 9** view in discussions. A learner: (1) To satisfy the requirements of world (a) can communicate with ease and languages content standard 9, a student confidence by understanding and producing narrations and descriptions in all must apply language skills and cultural major time frames and deal efficiently with knowledge in daily life. a situation with an unexpected turn of events:

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10.54.8591 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 9 FOR END OF BENCHMARK 1 (1) The benchmark for world languages content standard 9 for a student at the end of benchmark 1 is the ability to: (a) identify the target language in the student's daily life and share that knowledge with others; (b) locate connections with the target culture through the use of technology, media, and authentic sources; and (c) locate resources in the community to learn about the target culture.	<ul> <li>(b) may show emerging evidence of the ability to participate in discussions about issues beyond the concrete;</li> <li>(c) functions fully and effectively in contexts both personal and general;</li> <li>(d) content areas include topics of personal and general interest (community, national, and international events) as well as work-related topics and areas of special competence;</li> <li>(e) may show emerging evidence of the ability to communicate in more abstract content areas;</li> <li>(f) able to understand and produce discourse in full oral paragraphs that are organized, cohesive, and detailed. Able to ask questions to probe beyond basic</li> </ul>	
10.54.8592BENCHMARK FOR WORLDLANGUAGES CONTENT STANDARD 9FOR END OF BENCHMARK 2(1) The benchmark for world languagescontent standard 9 for a student at the endof benchmark 2 is the ability to:	details: (g) language control is sufficient to interact efficiently and effectively with those unaccustomed to dealing with language learners:	

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<ul> <li>(a) respond to the target language</li> <li>encountered in the student's daily life;</li> <li>(b) establish connections with the target</li> <li>culture through the use of technology,</li> <li>media, and authentic sources; and</li> <li>(c) interact with members of the community</li> <li>to research the target culture.</li> </ul>	<ul> <li>(h) consistent control of basic</li> <li>high-frequency structures facilitates</li> <li>comprehension and production;</li> <li>(i) comprehends and produces a broad</li> <li>range of vocabulary related to school,</li> <li>employment, topics of personal interest,</li> <li>and generic vocabulary related to current</li> <li>events and matters of public and</li> <li>community interest;</li> </ul>	
10.54.8593 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 9 FOR END OF BENCHMARK 3 (1) The benchmark for world languages content standard 9 for a student at the end of benchmark 3 is the ability to: (a) interact appropriately in the target language in real-life situations; (b) maintain connections with the target culture through the use of technology, media, and authentic sources; and (c) collaborate and use resources in the community to research the target culture.	(j)uses a range of strategies to maintain communication, able to: (i) request clarification; (ii) repeat; (iii) restate; (iv) rephrase; and (i) circumlocute; and (k) understands and uses cultural knowledge to conform linguistically and behaviorally in many social and work-related interactions. Shows conscious awareness of significant cultural differences and attempts to adjust accordingly.	

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10.54.8607 ADVANCED WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 1 (1) A student at the end of benchmark 1, at the advanced level of world languages demonstrates superior performance. He/she: (a) initiates conversations, on familiar topics, comprehensible to a native speaker; (b) comprehends and interprets main ideas from authentic material appropriate for his/her level; (c) initiates communication orally and/or in writing for a variety of purposes and audiences; (d) identifies significant cultural contributions of the target language culture;	<ul> <li>(1) At the advanced level for the interpretive mode of communication, a learner understands main ideas and supporting details on familiar and some new, concrete topics from a variety of more complex texts that have a clear, organized structure. A learner: <ul> <li>(a) comprehends the main idea and supporting details of narrative, descriptive, and straightforward persuasive texts;</li> <li>(b) makes inferences and derives meaning from context and linguistic features;</li> <li>(c) comprehends texts pertaining to real-world topics of general interest relevant to personal, social, work-related, community, national, and international contexts;</li> <li>(d) comprehends paragraph discourse such as that found in stories, straightforward literary works, personal and work-related correspondence, written reports or instructions, oral presentations (news), anecdotes, descriptive texts, and</li> </ul> </li> </ul>	

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<ul> <li>(c) consistently recognizes culturally embedded behaviors and acts appropriately, within familiar contexts, target language knowledge and skills, and cultural understanding;</li> <li>(f) cagerly uses authentic resources to identify culturally relevant information and perspectives;</li> <li>(g) identifies sound and structural patterns of the target language and compares them to his/her first language;</li> <li>(h) identifies and compares significant similarities and differences among target cultures with his/her culture; and</li> <li>(i) identifies and expands understanding and information gained through world language study within and outside the classroom.</li> <li>10.54.8608 PROFICIENT WORLD LANGUAGES PERFORMANCE</li> </ul>	other texts dealing with topics of a concrete nature; (e) sufficient control of language (vocabulary, structures, conventions of spoken and written language, etc.) to understand fully and with ease more complex and descriptive texts with connected language and cohesive devices; (f) derives meaning by: (i) understanding sequencing, time frames, and chronology; and (ii) classifying words or concepts according to word order or grammatical use; (g) comprehends generic and some specific vocabulary and structures, specialized and precise vocabulary on topics related to one's experience, and an expanding number of idiomatic expressions; (h) comprehends fully the intent of the message adapting strategies for one's own purposes; uses some or all of the following strategies, able to: (i) skim and scan;	

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STANDARDS FOR THE END OF BENCHMARK 1 (1) A student at the end of benchmark 1, at the proficient level of world languages demonstrates solid academic performance. He/she: (a) initiates exchanges of simple information (e.g., likes and dislikes, descriptions, basic needs, familiar topics) ; (b) comprehends main ideas from authentic material appropriate for his/her level; (c) communicates orally and/or in writing for an assigned purpose and audience; (d) identifies some significant cultural contributions of the target language culture; (e) identifies, within familiar contexts, target language information and skills;	<ul> <li>(ii) use visual support and background knowledge;</li> <li>(iii) predict meaning based on context, prior knowledge, and/or experience;</li> <li>(iv) use context clues;</li> <li>(v) use linguistic knowledge;</li> <li>(vi) identify the organizing principle of the text;</li> <li>(vii) create inferences; and</li> <li>(viii) differentiate main ideas from supporting details in order to verify; and</li> <li>(i) uses knowledge of cultural differences between own culture and target culture(s) as well as increasing knowledge of the target culture(s) to interpret texts that are heard, read, or viewed.</li> <li>At the advanced level for the presentational mode of communication, a learner communicates information and expresses self with detail and organization on familiar and some new concrete topics using paragraphs. A learner:</li> </ul>	

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(f) uses authentic resources to recognize some cultural information and perspectives; (g) recognizes sound and structural patterns of the target language and makes connections to his/her first language; (h) identifies similarities and differences among target cultures with his/her culture; and (i) identifies language and culture connections within and outside the classroom.	<ul> <li>(a) Produces narrations and descriptions in all major time frames on familiar and some unfamiliar topics;</li> <li>(b) May show emerging evidence of the ability to provide a well-supported argument, including detailed evidence in support of a point of view;</li> <li>(c) Creates messages fully and effectively in contexts both personal and general;</li> <li>(d) Content areas include topics of personal and general interest (community, national, and international events) as well as work-related topics and areas of special competence;</li> <li>(e) May show emerging evidence of the</li> </ul>	
10.54.8609 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 1 (1) A student at the end of benchmark 1, at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills	ability to create messages in more abstract content areas; (f) Produces full paragraphs that are organized and detailed; (g) Control of high-frequency structures is sufficient to be understood by audiences not accustomed to language of language learners;	

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fundamental for proficiency in world languages. He/she: (a) exchanges simple information, with prompting, (e.g., likes and dislikes, basic needs, familiar topics); (b) responds to repeated oral and/or written material appropriate for his/her level; (c) communicates orally and/or in writing in limited situations; (d) recognizes obvious cultural contributions of the target language culture; (e) sometimes identifies, within familiar contexts, target language information and skills; (f) uses, with assistance, authentic resources to recognize some cultural information and perspectives; (g) sometimes recognizes sound and structural patterns of the target language	<ul> <li>(h) With practice, polish, or editing, shows evidence of Advanced-level control of grammar and syntax;</li> <li>(i) Produces a broad range of vocabulary related to topics of personal, public, and community interest, and some specific vocabulary related to areas of study or expertise;</li> <li>(j) May use some or all of the following strategies to communicate and maintain audience interest, able to:</li> <li>(i) Demonstrate conscious efforts at self-editing and correction;</li> <li>(ii) Elaborate and clarify;</li> <li>(iii) Provide examples, synonyms, or antonyms;</li> <li>(iv) Use cohesion, chronology, and details to explain or narrate fully; and</li> <li>(v) Circumlocute; and</li> <li>(k) Uses cultural knowledge appropriate to the presentational context and increasingly reflective or authentic cultural practices and perspectives.</li> </ul>	

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and, with assistance, makes connections		
to his/her first language;		
(h) identifies some similarities and		
differences among target cultures with		
his/her culture; and		
(i) identifies, with assistance, some		
language and culture connections within		
and outside the classroom.		
10.54.8611 ADVANCED WORLD		
LANGUAGES PERFORMANCE		
STANDARDS FOR THE END OF		
BENCHMARK 2		
(1) A student at the end of benchmark 2, at		
the advanced level of world languages		
demonstrates superior performance.		
He/sne:		
(a) initiates and sustains conversations, on		
a variety of topics, comprehensible to a		
Hative Speaker;		

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(b) consistently comprehends and		
interprets main ideas and supporting		
details from authentic material above		
<del>his/her level;</del>		
(c) independently and routinely		
communicates verbally and/or in writing		
and easily elaborates on familiar topics in a		
variety of situations;		
(d) analyzes and describes, in detail,		
significant cultural contributions of the		
t <del>arget language culture;</del>		
(e) consistently analyzes and applies		
target language information and skills to		
<del>other contexts;</del>		
(f) thoroughly examines and applies		
information and perspectives of world		
cultures using authentic sources;		
<del>(g) applies, in limited contexts, sound and</del>		
structural patterns and idiomatic		
expressions of the target language, and		



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compares target language to his/her first language; (h) observes, analyzes, and explains significant similarities and differences among target cultures with his/her culture; and (i) enhances classroom activities by independently seeking new information and illustrating language and culture connections.		
10.54.8612 PROFICIENT WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2 (1) A student at the end of benchmark 2, at the proficient level of world languages demonstrates solid academic performance: He/she: (a) exchanges information on familiar topics in survival situations verbally and/or		

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in writing and usually understands and		
(b) comprohends and interprote main ideas		
from authentic material appropriate for		
his/her level:		
(c) communicates verbally and/or in writing		
and elaborates on familiar topics in survival		
situations;		
(d) describes significant cultural		
contributions of the target language		
<del>culture;</del>		
<del>(e) analyzes and applies target language</del>		
information and skills to designated		
contexts and other disciplines;		
(f) investigates and applies information and		
perspectives of world cultures using		
authentic sources;		
(g) applies, in limited contexts, sound and		
structural patterns and idiomatic		
expressions of the target language, and		



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compares target language to his/her first language; (h) observes and describes significant similarities and differences among target cultures with his/her culture; and (i) contributes to classroom activities by finding and sharing language and culture connections.		
10.54.8613 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2 (1) A student at the end of benchmark 2, at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in world languages. He/she: (a) often exchanges information on familiar topics in survival situations verbally and/or		

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in writing and usually understands and produces speech at near normal speed; (b) identifies main ideas from material appropriate for his/her level; (c) communicates verbally and/or in writing and sometimes elaborates on familiar topics in survival situations; (d) describes some significant cultural contributions of the target language culture; (e) applies limited target language information to other disciplines; (f) investigates and applies information and common perspectives of world cultures; (g) applies, in limited contexts, sound and structural patterns and idiomatic expressions of the target language, but has difficulty comparing target language to his/her first language;		

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(h) provides limited explanation of		
similarities and differences among target		
(i) sometimes contributes to classroom		
activities by finding and sharing language		
and culture connections.		
10.54.8614 NOVICE WORLD		
LANGUAGES PERFORMANCE		
STANDARDS FOR THE END OF		
BENCHMARK 2		
(1) A student at the end of benchmark 2, at		
the novice level of world languages is		
beginning to attain the prerequisite		
knowledge and skills that are fundamental		
at each benchmark in world languages.		
He/she:		
(a) exchanges predictable information		
verbally and/or in writing, and relies on		
questions or prompts to produce		
understandable language;		

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(b) identifies main ideas from familiar		
material appropriate for his/her level;		
(c) describes raminar topics, but rarely		
situations:		
(d) describes some significant cultural		
contributions of the target language		
<del>culture;</del>		
(e) seldom applies limited target language		
information to other disciplines;		
(f) has difficulty applying information of		
world cultures;		
<del>(g) seldom applies, even in limited</del>		
contexts, sound and structural patterns or		
idiomatic expressions of the target		
language to his/her first language;		
(h) has difficulty identifying similarities and		
differences among target cultures with		
(i) receive contributes to closercom		

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10.54.8615 ADVANCED WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3 (1) A student at the end of benchmark 3, at the advanced level of world languages demonstrates superior performance. He/she: (a) confidently initiates, sustains, and concludes conversations, in a variety of contexts, comprehensible to a native speaker; (b) comprehends and responds to oral and/or written communication intended for a native speaker; (c) adeptly uses a variety of language strategies to convey meaning in the target language;		

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(d) thoroughly analyzes and evaluates			
significant cultural contributions to			
effectively interact in authentic situations;			
(e) integrates and consistently applies			
Information and skills to familiar and			
untamiliar contexts;			
(t) independently acquires and integrates			
world cultures perspectives from authentic			
sources, and communicates new			
understanding;			
(g) confidently applies, in a variety of			
contexts, sound and structural patterns			
and idiomatic expressions of the target			
language and his/her first language to			
communicate effectively;			
(h) analyzes and explains significant			
similarities and differences among target			
cultures to interact effectively in a variety of			
contexts; and			
(i) independently and enthusiastically			
extends classroom learning by seeking out			
Ianguage and culture connections and   thoroughly communicating his/her findings.   10.54:8616 PROFICIENT WORLD   LANGUAGES PERFORMANCE   STANDARDS FOR THE END OF   BENCHMARK 3   (1) A student at the end of benchmark 3, at   the proficient level of world languages   demonstrates solid-academic performance.   He/she:   (a) initiates, sustains, and concludes   conversations, in a variety of contexts,   comprehensible to a native speaker;   (b) comprehends and responds to oral   and/or written communication intended for   anative speaker;   (c) consistently uses a variety of language   strategies to convey meaning in the target	Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
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10.54.8616 - PROFICIENT WORLD   LANGUAGES PERFORMANCE   STANDARDS FOR THE END OF   BENCHMARK 3   (1) A student at the end of benchmark 3, at   the proficient level of world languages   demonstrates solid academic performance.   He/she:   (a) initiates, sustains, and concludes   conversations, in a variety of contexts,   comprehensible to a native speaker;   (b) comprehends and responds to oral   and/or written communication intended for   a native speaker;   (c) consistently uses a variety of language   strategies to convey meaning in the target   language;	language and culture connections and thoroughly communicating his/her findings.		
STANDARDS FOR THE END OF   BENCHMARK 3   (1) A student at the end of benchmark 3, at   the proficient level of world languages   demonstrates solid academic performance.   He/she:   (a) initiates, sustains, and concludes   conversations, in a variety of contexts,   comprehensible to a native speaker;   (b) comprehends and responds to oral   and/or written communication intended for   a native speaker;   (c) consistently uses a variety of language   strategies to convey meaning in the target   language;	10.54.8616 PROFICIENT WORLD		
BENCHMARK-3   (1) A student at the end of benchmark 3, at the proficient level of world languages demonstrates solid academic performance.   He/she:   (a) initiates, sustains, and concludes conversations, in a variety of contexts, comprehensible to a native speaker;   (b) comprehends and responds to oral and/or written communication intended for a native speaker;   (c) consistently uses a variety of language strategies to convey meaning in the target language;	STANDARDS FOR THE END OF		
(1) A student at the end of benchmark 3, at the proficient level of world languages demonstrates solid academic performance. He/she: (a) initiates, sustains, and concludes conversations, in a variety of contexts, comprehensible to a native speaker; (b) comprehends and responds to oral and/or written communication intended for a native speaker; (c) consistently uses a variety of language strategies to convey meaning in the target language;	BENCHMARK 3		
the proficient level of world languagesdemonstrates solid academic performance.He/she:(a) initiates, sustains, and concludesconversations, in a variety of contexts,comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	(1) A student at the end of benchmark 3, at		
demonstrates solid academic performance.He/she:(a) initiates, sustains, and concludesconversations, in a variety of contexts,comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	the proficient level of world languages		
He/she:(a) initiates, sustains, and concludesconversations, in a variety of contexts,comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	demonstrates solid academic performance.		
(a) initiates, sustains, and concludesconversations, in a variety of contexts,comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	He/she:		
conversations, in a variety of contexts,comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	(a) initiates, sustains, and concludes		
comprehensible to a native speaker;(b) comprehends and responds to oraland/or written communication intended fora native speaker;(c) consistently uses a variety of languagestrategies to convey meaning in the targetlanguage;	conversations, in a variety of contexts,		
(b) comprehends and responds to oral and/or written communication intended for a native speaker;(c) consistently uses a variety of language strategies to convey meaning in the target language;	comprehensible to a native speaker;		
and/or written communication intended for   a native speaker;   (c) consistently uses a variety of language   strategies to convey meaning in the target   language;	(b) comprehends and responds to oral		
a native speaker; (c) consistently uses a variety of language strategies to convey meaning in the target language;	and/or written communication intended for		
<del>(c) consistently uses a variety of language</del> <del>strategies to convey meaning in the target</del> <del>language;</del>	<del>a native speaker;</del>		
<del>strategies to convey meaning in the target</del> <del>language;</del>	(c) consistently uses a variety of language		
<del>language;</del>	strategies to convey meaning in the target		
	l <del>anguage;</del>		

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
(d) analyzes and evaluates significant		
cultural contributions to effectively interact		
in authentic situations;		
(e) integrates information from authentic		
sources and applies that information and		
skills to familiar and unfamiliar contexts;		
(f) acquires and integrates world cultures		
information and perspectives from		
authentic sources;		
<del>(g) confidently applies, in a variety of</del>		
contexts, sound and structural patterns		
and idiomatic expressions of the target		
language and his/her first language to		
communicate effectively;		
(h) analyzes and explains significant		
similarities and differences among target		
cultures to interact effectively in a variety of		
<del>contexts; and</del>		
(i) extends classroom learning by seeking		
out language and culture connections and		
by communicating his/her findings.		

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
10.54.8617 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3 (1) A student at the end of benchmark 3, at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in world languages. He/she: (a) initiates, sustains, and concludes limited conversations comprehensible to a native speaker accustomed to non-native speakers; (b) usually comprehends and responds to oral and/or written communication intended for a native speaker; (c) uses some language strategies to convey meaning in the target language;		

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
(d) identifies and analyzes significant cultural contributions, but needs assistance		
to effectively interact in authentic		
<del>situations;</del>		
(e) sometimes integrates information from		
authentic sources and applies the		
information and skills to familiar contexts;		
(f) acquires and integrates world cultures		
information and perspectives from		
<del>authentic sources;</del>		
<del>(g) applies, in limited contexts, sound and</del>		
structural patterns, and idiomatic		
expressions of the target language and		
<del>his/her first language;</del>		
(h) explains significant similarities and		
differences among target cultures, but has		
difficulty interacting effectively; and		
(i) sometimes extends classroom learning		
by locating and sharing language and		
<del>culture connections.</del>		

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
10.54.8618 NOVICE WORLD		
LANGUAGES PERFORMANCE		
STANDARDS FOR THE END OF		
BENCHMARK 3		
(1) A student at the end of benchmark 3, at		
the novice level of world languages is		
beginning to attain the prerequisite		
knowledge and skills that are fundamental		
at each benchmark in world languages.		
He/she:		
(a) engages in limited conversations;		
(b) usually comprehends and responds to		
familiar oral and/or written material;		
(c) seldom uses language strategies to		
convey meaning in the target language;		
(d) identifies significant cultural		
contributions, but seldom interacts in		
authentic situations;		
<del>(e) sometimes integrates predictable</del>		
information from authentic sources but has		
difficulty applying the information;		

Montana World Languages Standards, Adopted 1999 (Current)	Newly Proposed Montana World Languages Standards, NRC Consensus Approved November 2023	Summary of Task Force and Negotiated Rulemaking Revisions and Rationale
(f) sometimes acquires, but seldom		
integrates world cultures information or		
perspectives from autnentic sources;		
(g) recognizes, in limited contexts, sound		
and structural patterns, and idiomatic		
expressions of the target language and		
his/her first language;		
(h) explains predictable similarities and		
differences among target cultures and		
seldom interacts effectively; and		
(i) rarely makes language and culture		
connections to extend classroom learning.		



# Appendix A: World Languages Revision Task Force Members

Task Force Member	Location of Representative	Task Force Roles
Adrienne Barnes, M.A.	Polson	Writing and Review Teams
Dr. Galen Brokaw	Bozeman	Writing and Review Teams
Dr. Patricia Catoira	Bozeman	Writing Team
Lachelle Davis-Monnett	Kalispell	Writing Team
Naomi Delaloye, M.A.	Whitefish	Writing Team
Brooke Gardner, M.A.	Whitefish	Writing Team
Dr. Dora LaCasse	Missoula	Review Team
M. Alice Nation, M.A.	Billings	Writing and Review Teams
Dr. Velma Pretty On Top	Crow Agency	Writing Team
Brandy Reinhardt	Missoula	Writing Team
Tabitha Smail, M.A.	Helena	Writing Team
Lisa Werner, M.A.	Lewistown	Writing and Review Teams
Dr. Cecily Whitworth	Missoula	Writing Team
Dr. Megan Wong	Bozeman	Writing Team



# Appendix B: Negotiated Rulemaking Committee

Appointed Member	NRC Role	Location
Charlene Jonsson	K-12 Teacher	Savage
Carolyn Rusche	Instructional Coach, Montana Tribe Representative	Shepard
Norah Barney	K-12 School Administrator, Curriculum Director	Anaconda
Garth Sleight	Higher Education	Miles City
Erik Pritchard	K-12 Teacher	Helena
Kerri Norrick	School District Trustee, K-12 Educator, Parent	Bozeman
Kevin Kicking Woman	K-12 Teacher, Montana Tribe Representative	Browning
Carrie Fisher	School Business Official	Belgrade
Kathy Milodragovich	School District Trustee, Retired Educator	Butte
Julie Murgel	OPI	Helena
Christy Mock-Stutz	OPI	Helena

# **Appedix C: Montana Office of Public Instruction Project Leadership**

Elsie Arntzen, Superintendent of Public Instruction Christy Mock-Stutz, Assistant Superintendent Julie Murgel, Chief Operating Officer Marie Judisch, Teaching and Learning Senior Manager Stephanie Swigart, English Language Arts and Literacy Specialist: World Languages Standards Revision Project Lead Matthew Bell, American Indian Culture and Language Immersion Specialist: Consultant and Project Support Michelle McCarthy, Science Instructional Coordinator: Standards Revision Process Consultant, and Project Support

Sheri Harlow, Administrative Support



# Economic Impact Statement Administrative Rule of Montana, Chapter 54 and Chapter 53: World Languages Content Standards

Prepared by the Office of Public Instruction - April 2024



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# **Executive Summary**

The Superintendent of Public Instruction, Elsie Arntzen, supported by the staff of the Montana Office of Public Instruction (OPI), launched a process to review the Administrative Rule of Montana (ARM), <u>Title 10, Chapter 54, Subchapter 85</u>, the World Languages Content Standards. The Superintendent's vision was to update this set of standards that had not been updated in more than 24 years. The most current research and developments on how students learn world languages was reflected in the updated standards. Her vision and direction included the charge to make the revised standards more approachable and understandable by parents and other non-educators while retaining rigor and high expectations for students. Specifically, the Superintendent sought to improve the standards to provide simplicity, practicality, and clarity.

Using a task force of Montana educators in the World Languages content area and the negotiated rulemaking process, the Superintendent of Public Instruction, has developed recommendations for amendments to ARM 10, Chapter 54, Subchapter 85. Part of the recommendations includes moving the World Languages Content Standards from Chapter 54 to Chapter 53 to unite with the rest of the content standards, as requested by the Board of Public Education (BPE).

The content standards, as part of the accreditation standards, must be adopted by the BPE upon the recommendation of the Superintendent after development through the negotiated rulemaking process, as is stated in <u>§20-7-101, MCA</u>. The agency has created this economic impact statement in consultation with the NRC under the provisions of § <u>2-4-405, MCA</u>.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed rule amendments for ARM 10.56.85. The survey was distributed through the monthly OPI Compass newsletter that is sent to 18,116 stakeholders in the OPI bulk email system, as well as in a press release posted on February 23, 2024. Upon too few stakeholders responding by the first due date, it was also sent directly to superintendents and school board trustees through a direct email listserve and was left open for an additional three weeks. Only 3 submissions were garnered during that time. The OPI then partnered with School Administrators of Montana (SAM), to also send the survey out in SAM's weekly message to school leaders.

# Introduction

The Superintendent and OPI staff initiated a World Languages Standards Revision Task Force, comprising Development and Review Teams listed in Appendix B, including educators, administrators, tribal leaders, and stakeholders, to revise Montana's World Languages Standards. The Development Team proposed revisions based on research, while the Review Team provided feedback. A Reconciliation team finalized proposed standards for submission to the Superintendent and the Negotiated Rulemaking Committee. The OPI facilitated virtual and

in-person meetings, utilized a Teacher Learning Hub course, and posted information on the OPI website to engage Task Force members and share resources.

OPI staff collaborated with the Task Force to conduct inclusive work sessions, generating proposed revisions to the Montana State World Languages Standards. The core of the work meant aligning with the American Council on the Teaching of Foreign Languages (ACTFL) standards. The task force indicated that several districts and curricular materials are already aligned to the ACTFL standards. The task force presented its rationale to the Negotiated Rulemaking Committee and sought feedback from the Montana Advisory Council on Indian Education (MACIE) regarding the integration of Indian Education for All and honoring Montana Indigenous languages within the standards.

The Negotiated Rulemaking Committee (NRC) considered eight rule adoptions from the task force. Out of the proposed rules, the NRC chose to make amendments to eight of them. Superintendent Arntzen selected 12 members to serve on the NRC and reflect the necessary role diversity.

# The rules proposals are listed below with a summary of changes:

- 10.54.8510-10.54.8593 World Languages Content Standards:
  - Repeal all standards for revisions
- 10.54.8607-10.54.8618 World Languages Performance Standards:
  - Repeal all standards for revisions
- 10.53.1401 10.53.1405 World Languages Content Standards
  - Adopt new standards in alignment with the American Council on the Teaching of Foreign Languages (ACTFL)
  - Integration of Montana Indigenous Peoples/Indian Education for All
- 10.53.1406-10.53-1408 World Languages Performance Descriptors
  - Adopt new performance level descriptors (Novice, Intermediate, and Advanced) standards in alignment with the American Council on the Teaching of Foreign Languages (ACTFL)
  - Integration of Montana Indigenous Peoples/Indian Education for All

# **Economic Impact Statement Required Elements**

As required by § 20-7-101(1), MCA, the Montana Superintendent of Public Instruction, has prepared this economic impact statement in consultation with the NRC under the provisions of § 2-4-405, MCA. Each of the elements required to be addressed in the economic impact statement is outlined below.

#### a) Affected Classes of Persons

Describe the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule. Refer to § 2-4- 405 (2)(a), MCA.

The classes of persons affected by the rule changes include individuals from the following groups: school district trustees, K-12 school administrators, K-12 teachers (particularly World Languages educators), school counselors, school librarians, school clerks/business officials, parents, and taxpayers.

Costs associated with the rule changes are the responsibility of local school districts.

The beneficiaries of the rule changes are trustees, administrators, teachers, and students of local school districts, as well as Montana communities served by accredited schools.

## **b) Economic Impact**

Describe the probable economic impact of the proposed rule upon affected classes of persons, including but not limited to providers of services under contracts with the state and affected small businesses, and quantify, to the extent practicable, that impact. Refer to § 2-4405 (2)(b), MCA.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed amendments for the World Languages Content Standards, (10.53.14/10.54.85) with a single survey, sent in multiple manners as listed previously. The three individuals who responded comprised of a teacher, superintendent, and district curriculum director.

The summary results of the surveys are shown in <u>Appendix A</u>.

## Cost to State Agencies

Describe and estimate the probable costs to the agency and any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue. Refer to 2-4- 405 (2)(c), MCA

The Office of Public Instruction (OPI), per <u>§ 20-7-101, MCA</u>, has incurred costs associated with the task force, including in-person meetings for writing and development. The approximate total for conducting the task force's work is about \$7,500 for the in-person writing days. The negotiated rulemaking process, including contracting with a facilitator and convening the NRC. The total cost to the OPI for the negotiated rulemaking process is approximately \$8,000. In looking to create guidance documents to support integration, the agency is anticipating about \$4,000 in related costs. Outside of agency staff wages aligned with their job responsibilities, this brings the total estimated cost to \$19,500.

The BPE is responsible for filing fees of notices of public hearing of proposed rule changes and publication fees of notices of adoption and amendments with the Secretary of State at \$60 per page. The costs associated with board member attendance at public hearings will be paid within the existing budget of the BPE.

## c) Costs and Benefits of the Proposed Rule

Analyze and compare the costs and benefits of the proposed rule to the costs and benefits of inaction. Refer to 2-4-405 (2)(d), MCA.

Based on legislative action, the State Superintendent initiated the process of amending the accreditation and aligning content standards. The agency did not undertake an analysis of the costs and benefits of "inaction."

# d) Less Costly or Less Intrusive Methods

Are there less costly or less intrusive methods for achieving the purpose of the proposed rule? Refer to § 2-4-405 (2)(e), MCA.

There is no less costly or less intrusive method for achieving the purpose of the proposed rule changes.

## e) Selection of Proposed Rule

Analyze any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule. Refer to § 2-4-405 (2)(f), MCA.

After exploring alternative methods to achieve the proposed rule's purpose, it was determined that given the substantial influence of content standards on school quality and instruction, especially in the realm of World Languages education, and the statutory requirement for negotiated rulemaking, no alternative method would sufficiently produce content standards based on learner outcomes conducive to educational excellence.

# f) Efficient Allocation of Public and Private Resources

Does the proposed rule represent an efficient allocation of public and private resources? Refer to 2-4-405 (2)(g), MCA.

The proposed new rules do not involve any specific allocation of public and private resources.

# Conclusion

The NRC, through consensus, determined that the rule amendments should be surveyed. <u>Appendix A</u> shows the responses and the demographics of those who completed the survey. No specific comments were made about the individual rule amendments, just overall impressions of the probable economic impact.

The stakeholders shared that their textbooks are significantly outdated, and they require new instructional materials such as books and audio/visual aids to align with American Council on the Teaching of Foreign Languages (ACTFL) standards. This entails potentially making curricular purchases for new language offerings and developing materials to support their existing programs, like the Blackfeet Language curriculum. Some schools rely on world language instruction solely facilitated through Montana Digital Academy, as they lack the necessary staff and materials for in-person instruction on campus. Survey participants indicate that the estimated cost for implementing these standards ranges from minimal expenses to potentially up to \$10,000.

The core impact on educators revolves around the time and funding required for professional learning on the ACTFL standards as they align with the Montana content standards. Suggestions for virtual learning, including a Montana Teacher Learning HUB course, were suggested as an avenue to reach teachers in a timely and cost-effective manner.

The Superintendent's recommendations to the BPE will be evaluated by the BPE and then facilitated through the Montana Administrative Procedure Act (MAPA) process before any adoption of proposed standards changes are implemented.

# Appendix A – Economic Impact Survey Responses



Please share your role in the district you serve or reside in

Please identify the size of the district you serve:

3 responses



Please indicate the grade band(s) you serve: 3 responses



Do you anticipate that your district will be able to meet the proposed world languages content standards with existing resources?

3 responses





Would the proposed standards impose a cost for instructional materials beyond that required to implement the current world languages content standards? <sup>3</sup> responses



What increase in total dollars would be required to cover the cost associated with Instructional Materials? (best estimate)

3 responses



#### If you answered "yes, please provide additional information:

- Our textbooks are significantly outdated, necessitating the acquisition of new instructional materials such as books, audio/visual aids, etc., to meet ACTFL standards.
- Curriculum purchases are required for new language offerings and the development of materials to support our existing language program, particularly the Blackfeet Language curriculum.
- Foreign language instruction is exclusively provided through Montana Digital Academy due to a lack of staff and materials for in-person instruction on campus.

Would the proposed standards impose a cost for personnel beyond what is required to implement the current standards?

3 responses



#### If you answered "yes, please provide additional information:

• We do not provide on-site, in-person foreign language instruction. We only utilize MTDA.

Does your district currently have staffing to support World Language instruction? 3 responses



# Please share any relevant information about your district's personnel needs for World Languages.

• I am a high school Spanish teacher in addition to being a high school English teacher. I am only able to offer two Spanish classes, so higher levels are unavailable to students.

Will your district have difficulty funding professional development opportunities for world languages educators to support implementation of the rule amendments? <sup>3 responses</sup>



# What type, format, and frequency of professional development would be needed to support the implementation of the proposed World Languages standards?

- Training in ACTFL assessment strategies, comprehensible input, etc.
- Initial training of the revised content standards, ongoing follow-up training throughout the school year for staff, and implementation training for new staff
- Virtual instruction, College course work or Teacher Learning Hub opportunities would most likely be effective.

What are the time implications related to your district implementing the proposed World Languages Content Standards (professional development, reviewing resources, etc.)?

- Planning and feedback time would need to be increased in order to be able to facilitate World Language courses that meet the proposed standards. Time would need to be allotted to review resources and potentially select new ones.
- 18-24 hours
- This would be a very time-sensitive circumstance for us.

# Appendix B: World Languages Revision Task Force Members

Task Force Members	Roles	Location
Adrienne Barnes, M.A.	Writing and Review Teams	Polson
Dr. Galen Brokaw	Writing and Review Teams	Bozeman
Dr. Patricia Catoira	Writing Team	Bozeman
Lachelle Davis-Monnett	Writing Team	Kalispell
Naomi Delaloye, M.A.	Writing Team	Whitefish
Brooke Gardner, M.A.	Writing Team	Whitefish
Dr. Dora LaCasse	Review Team	Missoula
M. Alice Nation, M.A.	Writing and Review Teams	Billings
Dr. Velma Pretty On Top	Writing Team	Crow Agency
Brandy Reinhardt	Writing Team	Missoula
Tabitha Smail, M.A.	Writing Team	Helena
Lisa Werner, M.A.	Writing and Review Teams Lewistown	
Dr. Cecily Whitworth	Writing Team Missoula	
Dr. Megan Wong	Writing Team	Bozeman

# Appendix C: Negotiated Rulemaking Committee (NRC)

Member	NRC Role	Location
Charlene Jonsson	K-12 Teacher	Savage
Carolyn Rusche	Instructional Coach, Montana Tribe Representative	Shepard
Norah Barney	K-12 School Administrator, Curriculum Director	Anaconda
Garth Sleight	Higher Education	Miles City
Erik Pritchard	K-12 Teacher	Helena
Kerri Norrick	School District Trustee, K-12 Educator, Parent	Bozeman
Kevin Kicking Woman	K-12 Teacher, Montana Tribe Representative	Browning
Carrie Fisher	School Business Official	Belgrade
Kathy Milodragovich	School District Trustee, Retired Educator	Butte
Julie Murgel	OPI	Helena
Christy Mock-Stutz	OPI	Helena

# **Appendix D: Office of Public Instruction Project Leadership**

Elsie Arntzen, Superintendent of Public Instruction Christy Mock-Stutz, Assistant Superintendent Julie Murgel, Chief Program Officer Marie Judisch, Teaching and Learning Senior Manager Stephanie Swigart, English Language Arts & Literacy Instructional Coordinator Michelle McCarthy, Science Instructional Coordinator Sheri Harlow, Administrative Support

# BEFORE THE BOARD OF PUBLIC EDUCATION OF THE STATE OF MONTANA

In the matter of the adoption of New	)	NOTICE OF PUBLIC HEARING ON
Rules I-VIII; and repeal of rules	)	PROPOSED ADOPTION AND
10.54.8510, 10.54.8511, 10.54.8512,	)	REPEAL
10.54.8513, 10.54.8520, 10.54.8521,	)	
10.54.8522, 10.54.8523, 10.54.8530,	)	
10.54.8531, 10.54.8532, 10.54.8533,	)	
10.54.8540, 10.54.8541, 10.54.8542,	)	
10.54.8543, 10.54.8550, 10.54.8551,	)	
10.54.8552, 10.54.8553, 10.54.8560,	)	
10.54.8561, 10.54.8562, 10.54.8563,	)	
10.54.8570, 10.54.8571, 10.54.8572,	)	
10.54.8573, 10.54.8580, 10.54.8581,	)	
10.54.8582, 10.54.8583, 10.54.8590,	)	
10.54.8591, 10.54.8592, 10.54.8593,	)	
10.54.8607, 10.54.8608, 10.54.8609,	)	
10.54.8610, 10.54.8611, 10.54.8612,	) <	
10.54.8613, 10.54.8614, 10.54.8615,		
10.54.8616, 10.54.8617 and	)	
10.54.8618	)	

TO: All Concerned Persons

1. On [Month Day, 2024, at [Time]:00 [a.m./p.m.], the Board of Public Education will hold a public hearing in Room [###] of [Building], at Helena, Montana, to consider the proposed adoption, amendment, and repeal of the above-stated rules.

2. The Board of Public Education will make reasonable accommodations for persons with disabilities who wish to participate in this rulemaking process or need an alternative accessible format of this notice. If you require an accommodation, contact Board of Public Education no later than 5:00 p.m. on Month Day, 2024, to advise us of the nature of the accommodation that you need. Please contact McCall Flynn, Executive Director, Board of Public Education, 46 N Last Chance Gulch, Suite 2B, PO Box 200601, Helena, MT 59620-0601; telephone (406) 444-0300; fax (406) 444-0847; or e-mail bpe@mt.gov.

3. The rules as proposed to be adopted provide as follows:

# <u>NEW RULE I WORLD LANGUAGE CONTENT STANDARD 1 -</u> COMMUNICATION

(1) Communicate effectively in more than one language in order to function in a variety of situations and for multiple purposes;

(a) interpersonal communication: learners interact and negotiate meaning in spoken, signed, or written conversations to share:

(i) information;

(ii) reactions;

(iii) feelings; and

(iv) opinions.

(b) interpretive communication: when learners hear, read, or view a variety of topics in the target language they can:

(i) understand a variety of topics;

(ii) interpret a variety of topics; and

(iii) analyze a variety of topics.

(c) presentational communication: learners present information, concepts,

and ideas pertaining to a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers in order to:

(i) inform;

(ii) explain;

(iii) persuade; and

(iv) narrate.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# NEW RULE II WORLD LANGUAGE CONTENT STANDARD 2 - CULTURES

(1) Interact with cultural competence and understanding;

(a) relating cultural practices to perspectives: learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied, and, where appropriate, the cultures of Montana Indigenous Tribes; and

(i) relating cultural products to perspectives: learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied, and, where appropriate, the cultures of Montana Indigenous Tribes.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# <u>NEW RULE III WORLD LANGUAGE CONTENT STANDARD 3 -</u> <u>CONNECTIONS</u>

(1) Connect with other disciplines and acquire information and diverse perspectives, including Montana Tribes, in order to use the language to function in academic and career-related situations;

(a) making connections: learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and solve problems creatively; and

(b) acquiring information and diverse perspectives: learners access and evaluate information and diverse perspectives that are available through studying the language and its cultures. AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# <u>NEW RULE IV WORLD LANGUAGE CONTENT STANDARD 4 -</u> <u>COMPARISONS</u>

(1) Develop insight into the nature of language and culture to interact with cultural competence, with a particular emphasis on Montana Indigenous cultures;

(a) language comparisons: learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied, their own language, and, when appropriate, Montana Indigenous Languages; and

(b) cultural comparisons: learners use the language to investigate, explain, and reflect on the concept of culture through comparisons between the cultures, their own way of life, and Montana Indigenous culture's history, diversity, and sovereignty.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# <u>NEW RULE V WORLD LANGUAGE CONTENT STANDARD 5 -</u> <u>COMMUNITIES</u>

(1) Communicate and interact with cultural competence in order to participate in multilingual communities at home and around the world;

(a) school, local, and global communities: learners use the language, both within and beyond the classroom, to interact and collaborate with their local, state, and global communities, including Montana Indigenous Nations.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# NEW RULE VI WORLD LANGUAGES PERFORMANCE DESCRIPTORS AT THE NOVICE LEVEL

(1) At the novice level for the interpersonal mode of communication, a language learner expresses self in conversations on very familiar topics using a variety of words, phrases, simple sentences, and questions that have been highly practiced and memorized. A learner:

(a) can ask highly predictable and formulaic questions and respond to such questions by listing, naming, and identifying;

(b) may show emerging evidence of the ability to engage in simple conversation;

(c) is able to function in some personally relevant contexts on topics that relate to basic biographical information;

(d) may show emerging evidence of the ability to communicate in highly practiced contexts related to oneself and one's immediate environment;

(e) understands and produces highly practiced words and phrases and an occasional sentence. Able to ask formulaic or memorized questions;

(f) can usually comprehend highly practiced and basic messages when supported by visual or contextual clues, redundancy or restatement, and when the message contains familiar structures;

(g) can control memorized language sufficiently to be appropriate to the context and understood by those accustomed to dealing with language learners, however at times with difficulty;

(h) is able to understand and produce a number of high-frequency words, highly practiced expressions, and formulaic questions;

(i) may use some or all of the following strategies to maintain communication, able to:

(i) imitate modeled words;

(ii)Use facial expressions and gestures;

(iii) Repeat words;

(iv) Resort to first language;

(v) Ask for repetition; and

(vi) Indicate lack of understanding

(j) may use culturally appropriate gestures and formulaic expressions in highly practiced applications. May show awareness of the most obvious cultural differences or prohibitions, but may often miss cues indicating miscommunication.

(2) At the novice level for the interpretive mode of communication, a language learner understands words, phrases, and formulaic language that have been practiced and memorized to get the meaning of the main idea from simple, highly predictable oral or written texts, with strong visual support. A learner:

(a) comprehends meaning through recognition of key words and phrases;

(b) may show emerging evidence of the ability to make inferences based on background and prior knowledge;

(c) comprehends texts with highly predictable, familiar contexts (those related to personal background, prior knowledge, or experiences);

(d) derives meaning when authentic texts (listening, reading, or viewing) are supported by visuals or when the topic is very familiar;

(e) comprehends texts ranging in length from lists, to phrases, to simple sentences, often with graphically organized information;

(f) primarily relies on vocabulary to derive meaning from texts;

(g) may derive meaning by recognizing structural patterns that have been used in familiar and some new contexts;

(h) comprehends some, but not all of the time, highly predictable vocabulary, a limited number of words related to familiar topics, and formulaic expressions;

(i) may use some or all of the following strategies to comprehend texts:

(i) skim and scan;

(ii) rely on visual support and background knowledge;

(iii) predict meaning based on context, prior knowledge, and experience;

(iv) for alphabetic languages:

(A) rely on recognition of cognates;

(B) may recognize word family roots, prefixes, and suffixes; and

(j) uses own culture to derive meaning from texts that are heard, read, or viewed.

(3) At the novice level for the presentational mode of communication, a language learner communicates information on very familiar topics using a variety of words, phrases, and sentences that have been practiced and memorized. A learner:

(a) presents simple, basic information on very familiar topics by producing words, list, notes, and formulaic language using highly practiced language;

(b) may show emerging evidence of the ability to express own thoughts and preferences;

(c) creates messages in some personally relevant contexts on topics that relate to basic biographical information;

(d) may show emerging evidence of the ability to create messages in highly practiced contexts related to oneself and their immediate environment;

(e) produces words and phrases and highly practiced sentences or formulaic questions;

(f) produces memorized language that is appropriate to the context; limited language control may require a sympathetic audience to be understood;

(g) with practice, polish, or editing, may show emerging evidence of Intermediate-level language control;

(h) produces a number of high-frequency words and formulaic expressions; able to use a limited variety of vocabulary on familiar topics;

(i) may use some or all of the following strategies to communicate:

(i) rely on a practiced format;

(ii) use facial expressions and gestures;

(iii) repeat words;

(iv) resort to first language;

(v) use graphic organizers to present information;

(vi) rely on multiple drafts and practice sessions with feedback;

(vii) support presentational speaking with visuals and notes; and

(viii) support presentational writing with visuals or prompts; and

(j) may use some memorized culturally appropriate gestures, formulaic expressions, and basic writing conventions.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# NEW RULE VII WORLD LANGUAGES PERFORMANCE DESCRIPTORS AT THE INTERMEDIATE LEVEL

(1) At the intermediate level for the interpersonal mode of communication, a language learner expresses oneself and participates in conversations on familiar topics using sentences and series of sentences. Handles short social interactions in everyday situations by asking and answering a variety of questions. Can communicate about self, others, and everyday life. A learner:

(a) can communicate by understanding and creating personal meaning;

(b) can understand, ask, and answer a variety of questions;

(c) consistently is able to initiate, maintain, and end a conversation to satisfy basic needs and/or to handle a simple transaction;

(d) may sow emerging evidence of the ability to communicate about more than the "here and now";

(e) is able to communicate in contexts relevant to oneself and others, and one's immediate environment;

(f) may show emerging evidence of the ability to communicate in contexts of occasionally unfamiliar topics;

(g) is able to understand and produce discrete sentences, strings of sentences, and some connected sentences. able to ask questions to initiate and sustain conversations;

(h) understands straightforward language that contains mostly familiar structures;

(i) has control of language sufficient to be understood by those accustomed to dealing with language learners;

(j) communicates using high-frequency and personalized vocabulary within familiar themes or topics;

(k) uses some of the following strategies to maintain communication, but not all of the time and inconsistently, able to:

(i) ask questions;

(ii) ask for clarification;

(iii) self-correct or restate when not understood; and

(iv) circumlocute; and

(I) recognizes and uses some culturally appropriate vocabulary, expressions, and gestures when participating in everyday interactions. Recognizes that differences exist in cultural behaviors and perspectives and can conform in familiar situations.

(2) At the intermediate level for the interpretive mode of communication, a language learner understands main ideas and some supporting details on familiar topics from a variety of texts. a learner:

(a) comprehends main ideas and identifies some supporting details;

(b) may show emerging evidence of the ability to make inferences by identifying key details from the text;

(c) comprehends information related to basic personal and social needs and relevant to one's immediate environment such as self and everyday life, school, community, and particular interests;

(d) comprehends simple stories, routine correspondence, short descriptive texts, or other selections within familiar contexts;

(e) generally comprehends connected sentences and most paragraph-like discourse;

(f) comprehends information-rich texts with highly predictable order;

(g)has sufficient control of language (vocabulary, structures, conventions of spoken and written language, etc.) to understand fully and with ease short, non-complex texts on familiar topics; limited control of language to understand some more complex texts;

(h) may derive meaning by:

(i) comparing target language structures with those of their native language; and

(ii) recognizing parallels in structure between new and familiar language;

(i) comprehends high-frequency vocabulary related to everyday topics and high-frequency idiomatic expressions;

(j) uses some or all of the following strategies to comprehend texts: (i) skim and scan:

(ii) use visual support and backs

(ii) use visual support and background knowledge;

(iii) predict meaning based on context, prior ;knowledge, and/or experience;

(iv) use context clues; and

(v) recognize word family roots, prefixes, and suffixes;

(k) for non-alphabetic languages, recognize radicals; and

(I) generally rely heavily on knowledge of own culture with increasing knowledge of the target culture(s) to interpret texts that are heard, read, or viewed.

(3) At the intermediate level for the presentational mode of communication, a language learner communicates information and expresses own thoughts about familiar topics using sentences and series of sentences. a learner:

(a) expresses own thoughts and presents information and personal preferences on familiar topics by creating with language primarily in present time;

(b) may show emerging evidence of the ability to tell or retell a story and provide additional description; (c) creates messages in contexts relevant to oneself and others, and one's immediate environment;

(d) may show emerging evidence of the ability to create messages on general interest and work-related topics;

(e) produces sentences, series of sentences, and some connected sentences;

(f) control of language is sufficient to be understood by audiences accustomed to language produced by language learners;

(g) with practice, polish, or editing, may show emerging evidence of advanced-level language control;

(h) produces vocabulary on a variety of everyday topics, topics of personal interest, and topics that have been studied;

(i) may use some or all of the following strategies to communicate and maintain audience interest, able to:

(i) show an increasing awareness of errors and able to self-correct or edit;

(ii) use phrases, imagery, or content;

(iii) simplify;

(iv) use known language to compensate for missing vocabulary;

(v) use graphic organizer; and

(vi) use reference resources as appropriate; and

(j) uses some culturally appropriate vocabulary, expressions, and gestures. reflects some knowledge of cultural differences related to written and spoken communication.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# NEW RULE VIII WORLD LANGUAGES PERFORMANCE DESCRIPTORS AT THE ADVANCED LEVEL

(1) At the advanced level for the interpersonal mode of communication, a language learner expresses self fully to maintain conversations on familiar topics and new concrete social, academic, and work-related topics. Can communicate in

paragraph-length conversations about events with detail and organization. Confidently handles situations with an unexpected complication. Shares point of view in discussions. A learner:

(a) can communicate with ease and confidence by understanding and producing narrations and descriptions in all major time frames and deal efficiently with a situation with an unexpected turn of events;

(b) may show emerging evidence of the ability to participate in discussions about issues beyond the concrete;

(c) functions fully and effectively in contexts both personal and general;

(d) content areas include topics of personal and general interest (community, national, and international events) as well as work-related topics and areas of special competence;

(e) may show emerging evidence of the ability to communicate in more abstract content areas;

(f) able to understand and produce discourse in full oral paragraphs that are organized, cohesive, and detailed. Able to ask questions to probe beyond basic details;

(g) language control is sufficient to interact efficiently and effectively with those unaccustomed to dealing with language learners;

(h) consistent control of basic high-frequency structures facilitates comprehension and production;

(i) comprehends and produces a broad range of vocabulary related to school, employment, topics of personal interest, and generic vocabulary related to current events and matters of public and community interest;

(j)uses a range of strategies to maintain communication, able to:

(i) request clarification;

(ii) repeat;

(iii) restate;

(iv) rephrase; and

(i) circumlocute; and

(k) understands and uses cultural knowledge to conform linguistically and behaviorally in many social and work-related interactions. Shows conscious awareness of significant cultural differences and attempts to adjust accordingly.

(2) At the advanced level for the interpretive mode of communication, a learner understands main ideas and supporting details on familiar and some new, concrete topics from a variety of more complex texts that have a clear, organized structure. A learner:

(a) comprehends the main idea and supporting details of narrative, descriptive, and straightforward persuasive texts;

(b) makes inferences and derives meaning from context and linguistic features;

(c) comprehends texts pertaining to real-world topics of general interest relevant to personal, social, work-related, community, national, and international contexts;

(d) comprehends paragraph discourse such as that found in stories, straightforward literary works, personal and work-related correspondence, written reports or instructions, oral presentations (news), anecdotes, descriptive texts, and other texts dealing with topics of a concrete nature;

(e) sufficient control of language (vocabulary, structures, conventions of spoken and written language, etc.) to understand fully and with ease more complex and descriptive texts with connected language and cohesive devices;

(f) derives meaning by:

(i) understanding sequencing, time frames, and chronology; and

(ii) classifying words or concepts according to word order or grammatical use;

(g) comprehends generic and some specific vocabulary and structures, specialized and precise vocabulary on topics related to one's experience, and an expanding number of idiomatic expressions;

(h) comprehends fully the intent of the message adapting strategies for one's own purposes; uses some or all of the following strategies, able to:

(i) skim and scan;

(ii) use visual support and background knowledge;

(iii) predict meaning based on context, prior knowledge, and/or experience;

(iv) use context clues;

(v) use linguistic knowledge;

(vi) identify the organizing principle of the text;

(vii) create inferences; and

(viii) differentiate main ideas from supporting details in order to verify; and

(i) uses knowledge of cultural differences between own culture and target culture(s) as well as increasing knowledge of the target culture(s) to interpret texts that are heard, read, or viewed.

(3) At the advanced level for the presentational mode of communication, a learner communicates information and expresses self with detail and organization on familiar and some new concrete topics using paragraphs. A learner:

(a) Produces narrations and descriptions in all major time frames on familiar and some unfamiliar topics;

(b) May show emerging evidence of the ability to provide a well-supported argument, including detailed evidence in support of a point of view;

(c) Creates messages fully and effectively in contexts both personal and general;

(d) Content areas include topics of personal and general interest (community, national, and international events) as well as work-related topics and areas of special competence;

(e) May show emerging evidence of the ability to create messages in more abstract content areas;

(f) Produces full paragraphs that are organized and detailed;

(g) Control of high-frequency structures is sufficient to be understood by audiences not accustomed to language of language learners;

(h) With practice, polish, or editing, shows evidence of Advanced-level control of grammar and syntax;

(i) Produces a broad range of vocabulary related to topics of personal, public, and community interest, and some specific vocabulary related to areas of study or expertise; (j) May use some or all of the following strategies to communicate and maintain audience interest, able to:

(i) Demonstrate conscious efforts at self-editing and correction;

(ii) Elaborate and clarify;

(iii) Provide examples, synonyms, or antonyms;

(iv) Use cohesion, chronology, and details to explain or narrate fully; and

(v) Circumlocute; and

(k) Uses cultural knowledge appropriate to the presentational context and increasingly reflective or authentic cultural practices and perspectives.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

4. The Board of Public Education proposes to repeal the following rules:

10.54.8510 WORLD LANGUAGES CONTENT STANDARD 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8511</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8512 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8513 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 1 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8520 WORLD LANGUAGES CONTENT STANDARD 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8521</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA

IMP: 20-2-121, MCA

# 10.54.8522 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# 10.54.8523 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 2 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.54.8530 WORLD LANGUAGES CONTENT STANDARD 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# <u>10.54.8531</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# <u>10.54.8532</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8533 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 3 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

## 10.54.8540 WORLD LANGUAGES CONTENT STANDARD 4

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

## <u>10.54.8541</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8542 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8543</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 4 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8550 WORLD LANGUAGES CONTENT STANDARD 5

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8551 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8552</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8553</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 5 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8560 WORLD LANGUAGES CONTENT STANDARD 6

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8561</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 6 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

### 10.54.8562 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 6 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

## 10.54.8563 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 6 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.54.8570 WORLD LANGUAGES CONTENT STANDARD 7

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# <u>10.54.8571</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 7 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# 10.54.8572 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 7 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# 10.54.8573 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 7 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

## 10.54.8580 WORLD LANGUAGES CONTENT STANDARD 8

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

# <u>10.54.8581</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA
#### 10.54.8582 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.54.8583 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 8 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.54.8590 WORLD LANGUAGES CONTENT STANDARD 9

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### <u>10.54.8591</u> BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 9 FOR END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8592 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 9 FOR END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8593 BENCHMARK FOR WORLD LANGUAGES CONTENT STANDARD 9 FOR END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8607</u> ADVANCED WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8608</u> PROFICIENT WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

MAR Notice No. 10-53-XXX

10.54.8609 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8610 NOVICE WORLD LANGUAGES PERFORMANCE</u> STANDARDS FOR THE END OF BENCHMARK 1

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8611 ADVANCED WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8612 PROFICIENT WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8613 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8614</u> NOVICE WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 2

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

10.54.8615 ADVANCED WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

<u>10.54.8616</u> PROFICIENT WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

MAR Notice No. 10-53-XXX

#### 10.54.8617 NEARING PROFICIENCY WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.54.8618 NOVICE WORLD LANGUAGES PERFORMANCE STANDARDS FOR THE END OF BENCHMARK 3

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

REASON: By authority of 20-7-101, MCA, Standards of Accreditation for all schools are adopted by the Board of Public Education upon the recommendation of the Superintendent of Public Instruction. The board considers recommendations for revision of the policies at any time it deems necessary and conducts a comprehensive review of standards of accreditation policies on a regular cycle to ensure that such policies are meeting the needs of the state. There have been numerous revisions over the last decade, but the last comprehensive review was in 2013.

The Office of Public Instruction facilitated the comprehensive review process to amend ARM Title 10, chapter 53, Standards of Accreditation, with input from a task force and negotiated rulemaking committee comprised of education stakeholders appointed by the superintendent.

Based on recommendations from the task force and the negotiated rulemaking committee, the superintendent has proposed new rules specific to charter school applications, family and community engagement, mentorship and induction, evaluation, and English learners. The superintendent has proposed comprehensive amendments to existing rules to clarify language and process; clarify and add necessary definitions; clarify and amend school district policy requirements; add and define student performance and provide transparency to the accreditation process; address the process for application for variance to accreditation standards; clarify the categories of accreditation and the consequences for deficiencies; delineate the procedures used by the Office of Public Instruction when reviewing accreditation status, program, and assurance standards; and update program foundation standards. Other amendments are made for consistency with other Board of Public Education rules.

5. Concerned persons may submit their data, views, or arguments either orally or in writing at the hearing. Written data, views, or arguments may also be submitted to: McCall Flynn, Executive Director, Board of Public Education, 46 N Last Chance Gulch, Suite 2B; PO Box 200601, Helena, MT 59620-0601; telephone (406) 444-0300; fax (406) 444-0847; or e-mail bpe@mt.gov, and must be received no later than 5:00 p.m., Month Day, 2022.

6. McCall Flynn, Executive Director, Board of Public Education, has been designated to preside over and conduct this hearing.

7. The Board of Public Education maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, e-mail, and mailing address of the person to receive notices and specifies for which program the person wishes to receive notices. Notices will be sent by e-mail unless a mailing preference is noted in the request. Such written request may be mailed or delivered to the contact person in #5 above or may be made by completing a request form at any rules hearing held by the Board of Public Education.

8. An electronic copy of this proposal notice is available through the Secretary of State's web site at http://sos.mt.gov/ARM/Register. The Secretary of State strives to make the electronic copy of the notice conform to the official version of the notice, as printed in the Montana Administrative Register, but advises all concerned persons that in the event of a discrepancy between the official printed text of the notice and the electronic version of the notice, only the official printed text will be considered. In addition, although the Secretary of State works to keep its web site accessible at all times, concerned persons should be aware that the web site may be unavailable during some periods, due to system maintenance or technical problems.

9. The bill sponsor contact requirements of 2-4-302, MCA, do not apply.

10. With regard to the requirements of 2-4-111, MCA, the Board of Public Education has determined that the amendment of the above-referenced rules will not significantly and directly impact small businesses.

<u>/s/ McCall Flynn</u> McCall Flynn Rule Reviewer

<u>/s/</u> Tim Tharp Chair Board of Public Education

Certified to the Secretary of State [Month Day, 20##].

# **ITEM 19**

# INITIAL REVIEW OF SUPERINTENDENT'S PROPOSED REVISIONS TO ARM TITLE 10, CHAPTER 53, MATHEMATICS CONTENT STANDARDS

Marie Judisch

# Montana Board of Public Education Executive Summary

Date: May 2024

Presentation	Mathematics Content Standards Revision
Presenter	Marie Judisch
Position Title	Senior Manager of Teaching and Learning Montana Office of Public Instruction
Overview	<ul> <li>Review of Proposed Rules: Math Content</li> <li>Standards – Title 10, Chapter 53, Subchapter 5 <ul> <li>Amend K-12 Mathematical Practices</li> <li>Amend K-8 Content Standards</li> <li>Repeal Former 9-12 Content Standards</li> <li>Adopt New 9-12 Content Standards</li> </ul> </li> </ul>
Requested Decision(s)	Informational Item
Related Issue(s)	Content Standards, Accreditation
Recommendation(s)	None



#### Elsie Arntzen, Superintendent

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# Proposed Amendments to the Administrative Rules of Montana Mathematics Content Standards, Chapter 10.53 Subchapter 5

Submitted [date], 2024 by the Superintendent of Public Instruction

Prepared for: The Montana Board of Public Education

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# **Overview**

The Superintendent of Public Instruction, with approval from the Montana Board of Public Education (BPE), in late 2022 opened for review the Montana Mathematics Standards detailed in Chapter 10.53.5 of the Administrative Rules of Montana (ARM)<sup>1</sup>. The purpose of the review is to ensure that Montana public schools are setting high academic standards for all children of our state. The goal is to serve our Montana students and educators with the best possible mathematics standards to guide instruction and prepare our students for their lives beyond the classroom. This document provides for consideration of the BPE the Superintendent's recommended amendments and updates to the Math Standards. It includes an introduction to Montana's math content standards; a summary of the research and review and revision activities that informed the Superintendent's consideration and deliberation with instructional partners; the Superintendent's proposed changes, consisting of both the rationales for the changes and their proposed specific language (i.e., ARM "redlines"); and a draft economic impact statement for the proposed amendments as required by Montana Code Annotated (MCA) 2021 2-4.405.

<sup>&</sup>lt;sup>1</sup> See <u>https://rules.mt.gov/gateway/Subchapterhome.asp?scn=10%2E53.5</u>

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# Introduction

The Superintendent of Public Instruction, supported by staff of the Montana Office of Public Instruction (OPI), launched a comprehensive process to review, revise, and update Montana's Math Standards. The Superintendent's vision was to both respond to the declining performance of Montana students on math assessments, particularly since the COVID-19 pandemic, and to make the Math Standards more approachable and understandable by families and other non-educators while retaining rigor and high expectations for students. Specifically, the Superintendent sought to improve the standards to provide **simplicity**, **practicality**, and **clarity**. Montana's Math Standards should consist of fewer standards focused on specific learning goals and written in clear and concise language for students, parents/guardians, and educators. The Superintendent also sought to increase a focus on critical concepts and **mathematical practices**, authentically integrate the **cultural heritage of Montana Indigenous Peoples**, and identify ways to more effectively integrate **early numeracy and number sense** at the K-5 level, as well as consider the inclusion of **data science**, **financial literacy**, **and new math pathways** at the secondary level. The Superintendent seeks to foster increased **educator confidence**, **student capacity**, and **parent/guardian/community understanding** of math teaching and learning in Montana.

# **Historical Context**

Montana educators have worked since the 1980s to develop statewide standards in math and other subject areas, informed by work by national professional associations such as the National Council for Teachers of Mathematics. This work was periodically given extra impetus through federal influence or requirements. For example, the federal Title 1 program for low-income students who needed additional help in reading and math required all states to have state standards in reading and math by 1998. In 2011, again with pressure from the federal government and with input from Montana educators, the BPE adopted math standards based on the Common Core<sup>1</sup>. Details of Montana's current Math Standards can be found in ARM Chapter 10.53.5<sup>1</sup>, as well as in guidance documents provided by OPI<sup>2</sup>.

The Math Standards influence and guide such matters as the preparation and professional, curriculum adoption, assessment, and math pathways for older students. The amendments and updates proposed in this document are focused on keeping the legacy of this thoughtful work by earlier educators and instructional partners while evolving Montana's Math Standards to be more approachable for the public and supporting teachers and schools to continually improve to **put Montana students first**.

<sup>&</sup>lt;sup>2</sup> See

https://opi.mt.gov/Portals/182/Page%20Files/School%20Accreditation/N%20Rulemaking%2010.55.701/Negotiated%20Rulemaking%20Process%20Overview%20 1-17-2019.pdf?ver=2019-01-23-133811-320

# **Summary of Research and Review Activities**

As guided by the rulemaking policy of OPI<sup>2</sup> and summarized in Table 1 below, the Superintendent and OPI staff organized and implemented a series of formal and informal, internal and external research and instructional partner engagement activities to facilitate the development of proposed revisions to Montana's Math Standards.

Table 1: ARM Ch. 55 Amendment Timeline<sup>3</sup>

Research and Review (OPI)	Revision (OPI)	Negotiated Rulemaking (OPI, BPE)	Adoption Phase (OPI, BPE)	Adoption (BPE)	Implementation
October 2022 through March 2023	April through August 2023	September through December 2023	January through June 2024	September 2024	July 2025

The first three steps (Research and Review, Revision, and Negotiated Rulemaking) are described in detail below. The remaining steps in the process are under the purview of the BPE, although OPI staff will support the BPE as it carries out its responsibilities in considering the Superintendent's proposed changes and moving forward with those recommendations that they accept.

## **Research and Review Phase**

Beginning in the fall of 2022, the Montana Office of Public Instruction (OPI) conducted preliminary research to guide the review and revision process. This included OPI staff engaging staff of the Regional Educational Laboratory Northwest (REL Northwest) to prepare summaries of research and evidence on math teaching and learning and collecting samples of math standards used in other U.S. states and Canadian provinces. Through this review, opportunities for enhancements to Montana's accreditation standards were identified. Specifically, four key opportunities were articulated:

<sup>&</sup>lt;sup>3</sup> Shared as information item at BPE meeting on 11/18/21

#### 1. Promote simplicity, clarity, and practicality in Montana Math Standards.

Content standards are of greatest interest and utility to professional educators and the organizations that prepare and employ them. That said, the Superintendent felt the standards had more detail than was necessary in places. Streamlining the standards to remove any duplication or unnecessary detail would make them not only more useful for educators but would also make them more easily understood and approachable by parents and members of the community. Detailed guidance and examples of math concepts could be retained and offered to educators in OPI guidance documents as elaborations of the standards while keeping the most essential language in ARM. This is an approach taken by several states and Canadian provinces that makes their math standards easier to parse and understand by both professional educators and the public.

#### 2. Revisit and refresh mathematical practices.

In adopting the Common Core State Standards for Mathematics in 2011, Montana also adopted the Common Core's standards for mathematical practice<sup>4</sup>. Mathematical practices refer to the habits, skills, and ways of thinking that are essential for effectively engaging with mathematics. They are meant to promote a deeper understanding of mathematics rather than just rote memorization of procedures. These practices help students become more proficient in math and better equipped to solve complex problems. They are designed to be integrated into the teaching and learning of mathematics, providing students with a deeper understanding of the subject and the ability to apply mathematical concepts in various contexts. They promote mathematical thinking and problem-solving skills that are essential in both educational and real-world settings. Mathematics professional groups have continued to research ways to improve math teaching and learning and have proposed updated configurations of mathematical practices. Reviewing Montana's Math Standards would provide an opportunity to review the original eight Mathematical Practices of the Common Core and see if there were any desirable updates or adjustments. The task force reviewed the recent work completed by the National Assessment of Educational Progress (NAEP) and discussed strategies to integrate the five mathematical practices they established in 2022.

<sup>&</sup>lt;sup>4</sup> See <u>ARM 10.53.501</u>.



#### 3. Update standards to include the most recent research and evidence on effective math teaching and learning.

As Montana's Math Standards were last updated in 2011, the Superintendent felt it was timely to review the standards for opportunities to incorporate the latest research on math teaching and learning. One specific example is an opportunity to integrate research on early numeracy and number sense at the K-5 level. At the secondary level, the Superintendent asked the Revision Task Force to consider if data science and financial literacy could be included in the standards as specific applications of math that are of growing statewide and national interest. Similarly, the Superintendent encouraged the Revision Task Force to consider ways secondary math pathways could better fit the college and career goals of Montana high schoolers.

#### 4. Authentically integrate IEFA into Montana's Math Standards.

Montana's current math standards include references to IEFA, but they can feel added as an afterthought. The Superintendent charged with the Revision Task Force to find ways to more authentically integrate math examples and practices that honor the diverse and rich legacy of Indigenous peoples in Montana. To that end, the OPI Indian Education for All and The Tribal Student Achievement, Relations, and Resiliency staff participated in convenings of the Revision Task Force and OPI set up a special working group to engage Tribal Education Department liaisons as advisors to the standards-writing process.

## **Revision Phase**

Informed by the research and opportunities for revision identified in the research and review phase described above, the Superintendent and OPI staff launched a Math Standards Revision Task Force. The Task Force consisted of both a Development Team and a Review Team composed of current and former Montana math teachers, higher education faculty, and other instructional partners (See Appendix A, B and C for a complete list). OPI recruited Task Force members from schools, institutions, and communities across the state to get a broad representation of school communities and sizes as well as a broad range of professional expertise in K-12 math instruction. The Development Team was tasked with using the research and data collected in the Research and Review phase to propose revisions to the Montana Math Standards. The Review Team was tasked with reviewing the work of the Development team and providing feedback that would inform the Negotiated Rulemaking Committee convened during the Negotiated Rulemaking phase.

OPI convened the Development Team several times virtually between May and November of 2023 and in person in Helena July 19-21, 2023. OPI convened the Review Team virtually several times between May and October. OPI used a specially developed course on the Teacher Learning Hub to train and connect members of the Task Force and provide a common workspace and file repository. OPI also posted information about the Revision Phase and the work of the Task Force on the OPI website. OPI staff worked with staff from the Region 17 Comprehensive Center at Education Northwest to design and facilitate inclusive, collaborative, and productive in-person and virtual work sessions. Subgroups of the Development Team periodically met on their own time without OPI presence or facilitation to continue their discussions and reviews of standards. OPI also worked with ad-hoc workgroups of Development and Review Team members to complete specific revision and review tasks, such as:

- Proposing a new set of Montana-specific mathematical practices;
- Designing guidance documents for OPI to use to provide educators with elaborations and detailed examples that support each standard that did not need to be added to ARM; and
- Aligning proposed revisions between different levels of standards (e.g., between K-5 and 6-8 standards and between 6-8 and 9-12 standards).

The Task Force generated a set of proposed revisions to the Montana State Math Standards with accompanying rationales for the changes. These included a new proposed set of mathematical practices that includes IEFA, added focus on early numeracy in the elementary grades, and a proposed reworking of course pathways in grades 9-12. The Content Standards Revision Team from OPI shared the drafted standards with the Montana Advisory Council on Indian Education (MACIE), asking for feedback on the general standards and specifically the task force's approach to authentic integration of Indian Education for All. OPI staff worked with members of the Task Force to refine their recommendations and rationales and prepare detailed ARM language (i.e., "redlines"). The proposed changes and rationales can be found in the "Superintendent's Recommended Revisions to Montana Math Standards" section.

# **Negotiated Rulemaking**

As required by (MCA) 2021 2.4.405 and building on the contributions and outputs of the research and review and revision phases, the Superintendent will convene a Negotiated Rulemaking Committee (NRC) to undertake an expanded public-engagement and fact-finding process to inform the articulation of her recommended revisions to the Montana Math Standards. The NRC consisted of the twelve members fulfilling the required roles, as listed in MCA (See Appendix D for a complete list)

# Superintendent's Recommended Revisions to Montana Math Standards

The Superintendent's recommended revisions to Montana's math standards are based on a thoughtful consideration of the myriad and intersecting conditions, inputs, challenges, and opportunities confronting public schools in Montana. They are informed by the research and instructional partner input collected through the methods described above, as well as the contributions of the Math Standards Task Force. The following sections provide the Superintendent's final recommended revisions, including both proposed detailed revision language (i.e., "redlines") and a rationale for each articulated by the Task Force and/or the Superintendent. It should be noted that the recommended revisions are ultimately the Superintendent's and reflect her prerogative and responsibility to present to the BPE those that she deems worth moving forward.

## Instructions for navigating this document:

### Structure:

Each grade level has a table presenting the proposed revisions.

In the **K-8 standards**, this information is presented in three columns. On the left, you will find the standard language as it currently exists in ARM. The center column presents the proposed revisions from the Superintendent, based on the work conducted by the Task Force and Negotiated Rulemaking Committee (NRC). The column located on the right presents the rationale for the changes. This rationale combines the reasoning from the two committee groups.

In the **9-12** standards, this information is presented in two columns. In addition to revising the individual standards, the 9-12 task force recommended a restructuring of the standards. When reviewing this set, you will notice that there are two groups of standards. The 2011 set, which has been proposed to be repealed, presents the previous standards from ARM in the left column. In the right column, you will find information regarding each standard's retention or omission from the proposed set of new standards, along with the rationale provided by the Task Force. Similarly, the proposed set of standards appears in two columns. The left column contains the proposed language and the right informs the reader whether the standard was adapted from the 2011 set or is a new standard and also provides a rationale for the proposals.

It is important to note that the structure of the standards as they are given in ARM, and how they are given in teacher guidance documents are significantly different.



While the teacher guidance documents from 2011 provide 'clusters' that group certain standards by their shared core concepts, the ARM language from 2011 does not. You may also notice that the sentence structure in ARM presents a different format than the guidance documents. ARM utilizes semicolons and presents the standards as a list, while the guidance documents provide the standards in formal sentence structure using capitals and varying punctuation. The last thing you will notice is that the guidance documents utilize a coding system for the standards to help with the organization of the standards. It is not necessary for the standards presented in guidance documents to have the same structure as appears in ARM. It should be noted that throughout revisions, the task force referred to the guidance documents that are primarily used by educators in the field and do not match the ARM structure. The development teams across K-12 intend to create dynamic guidance documents that present the standards in a clear and easy-to-follow way for educators and families. The following figures from the two types of documents illustrate this distinction:

CONTRACTORINAL PROPERTY.

### Figure 1<sup>5</sup>: Montana Kindergarten Standards ARM 10.53.502

#### 10.53.502 MONTANA KINDERGARTEN MATHEMATICS CONTENT STANDARDS

 Mathematics counting and cardinality standards for kindergarten are: (a) count to 100 by ones and by tens;

(b) count forward beginning from a given number within the known sequence (instead of having to begin at 1);

(c) write numbers from 0-20 and represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects);

(d) understand the relationship between numbers and quantities and connect counting to cardinality;

(i) when counting objects, say the number names in the standard order, pairing each

### Figure 2<sup>6</sup>: Guidance Document Presentation of Standards

### KINDERGARTEN STANDARDS

#### Counting and Cardinality (CC)

Know number names and the count sequence.

- Count to 100 by ones and by tens. (K.CC.1)
- Count forward beginning from a given number within the known sequence (instead of having to begin at 1). (K.CC.2)
- Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). (K.CC.3)

Count to tell the number of objects.

- Understand the relationship between numbers and quantities; connect counting to cardinality.
  - o When counting objects, say the number names in the standard order, pairing each object with one and only one number

### Additional Considerations:

Each grade-level proposal will begin with an overview statement. This will prepare you for reading each set of standards and provide additional guidance from the Task Force where provided. You will begin to notice trends that consistently appear in each set of standards. They have been summarized for you in the 2024 Proposal Overview.

It is also important to note that the OPI intends to provide many and varying guidance documents to support educators and families throughout the implementation process. For more information regarding the implementation plans of OPI, please refer to appendix G.

<sup>&</sup>lt;sup>5</sup> <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E502</u>

<sup>&</sup>lt;sup>6</sup> https://opi.mt.gov/LinkClick.aspx?fileticket=Uq0I\_VnbWzs%3D&portalid=182

## **2024 Proposal Overview**

### K-8 vs. 9-12

The proposed set of standards for K-12 is best examined in two parts, taking one part to contain all K-8 standards, and the other containing all 9-12 standards. This is recommended due to the 9-12 Task Force's decision to **revise and restructure** the standards for high school mathematics. While necessary, it does create some additional considerations that must be had unique to the considerations within K-8.

### **Guidance Documents:**

The Superintendent, Negotiated Rulemaking Committee, Task Force, OPI Staff, and Educators all agree that robust and dynamic guidance documents must be created to ensure the successful implementation of the proposed standards. This work began in November 2023 and will continue to progress and adapt as needs continue to appear. These documents have been proposed to support a variety of instructional partners, from families to educators and everyone in between. The proposed documents also contain recommendations from IEFA integration to strategies for mathematical conversations at home. The guidance documents list is vast and growing. The Superintendent and OPI do not intend to abandon educators to their own devices during implementation and will support the process thoroughly. For more information regarding the implementation plan, please refer toappendix G.

### **Common Trends Throughout the Standards:**

Many trends emerged that were consistent throughout the grade levels, K-12. A list and brief description of each has been provided here:

### **Cultural Connections Statement:**

The 2011 set of standards often presented the Indian Education For All statement in the middle of a standard. The Tribal Panel, Task Force, and NRC all agreed that a new place should be found for this statement to provide more prominence and to increase the clarity of the concept contained within the standard. Furthermore, the language was expanded to include relevant and culturally responsive language when referring to Indigenous populations and to include local communities. The NRC weighed the use of "Indigenous Peoples" against "American Indian" extensively. While "American Indian" is the federally adopted language, the NRC felt that "Indigenous Peoples" was more respectful and more adequately communicated the dynamic cultures present in Indigenous Populations, underlining that "American Indian(s)" implies one group alone while "Indigenous Peoples" communicates that many cultural groups exist within Indigenous Populations. They agreed on the use of "Indigenous Peoples", challenging Montana to pave the way for the adoption of this language. Where appropriate, the sentence: "This standard should

incorporate cultural context relating to Montana Indigenous Peoples and local communities" was added as a clause to the end of a standard. This language and placement is used consistently throughout the K-12 items. It is the intent to provide a guide for how this incorporation could occur in a classroom setting.

#### Listing Language Update:

Many grade levels inconsistently listed standards in 2011. The Task Force and NRC made efforts to include the word "by:" at the end of a standard that contained substandard as well as change the subsequent verbs to "ing" verbs in compliance.

### "Word Problems" or "Real-Life Problems" replaced with "Problems In Context":

The NRC determined that consistency in the wording of application expectations should occur. Where standards indicate the specific necessity of application (though not limited to these standards alone), the phrase "problems in context" has replaced inconsistent language in the 2011 standards.

#### Removal of Examples and Elaborations:

The Task Force and NRC made efforts to significantly reduce the number of instances where specific examples appear in the ARM language for standards. This is not to say that they believe them unnecessary. The recommendation is that examples and elaborations appear in guidance documents, rather than in ARM, to free up instruction for educators rather than dictate a list of specific examples that must be utilized.

### Revision for Clarity and Reducing Length:

Many of the standards were revised with the intent to reduce the use of unnecessary language and to provide clarity to the concept contained therein. Often, revisions did not change the standard's intent, but did shorten its length, and utilized language more familiar to families and educators.



# ARM 10.53.501<sup>7</sup>: Montana K-12 Mathematical Practices

Proposed Action: Revision

## Summary of Proposed Changes:

In assessing the research compiled for the revision of mathematics standards and mathematical practices, the Mathematical Practices Task Force identified that the eight mathematical practices utilized in Montana are no longer aligned with those tested within the National Assessment of Educational Progress (NAEP). While the task force recognized the importance of the five mathematical practices outlined by NAEP, the task force also identified the diverse and unique needs of Montana learners and determined that a full adoption would not be the best course of action.

They determined that a revision of the Montana Mathematical Practices was necessary and that in some way, efforts should be made to ensure that current mathematical practices align with the language used by NAEP and that the needs of Montana learners must also be represented within the mathematical practices. Therefore, what has been proposed is a modification of the 5 NAEP Mathematical Practices<sup>8</sup>, and a proposal of additional practices that, as a package, the task force believes will be a more authentic foundation for an essential understanding of mathematics in Montana.

<sup>8</sup> See



<sup>&</sup>lt;sup>7</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E501</u>

https://www.nagb.gov/content/dam/nagb/en/documents/publications/frameworks/mathematics/2026-math-frameowork/2022-NAGB-Mathematics-On e-Pager-508.pdf

# **Proposed Mathematical Practices:**

Math Practices 2011	Proposed Math Practices 2024	Rationale
10.53.501 STANDARDS FOR MATHEMATICAL PRACTICE FOR GRADES K-12	10.53.501 STANDARDS FOR MATHEMATICAL PRACTICE FOR GRADES K-12	Efforts were made to condense wording and increase comprehension.
(1) Mathematical practice standard 1 is to make sense of problems and persevere in solving them. Mathematically proficient students:	(1) Mathematical practice standard 1 is to problem solve and persevere. Mathematically proficient students:	
-(a) explain the meaning of a problem and restate it in their words;	(a) make conjectures, plan, and follow solution strategies;	
-(b) analyze given information to develop possible strategies for solving the problem;	(b) evaluate their progress and accuracy; (c) engage in sense-making and	
-(c) identify and execute appropriate strategies to solve the problem;	self-monitoring: and (d) persevere in seeking solutions, and value	
-(d) evaluate progress toward the solution and make revisions if necessary; and	alternative approaches.	
-(e) check their answers using a different method and continually ask "Does this make sense?".		
(2) Mathematical practice standard 2 is to reason abstractly and quantitatively. Mathematically proficient students:	(2) Mathematical practice standard 2 is to abstract and generalize. Mathematically proficient students are able to decontextualize and symbolically represent both mathematical and non-mathematical	Efforts were made to increase compatibility with NAEP math practices language. 2011 MP7 (item 10.53.501 (7))and 2011 MP8 (item 10.53.501 (8)) were condensed into the 2024 proposed (item 10 53 501 (2))
in problem situations;		

-(b) use varied representations and approaches when solving problems;-(c) know and flexibly use different properties of operations and objects; and-(d) change perspectives, generate alternatives, and consider different options.	situations to search for and analyze regularities, patterns, and structures.	
(3) Mathematical practice standard 3 is to construct viable arguments and critique the reasoning of others. Mathematically proficient students: -(a) understand and use prior learning in constructing arguments;	(3) Mathematical practice standard 3 is to justify and prove. Mathematically proficient students create, evaluate, justify, and refute mathematical claims in developmentally and mathematically appropriate ways.	Efforts were made to increase compatibility with NAEP math practices language. 2011 MP6 (item 10.53.501 (6)) was condensed into 2024 MP3 (item 10.53.501(3))
-(b) habitually ask "why" and seek an answer to that question;		
-(d) develop questioning strategies to generate information;		
-(e) seek to understand alternative approaches suggested by others and as a result, adopt better approaches;		
-(f) justify their conclusions, communicate them to others, and respond to the arguments of others; and		
-(g) compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and if there is a flaw in an		

argument, explain what it is.		
<ul> <li>(4) Mathematical practice standard 4 is to model with mathematics. Mathematically proficient students:</li> <li>(a) apply the mathematics they know to solve problems arising in everyday life, society, and the workplace;</li> <li>(b) make assumptions and approximations to simplify a complicated situation, realizing that these may need revision later;</li> <li>(c) identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas; and</li> <li>(d) analyze mathematical relationships to draw conclusions.</li> </ul>	<ul> <li>(4) Mathematical practice standard 4 is to model with mathematics. Mathematically proficient students:</li> <li>(a) make sense of a scenario;</li> <li>(b) identify a problem to be solved, and mathematize it; and</li> <li>(c) apply a mathematical model to reach a solution and verify its viability.</li> </ul>	This is a revision of the original statement for clarity, that aligns with the NAEP math practices language.
(5) Mathematical practice standard 5 is to use appropriate tools strategically. Mathematically proficient students:	(5) Mathematical practice standard 5 is to represent. Mathematically proficient students:	Efforts were made to increase compatibility with NAEP math practices language.
<ul> <li>(a) use tools when solving a mathematical problem and to deepen their understanding of concepts (e.g., pencil and paper, physical models, geometric construction and measurement devices, graph paper, calculators, computer based algebra, or geometry systems); and</li> <li>(b) make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations and detect possible errors by strategically using estimation and other mathematical knowledge.</li> </ul>	<u>(a) recognize, use, create, interpret, and translate representations using appropriate methods and tools: and</u> <u>(b) understand multiple ways of representing mathematical ideas and how they are related.</u>	

<ul> <li>(6) Mathematical practice standard 6 is to attend to precision. Mathematically proficient students:</li> <li>-(a) communicate their understanding of mathematics to others;</li> <li>-(b) use clear definitions and state the meaning of the symbols they choose, including using the equal sign consistently and appropriately;</li> <li>-(c) specify units of measure and use label parts of graphs and charts; and</li> <li>-(d) strive for accuracy.</li> </ul>	(6) Mathematical practice standard 6 is to collaborate mathematically. Mathematically proficient students engage in mathematics as a social enterprise through discussion and collaborative inquiry where ideas are offered, debated, connected, and built upon toward solutions, shared understanding, and appreciation of other perspectives.	Mathematics is improved with collaboration between individuals. There has been a long-standing spirit of collaboration and healthy discourse in the mathematical community, dating back to its infancy. The committee felt that this was a vital practice for math learners to engage within and essential to the progression of the field. Efforts were made to increase compatibility with NAEP math practices language. 2011 MP6 (item 10.53.501 (6)) was condensed into 2024 MP3 (item 10.53.501(3))
(7) Mathematical practice standard 7 is to look for and make use of structure. Mathematically proficient students: -(a) look for, develop, generalize, and describe a pattern orally, symbolically, graphically, and in written form; and -(b) apply and discuss properties.	<ul> <li>(7) Mathematical practice standard 7 is to culturally connect. Mathematically proficient students:</li> <li>(a) recognize cultural connections and contributions to mathematics; and</li> <li>(b) appreciate the role of mathematics in various cultural contexts, including those of tribally-specific Montana Indigenous Peoples.</li> </ul>	Connecting mathematics to our circumstances, histories, and communities, roots it in existence. This cultural connections math practice also allows for honoring Indigenous and cultural ways of knowing. It is vital for students to see how math relates to the world and communities they belong to, along with the histories of people. The committee felt that connecting to community culture generates a pathway for improving student engagement with mathematical concepts in meaningful ways that can have positive long-term effects. Efforts were made to increase compatibility with NAEP math practices language. 2011 MP7 (item 10.53.501 (7)) was condensed into 2024 proposed (item 10.53.501 (2))

<ul> <li>(8) Mathematical practice standard 8 is to look for and express regularity in repeated reasoning.</li> <li>Mathematically proficient students:</li> <li>(a) look for mathematically sound shortcuts; and</li> <li>(b) use repeated applications to generalize properties.</li> </ul>	Efforts were made to increase compatibility with NAEP math practices language. 2011 MP8 (item 10.53.501 (8)) was condensed into 2024 proposed (item 10.53.501 (2))

# **ARM 10.53.502<sup>9</sup>: Montana Kindergarten Mathematics Standards**

Proposed Action: Revision

### Summary of Proposed Changes:

- Total number of standards in 2011: 25
- Total number of standards proposed for 2024: 25
- Standards removed: 3 Each of these removed standards were condensed into one standard.
- New standards proposed: 3

One additional standard expands knowledge to better prepare students for 1st grade expectations. One additional standard adds financial literacy expectations to the standards. One additional standard adds expectations relating to time knowledge.

- Standards identified as high cultural connections priorities: 4
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.

<sup>&</sup>lt;sup>9</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E502</u>

## **Proposed Montana Kindergarten Mathematics Standards:**

Kindergarten Standards 2011	Kindergarten Standards 2024	Rationale
10.53.502 MONTANA KINDERGARTEN MATHEMATICS CONTENT STANDARDS		
(1) Mathematics counting and cardinality standards for kindergarten are:	(1) Mathematics counting and cardinality standards for kindergarten are:	(1) No change
(a) <u>flexibly</u> count to 100 by ones and by tens;	(a) flexibly count to 100 by ones and by tens;	(a) add: "flexibly"
(b) count forward beginning from a given number within the known sequence (instead of having to begin at 1);	(b) count beginning from a given number within the known sequence;	(b) Delete: "forward" to broaden the standard to include backward counting; pull parenthetical clause to elaborations
(c) write numbers from 0-20 and represent a number of objects with a written numeral 0-20 <del>(with 0 representing a count of no objects)</del> ;	(c) write numbers from 0-20 and represent a number of objects with a written numeral 0-20;	(c) Delete: parenthetical clause, may appear in guidance documents.
(d) understand the relationship between numbers and quantities and connect counting to cardinality by recognizing that each successive number name refers to a quantity that is one larger within a normal counting sequence;	(d) understand the relationship between numbers and quantities and connect counting to cardinality by recognizing that each successive number name refers to a quantity that is one larger within a normal counting sequence;	(d) Addition of the word "by:" and consolidated content from (1)(d)(iii) and included the phrase "within a normal counting sequence"
(d.i) when counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object from a variety of cultural contexts, including those of Montana American Indians;		(d.i) Redundancy in (1)(d), included in the elaboration.
(d.ii) understand that the last number name said tells the number of objects counted and the number of objects is the same regardless		(d.ii) Redundancy in (1)(d), included in the elaboration.

of their arrangement or the order in which they were counted;		
(d.iii) understand that each successive number name refers to a quantity that is one larger;		(d.iii) Condense into item 1(d)
(e) count to answer "how many?"-questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration and given a number from 1-20, count out that many objects from a variety of cultural contexts, including those of Montana American Indians-in a variety of arrangements and, given a number, produce a set within 20;	(e) count to answer "how many?" in a variety of arrangements and, given a number, produce a set within 20;	(e) Delete additional information to get down to the specific task asked for.
(f) identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group <del>,</del> e.g., by using matching and counting strategies; and	(f) identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; and	(f) Example may appear in guidance documents, removed for clarity.
(g) compare two numbers between 1 and 10 presented as written numerals.	(g) compare two numbers between 1 and 10 presented as written numerals.	(g) No change
(2) Mathematics operations and algebraic thinking content standards for kindergarten are:	.(2) Mathematics operations and algebraic thinking content standards for kindergarten are:	(2) No change
(a) represent addition and subtraction <del>with</del> <del>objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations in multiple ways;</del>	(a) represent addition and subtraction in multiple ways;	(a) Examples may appear in guidance documents, removed for clarity.
(b) solve addition and subtraction <del>word</del> problems from a variety of cultural contexts,	(b) solve addition and subtraction problems in context within 10; this standard should incorporate cultural context relating to	(b) Change "word problems" to "problems in context" to align with NAEP and NCTM.

including those of Montana American Indians, and add and subtract within 10, e.g., by using objects or drawings to represent the problem problems in context within 10: this standard should incorporate cultural context relating to Montana Indigenous People and local communities:	Montana Indigenous Peoples and local communities;	Modified based on consultation with the Tribal panel, task force, and NRC. Examples were removed for clarity, but may appear in guidance documents.
(c) decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and $5 = 4 + 1$ ) multiple ways;	(c) decompose numbers less than or equal to 10 into pairs in multiple ways;	(c) Add: "in multiple ways". Examples may appear in guidance documents, removed for clarity.
(d) for any number from 1 to 9, find the number that makes 10 when added to the given number <del>, e.g., by using objects or</del> <del>drawings, and record the answer with a</del> <del>drawing or equation</del> ; and	(d) for any number from 1 to 9, find the number that makes 10 when added to the given number;	(d) Examples may appear in guidance documents, removed for clarity.
(e) fluently flexibly, accurately add and subtract within 5 <del>.; and</del>	(e) flexibly and accurately add and subtract within 5; and	(e) Delete: "Fluently" Add: "Flexibly and accurately" to define what fluency looks like.
(f) recognize the characteristics of the commutative property in addition.	(f) recognize the characteristics of the commutative property in addition.	(f) Add this standard to connect concepts to the commutative property.
(3) Mathematics number and operations in base ten content standard for kindergarten is:	(3) Mathematics number and operations in base ten content standard for kindergarten is:	(3) No change
(a) compose and decompose numbers from 11-19 into ten ones and <del>some</del> further ones, e.g., by using objects or drawings; in multiple ways and record each composition or decomposition by a drawing or <u>an</u> equation (such as 18 = 10 + 8); and understand that these numbers are composed of ten ones and	(a) compose and decompose numbers from 11-19 into ten ones and further ones, in multiple ways, and record each composition or decomposition by a drawing or an equation.	(a) Delete: in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and $5 = 4 + 1$ ). Add: in multiple ways. Further examples may appear in guidance documents but were removed for clarity.

one, two, three, four, five, six, seven, eight, or nine ones.		
(4) Mathematics measurement and data content standards for kindergarten are:	(4) Mathematics measurement and data content standards for kindergarten are:	(4) No change
(a) describe <u>several</u> measurable attributes of objects, such as length or weight and describe several measurable attributes of a single object;	(a) describe several measurable attributes of a single object;	(a) Add: "several" and "a single" for clarity. Elaborations may appear in guidance documents, removed for clarity.
(b) directly compare two objects with a measurable attribute in common <del>, to see which object has "more of"/"less of" the attribute and describe the difference; for example, directly compare the heights of two children and describe one child as taller/shorter; and using comparative language;</del>	(b) directly compare two objects with a measurable attribute in common using comparative language;	(b) Add: "comparative language" for clarity. Examples may appear in guidance documents, removed for clarity.
(c) classify <u>. count, and sort</u> objects from a variety of cultural contexts, including those of Montana American Indians, into-given categories, count the numbers of objects in each category, and sort the categories by count.; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) classify, count, and sort objects into categories; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) Rewritten for clarity and modified based on consultation with the Tribal panel, task force, and NRC.
(d) describe attributes and identify the names of coins; and	(d) describe attributes and identify the names of coins; and	(d) New standard
(e) explain time in days, months, years, and seasons.	(e) explain time in days, months, years, and seasons.	(e) New standard
(5) Mathematics geometry content standards for kindergarten are:	(5) Mathematics geometry content standards for kindergarten are:	(5) No change

(a) describe the relative positions of objects, including those of Montana American Indians, in the their environment using names of shapes and describe the relative positions of these objects using terms such as: above, below, beside, in front of, behind, and next to; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities:	(a) describe the relative positions of objects, in their environment; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) Rewritten for clarity. Modified based on consultation with the Tribal panel, task force, and NRC. Delete descriptive language. Elaborations may appear in guidance documents, removed for clarity.
(b) correctly name shapes regardless of their orientations or overall size;	(b) correctly name shapes regardless of their orientations or overall size;	(b) No change
(c) identify shapes as two-dimensional <del>(lying in a plane, "flat")</del> or three-dimensional <del>("solid")</del> ;	(c) identify shapes as two-dimensional or three-dimensional;	(c) Delete descriptive language for clarity, may appear in guidance documents.
(d) analyze and compare two- and three-dimensional shapes <del>, in different sizes</del> <del>and orientations,</del> using informal language <del>to</del> <del>describe their similarities, differences, parts</del> <del>(e.g., number of sides and vertices/"corners"),</del> and other attributes <del>(e.g., having sides of</del> <del>equal length)</del> ;	(d) analyze and compare two- and three-dimensional shapes using informal language and other attributes;	(d) Delete descriptive language for clarity Add: "and other attributes". Elaborations may appear in guidance documents.
(e) model shapes in the world from a variety of cultural contexts, including those of Montana American Indians, by building shapes from components (e.g., sticks and clay balls) and drawing shapes_environment; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(e) model shapes in the environment; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(e) Rewritten for clarity. Modified based on consultation with the Tribal panel, task force, and NRC. Delete descriptive language. Elaborations may appear in guidance documents.
(f) compose simple shapes to form larger shapes <del>; for example, "Can you join these two triangles with full sides touching to make a rectangle?".</del>	(f) compose simple shapes to form larger shapes.	(f) Delete: example, may appear in guidance documents



# **ARM 10.53.503<sup>10</sup>: Montana Grade 1 Mathematics Standards**

Proposed Action: Revision

### **Summary of Proposed Changes:**

- Total number of standards in 2011: 24
- Total number of standards proposed for 2024: 29
- Standards removed: 3 Each of these removed standards were considered elaborative and it has been requested that they be moved to guidance documents.
- New standards proposed: 8 Seven additional standards are the result of separating concepts from previous standards into distinct and separate items. One additional standard adds financial literacy expectations to the standards.
- Standards identified as high cultural connections priorities: 3
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Separation of concepts Many "additional standards" in 1st grade are not additional concepts or expectations for 1st grade students. Rather, they
    are the result of taking standards where multiple concepts are present, and separating each concept into its own distinct standard. There is only
    one new concept added to the standards and it deals with financial literacy.

<sup>&</sup>lt;sup>10</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E503</u>



## **Proposed Montana Grade 1 Mathematics Standards:**

1 <sup>st</sup> Grade Standards 2011	1 <sup>st</sup> Grade Standards 2024	Rationale
10.53.503MONTANA GRADE 1MATHEMATICS CONTENT STANDARDS		
(1) Mathematics operations and algebraic thinking content standards for Grade 1 are:	(1) Mathematics operations and algebraic thinking content standards for Grade 1 are:	(1) No change
(a) use addition and subtraction within 20 to solve word problems within a cultural in context, including those of Montana American Indians, involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem of all types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) use addition and subtraction within 20 to solve problems in context of all types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) Elaboration removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(b) solve <del>word</del> problems <del>within a cultural in</del> context, <del>including those of Montana American</del> Indians, that call for addition of three whole numbers <del>whose</del> <u>with a</u> sum <del>is</del> less than or equal to 20 <del>, e.g., by using objects, drawings,</del> and equations with a symbol for the unknown number to represent the problem in context of all types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(b) solve problems in context that call for addition of three whole numbers with a sum less than or equal to 20; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(b) Elaboration removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" to "problems in context" to align with NAEP and MCTM.
(c) apply properties of operations as strategies flexibly compose and decompose numbers to add and subtract; for example: if $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known (commutative property of addition); to add $2 + 1$	(c) flexibly compose and decompose numbers to add and subtract;	(c) Revision of standard to highlight mathematical properties taught throughout k-12 math. Examples were removed for clarity, yet may still appear in guidance documents.

6 + 4, the second two numbers can be added		
to make a ten, so 2 + 6 + 4 = 2 + 10 = 12		
(associative property of addition);		
	(d) understand subtraction as an	(d) Examples were removed for clarity, yet may
(d) understand subtraction as an	unknown-addend problem;	still appear in guidance documents.
unknown-addend problem: for example.		
subtract 10 - 8 by finding the number that		
makes 10 when added to 8:		
	(e) relate counting to addition and subtraction.	(e) Examples were removed for clarity vet may
(e) relate counting to addition and subtraction		still appear in guidance documents
(e) relate counting to addition and subtraction		
(e.g., b) counting on $z$ to add $z)$ ,	(f) flowibly, accurately, and officiantly, add and	(f) Add Expand expectations of what fluency
(f) flowibly accurately, and efficiently add and	(1) flexibly, accurately, and efficiently add and	(I) Add. Expand expectations of what huency
(1) <u>Itexibly, accurately, and efficiently</u> add and	subtract within 10;	100ks like. Separate addition/subtraction within
subtract within <del>20 demonstrating fluency for</del>		10 and 20 as two distinct standards. Examples
addition and subtraction within 10; use		were removed for clarity, yet may still appear in
strategies such as counting on; making ten		guidance documents.
<del>(c.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14);</del>		
decomposing a number leading to a ten (e.g.,		
13 - 4 = 13 - 3 - 1 = 10 - 1 = 9; using the		
relationship between addition and subtraction		
(e.g., knowing that 8 + 4 = 12, one knows 12		
<del>8 = 4); and creating equivalent but easier or</del>		
known sums (e.g., adding 6 + 7 by creating the		
known equivalent 6 + 6 + 1 = 12 + 1 = 13);		
	(f.i) use multiple strategies to add and subtract	(f.i) Addition of standard. Originates from
(f.i) use multiple strategies to add and subtract	within 20;	separation of two concepts in (f)
within 20;		
	(a) understand the meaning of the equal sign	(g) Examples were removed for clarity, yet may
(g) understand the meaning of the equal sign	and determine if equations are true or false:	still appear in guidance documents.
and determine if equations involving addition	and	
and subtraction are true or false: for example		
which of the following equations are true and		
which are false $2.6 - 6.7 - 8.1.5 + 2 - 2 + 5$		
$4 \pm 1 = 5 \pm 2^{\circ}$ and		
, , , , , , , , , , , , , , , , , , ,	(b) determine the unknown number in an	(h) Examples were removed for clarity yet may
(b) determine the unknown whole number in	addition or subtraction equation relating to	still appear in quidance documents
an addition or subtraction equation relation to	three numbers	sui appear in guidance documents.
an addition of subtraction equation relating to		
three whole numbers; for example, determine		
the unknown number that makes the equation		

$\frac{\text{true in each of the equations: } 8 + ? = 11, 5 = ?}{-3, 6 + 6 = ?}$ .		
(2) Mathematics number and operations in base ten content standards for Grade 1 are:	(2) Mathematics number and operations in base ten content standards for Grade 1 are:	(2) No change
(a) count to 120, starting at any number less than 120 and read and write numerals and represent a number of objects with a written numeral in this range; flexibly count, read, write, and represent numbers to 120;	(a) flexibly count, read, write, and represent numbers to 120;	(a) Simplify wording for clarity.
(b) understand that the two digits of a two-digit number represent amounts of tens and ones and understand the following as special cases ten is a unit composed of ten ones and that a two-digit number represents tens and ones:	(b) understand that ten is a unit composed of ten ones and that a two-digit number represents tens and ones;	(b) Simplify for clarity. Expand in guidance documents.
(b.i) 10 can be thought of as a bundle of ten ones called a "ten";		(b.i) Delete. Move to guidance documents.
(b.ii) the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones;		(b.ii) Delete. Move to guidance documents.
(b.iii) the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones);		(b.iii) Delete. Move to guidance documents.
(c) compare two two-digit numbers <del>based on</del> meanings of the tens and ones digits, recording the results of comparisons with the using comparison symbols >, =, and <;	(c) compare two-digit numbers using comparison symbols >, =, and <;	(c) Delete: "two" - redundancy. Simplify for clarity.
(d) add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies	(d) build a foundation for addition within 100 by:	(d) Make the distinction clear. Simplify for clarity, and use listing (i) and (ii) to make the standard more clear.

based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used; understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten;build a foundation for addition within 100 by:(d.i) adding two-digit to one-digit numbers; numbers;(e) using place value, given a two-digit number, mentally find 10 more or 10 less than	<ul> <li>(d.i) adding two-digit to one-digit numbers; and</li> <li>(d.ii) adding multiples of 10 to two-digit numbers;</li> <li>(e) using place value, given a two-digit number, find 10 more or 10 less than the</li> </ul>	(d.i) Use listing language to make this standard more clear. (d.ii) Use listing language to make this
(e) <u>using place value, given a two-digit</u> number, <del>mentally</del> find 10 more or 10 less than	(e) using place value, given a two-digit number, find 10 more or 10 less than the	<ul><li>(d.i) Use listing language to make this standard more clear.</li><li>(d.ii) Use listing language to make this standard more clear.</li></ul>
the reasoning used; and (f) subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90	(f) subtract multiples of 10 from a two-digit number.	(e) Simplify wording for clarity. Reasoning implied in Mathematical Practices.
models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, relate the strategy to a written method, and explain the reasoning used. from a two-digit number.		(f) Elaboration was removed for clarity, yet may still appear in guidance documents.
(3) Mathematics measurement and data content standards for Grade 1 are:	(3) Mathematics measurement and data content standards for Grade 1 are:	(3) No change
(a) order three objects from a variety of cultural contexts, including those of Montana American Indians, by length and compare the lengths of two objects indirectly by using a third object;	(a) order three objects by length and compare the lengths of two objects indirectly by using a third object; this standard should incorporate	(a) Modified based on consultation with the Tribal panel, task force, and NRC.
this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	cultural context relating to Montana Indigenous Peoples and local communities;	
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(b) express the length of an object as a whole number of length units <del>, by laying multiple copies of a shorter object (the length unit) end to end</del> ; understand that the <del>length</del> measurement of an object is the number of same-size length units that span it with no gaps or overlaps <del>and limit to contexts where</del> the object being measured is spanned by a whole number of length units with no gaps or overlaps;	(b) express the length of an object as a whole number of length units; understand that the measurement of an object is the number of same-size length units that span it with no gaps or overlaps;	(b) Delete phrases to eliminate redundancy.
(c) tell and write time in hours and half-hours using analog and digital clocks; <del>and</del>	(c) tell and write time in hours and half-hours using analog and digital clocks;	(c) No change, remove "and" for ARM language purposes.
(d) identify the value of coins; and	(d) identify the value of coins; and	(d) New standard, building knowledge present in Kindergarten.
(d) (e) organize, represent, and interpret data with up to three categories and ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. by:	(e) organize, represent, and interpret data with up to three categories by:	(e) Delete elaborations and build them into their own sub-standards to increase clarity.
(e.i) asking and answering questions about the total number of data points;	(e.i) asking and answering questions about the total number of data points;	(e.i) Building off of (e)
(e.ii) identifying how many are in each category; and	(e.ii) identifying how many are in each category; and	(e.ii)Building off of (e)
(e.iii) analyzing differences between categories.	(e.iii) analyzing differences between categories.	(e.iii) Building off of (e)

(4) Mathematics geometry content standards for Grade 1 are:	(4) Mathematics geometry content standards for Grade 1 are:	(4) No change
(a) distinguish between defining attributes (e.g., triangles are closed and three-sided) versus nondefining attributes (e.g., color, orientation, overall size) and build and draw shapes to possess defining attributes;	(a) distinguish between defining attributes versus nondefining attributes;	(a) Examples were removed for clarity, yet may still appear in guidance documents.
(b) build and draw shapes to possess defining attributes;	(b) build and draw shapes to possess defining attributes;	(b) Building off of (a)
(b) (c) compose two-dimensional shapes (rectangles, squares, trapczoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape new shapes using two- and three-dimensional shapes; and	(c) compose new shapes using two- and three-dimensional shapes; and	(c) Listing indicator changed due to addition of standard. Examples were removed for clarity, yet may still appear in guidance documents.
(c) (d) partition circles and rectangles into two and four equal shares; describe the shares using the words: halves, fourths, and quarters <del>,</del> and use the phrases half of, fourth of, and quarter of; describe the whole as two of, or four of the shares; and understand for these examples that decomposing into more equal shares creates smaller shares.	(d) partition circles and rectangles into two and four equal shares; describe the shares using the words: halves, fourths, and quarters.	(d) Examples and elaborations were removed for clarity, yet may still appear in guidance documents.

# **ARM 10.53.504<sup>11</sup>: Montana Grade 2 Mathematics Standards**

Proposed Action: Revision

### Summary of Proposed Changes:

- Total number of standards in 2011: 28
- Total number of standards proposed for 2024: 27
- Standards removed: 2 Each of these removed standards were considered elaborative and it has been requested that they be moved to guidance documents.
- New standards proposed: 1 One additional standard is the result of separating concepts from a previous standard into distinct and separate items.
- Standards identified as high cultural connections priorities: 4
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Separation of concepts The "additional standard" in 2nd grade is not an additional concept or expectation for 2nd grade students. Rather, it is the result of taking a standard where multiple concepts were present, and separating each concept into its own distinct standard. There are no new conceptual expectations added to 2nd grade.

<sup>&</sup>lt;sup>11</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E504</u>

## **Proposed Montana Grade 2 Mathematics Standards:**

2 <sup>nd</sup> Grade Standards 2011	2 <sup>nd</sup> Grade Standards 2024	Rationale
10.53.504MONTANA GRADE 2MATHEMATICS CONTENT STANDARDS	10.53.504MONTANA GRADE 2MATHEMATICS CONTENT STANDARDS	10.53.504MONTANA GRADE 2MATHEMATICS CONTENT STANDARDS
(1) Mathematics operations and algebraic thinking content standards for Grade 2 are:	(1) Mathematics operations and algebraic thinking content standards for Grade 2 are:	(1) No change
(a) use addition and subtraction within 100 to solve one- and two-step-word-problems involving situations within a cultural in context, including those of Montana American Indians, of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem involving all problem types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) use addition and subtraction within 100 to solve one- and two-step problems in context involving all problem types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) Elaboration was removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(b) fluently flexibly, accurately, and efficiently add and subtract within 20 using mental strategies-and by the end of Grade 2, know from memory all sums of two one-digit numbers;	(b) flexibly, accurately, and efficiently add and subtract within 20 using mental strategies;	(b) Changed fluently to "flexibly, accurately, and efficiently"; pulled memory expectation with recommendation that it be added to guidance documents.
(c) determine whether a group of objects, (up to 20), has an odd or even number of members <del>, e.g., by pairing objects or counting</del> them by 2s and write an equation to express	(c) determine whether a group of objects, up to 20, has an odd or even number of members; and	(c) Examples were removed for clarity, yet may still appear in guidance documents.



<ul> <li>an even number as a sum of two equal addends; and</li> <li>(d) use addition to find the total number of objects arranged in rectangular arrays with up to five rows and up to five columns and write an equation to express the total as a sum of equal addends.</li> </ul>	(d) use addition to find the total number of objects arranged in rectangular arrays.	(d) Examples were removed for clarity, yet may still appear in guidance documents.
(2) Mathematics number and operations in base ten content standards for Grade 2 are:	(2) Mathematics number and operations in base ten content standards for Grade 2 are:	(2) No change
(a) understand <u>one hundred is a unit</u> <u>composed of ten tens and</u> that the three digits <del>of a</del> three-digit <u>number</u> numbers represent amounts of hundreds, tens, and ones <del>, e.g.,</del> <del>706 equals 7 hundreds, 0 tens, and 6 ones</del> <del>and understand the following special cases:</del> ;	(a) understand one hundred is a unit composed of ten tens and that three-digit numbers represent amounts of hundreds, tens, and ones;	(a) Removing special cases. Elaboration was removed for clarity, yet may still appear in guidance documents.
<del>(a.i) 100 can be thought of a s a bundle of ten</del> t <del>ens – called a "hundred;" and</del>		(a.i) Elaboration was removed for clarity, yet may still appear in guidance documents.
(a.ii) the numbers 100, 200, 300, 400, 500, 600, 700, 800, and 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones);		(a.ii) Elaboration was removed for clarity, yet may still appear in guidance documents.
(b) <del>count within 1000;</del> skip-count by 5s, 10s, and 100s;	(b) skip-count by 5s, 10s, and 100s;	(b) Clarification on standard skill intent.
(c) read and write flexibly count, read, write, and represent numbers to 1000 using base-ten numerals, number names, and expanded form;	(c) flexibly count, read, write, and represent numbers to 1000;	(c) Add flexibly, and specific methods of demonstrating fluency.

		(d) Shorten for clarity.
(d) compare two three-digit numbers-based on	(d) compare two three-digit numbers using	
meanings of the hundreds, tens, and ones	comparison symbols: >, =, and < ;	
digits, using >, -, and < symbols to record the		
(e) fluently flexibly, accurately, and efficiently	(e) flexibly, accurately, and efficiently add and	(e) Broaden language for multiple modalities.
add and subtract within 100 using multiple	subtract within 100 using multiple strategies;	
strategies based on place value, properties of		
operations, and/or the relationship between		
addition and subtraction;		
(f) add up to four two-digit numbers using	(f) add up to four two-digit numbers using	(f) Broaden language for multiple modalities.
multiple strategies based on place value and	multiple strategies;	
properties of operations;		
		(a) Elaboration was removed for clarity yet
(g) add and subtract within 1000 using	(g) add and subtract within 1000 using multiple	may still appear in guidance documents.
concrete models or drawings and multiple	strategies;	
strategies based on place value, properties of		
addition and subtraction: relate the strategy to		
a written method; understand that in adding or		
subtracting three digit numbers, one adds or		
subtracts hundreds and hundreds, tens and		
tens, ones and ones, and sometimes it is		
necessary to compose or decompose tens or		
nunareas;		
(h) mentally add 10 or 100 to a given number	(h) using place value, add or subtract 10 or	(h) Rewording for clarity.
100 900 and mentally subtract 10 or 100 from	100 from a given number; and	
a given number 100-900 using place value,	<b>J</b>	
add or subtract 10 or 100 from a given		
<u>number</u> ; and		

(i) explain why addition and subtraction strategies work using place value and the properties of operations. Understand and make connections between different strategies for addition and subtraction.	(i) understand and make connections between different strategies for addition and subtraction.	(i) Rewording for clarity.
(3) Mathematics measurement and data content standards for Grade 2 are:	(3) Mathematics measurement and data content standards for Grade 2 are:	(3) No change
(a) measure the length of an object by selecting and using appropriate tools <del>such as rulers, yardsticks, meter sticks, and measuring tapes</del> ;	(a) measure the length of an object by selecting and using appropriate tools;	(a) appropriate tools may have many forms. An exhaustive list cannot be created. However, these may be elaborated on in guidance documents.
(b) measure the length of an object twice, using length units of different lengths for the two measurements and describe how the two measurements relate to the size of the unit chosen; understand the relationship between unit sizes and number of units by measuring a single object using two different units of common measurement;	(b) understand the relationship between unit sizes and number of units by measuring a single object using two different units of common measurement;	(b)Delete specifications; implied in primary statement. Addition of "units of common measurement" to align with language used in other standards.
(c) estimate lengths using units of <del>inches, feet, centimeters, and meters</del> <u>common</u> <u>measurement;</u>	(c) estimate lengths using units of common measurement;	(c) Shortened for clarity. Added phrase "common measurement" to encompass the previously listed examples. This may be defined further in guidance documents.
(d) measure to determine how much longer one object is than another, expressing the	(d) measure to determine how much longer one object is than another, expressing the	(d) No change

length difference in terms of a standard length	length difference in terms of a standard-length	
unit;	unit;	
		(e) Examples were removed for clarity, yet
(e) use addition and subtraction within 100 to	(e) use addition and subtraction within 100 to	may still appear in guidance documents.
solve <del>word</del> problems within a cultural in	solve problems in context involving lengths	Modified based on consultation with the Tribal
context <del>, including those of Montana American</del>	that are given in the same units; this standard	panel, task force, and NRC. Change "word
Indians, involving lengths that are given in the	should incorporate cultural context relating to	problems" to "problems in context" to align with
same units <del>, e.g., by using drawings (such as</del>	Montana Indigenous Peoples and local	NAEP and NCTM.
drawings of rulers) and equations with a	communities;	
symbol for the unknown number to represent		
the problem ; this standard should incorporate		
cultural context relating to Montana Indigenous		
Peoples and local communities;		
		(f) Simplified for clarity.
(f) represent whole numbers as lengths from 0	(f) represent whole numbers as lengths from 0	
on a number line diagram with equally spaced	and represent sums and differences within 100	
points corresponding to the numbers 0, 1, 2,	on a number line;	
and represent whole-number sums and		
differences within 100 on a number line		
<del>diagram</del> ;		
		(g)No change
(g) tell and write time from analog and digital	(g) tell and write time from analog and digital	
clocks to the nearest five minutes using a.m.	clocks to the nearest five minutes using a.m.	
and p.m.;	and p.m.;	
		(h) Examples were removed for clarity, yet
(h) solve word problems in context involving	(h) solve problems in context involving dollar	may still appear in guidance documents.
dollar bills, quarters, dimes, nickels, and	bills, quarters, dimes, nickels, and pennies,	Change "word problems" to "problems in
pennies, using \$ and ¢ symbols appropriately;	using \$ and ¢ symbols appropriately;	context" to align with NAEP and NCTM.
for example: if you have two dimes and three		
pennies, how many cents do you have?;		
		(i) Modified based on consultation with the
(i) generate measurement data by measuring	(i) generate measurement data and present	Tribal panel, task force, and NRC. Revised
lengths of several objects to the nearest whole	the data in multiple ways; this standard should	wording for clarity.

unit or by making repeated measurements of	incorporate cultural context relating to	
the same object and show the measurements	Montana Indigenous Peoples and local	
by making a line plot, where the horizontal	communities;	
scale is marked off in whole-number units; and		
present the data in multiple ways; this		
standard should incorporate cultural context		
relating to Montana Indigenous Peoples and		
local communities:		
		(j) Modified based on consultation with the
(j) draw a picture graph and a bar graph (with	(j) organize, represent, and interpret data with	Tribal panel, task force, and NRC. Additional
single unit scale) to represent a data set from	up to four categories; this standard should	concept separated into new standard (see
a variety of cultural contexts, including those of	incorporate cultural context relating to	below)
Montana American Indians, with up to four	Montana Indigenous Peoples and local	
categories and solve simple put together, take	communities; and	
apart and compare problems using information		
presented in a bar graph. organize, represent.		
and interpret data with up to four categories;		
this standard should incorporate cultural		
context relating to Montana Indigenous		
Peoples and local communities; and		
		(k) Add standard to accommodate for items
(k) solve addition and subtraction problems of	(k) solve addition and subtraction problems of	taken from (j), separating concepts.
all types using data presented.	all types using data presented.	
(4) Mathematics geometry content	(4) Mathematics geometry content	(4) No change
standards for Grade 2 are:	standards for Grade 2 are:	
(a) recognize and draw snapes having	(a) recognize and draw snapes naving	(a) Elaboration was removed for clarity, yet
specified attributes, such as a given number of	specilied attributes;	may suil appear in guidance documents.
identify triangles, guadrilaterals, portagens		
beverence and outpee		
nexagons, and cubes,		

(b) partition a rectangle into rows and columns of same size squares and <del>count to f</del> ind the total number <del>of them</del> ; and	(b) partition a rectangle into rows and columns of same-size squares and find the total number; and	(b) Removal of unnecessary language.
(c) partition circles and rectangles into-two, three, or four equal shares; describe the shares using the words halves, thirds, half of, a third of, etc.; describe the whole as two halves, three thirds, four fourths; and, recognize that equal shares of identical wholes need not have the same shape, and express the shares in two-halves, three-thirds, and four fourths.	(c) partition circles and rectangles into equal shares, recognize that equal shares need not have the same shape, and express the shares in two halves, three-thirds, and four-fourths.	(c) Rewording for clarity.

## **ARM 10.53.505<sup>12</sup>: Montana Grade 3 Mathematics Standards**

Proposed Action: Revision

### **Summary of Proposed Changes:**

- Total number of standards in 2011: 37
- Total number of standards proposed for 2024: 41
- Standards removed: 0
- New standards proposed: 4
   Four additional standards are the result of separating concepts from previous standards into distinct and separate items.
- Standards identified as high cultural connections priorities: 3
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Separation of concepts Each "additional standard" in 3rd grade are not additional concepts or expectations for 3rd grade students. Rather, they are the result of taking standards where multiple concepts are present, and separating each concept into its own distinct standard. There are no new conceptual expectations added to 3rd grade.

<sup>&</sup>lt;sup>12</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E505</u>

## **Proposed Montana Grade 3 Mathematics Standards:**

3 <sup>rd</sup> Grade Standards 2011	3 <sup>rd</sup> Grade Standards 2024	Rationale
10.53.505MONTANA GRADE 3MATHEMATICS CONTENT STANDARDS	10.53.505         MONTANA GRADE 3           MATHEMATICS CONTENT STANDARDS	10.53.505MONTANA GRADE 3MATHEMATICS CONTENT STANDARDS
(1) Mathematics operations and algebraic thinking content standards for Grade 3 are:	(1) Mathematics operations and algebraic thinking content standards for Grade 3 are:	(1) No change
(a) interpret <u>understand</u> products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each; for example, describe a context in which a total number of objects can be expressed as $5 \times 7$ ; as the total number found by multiplying a number of groups by the number of objects per group;	(a) understand products of whole numbers as the total number found by multiplying a number of groups by the number of objects per group;	(a) Change to "understand" because application standards come later and "interpret" was a confusing verb in this context.
(b) interpret <u>understand</u> whole-number quotients of whole numbers: - e.g., interpret 56 + 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each; for example, describe a context in which a number of shares or a number of groups can be expressed as 56 + 8;	(b) understand whole-number quotients of whole numbers:	(b) Adding in elaboration and reworking examples for clarity. Efforts made to use language families would be more familiar with. Recommendation that the following be added to guidance documents to overcome the loss of example given in the previous standard: "when sharing, the quotient represents the number of shared objects in a group. When grouping, the quotient represents the amount of groups within the shared quantity".
(b.i) as the number of objects in each group with the total quantity divided equally into a number of shares; and	(b.i) as the number of objects in each group with the total quantity divided equally into a number of shares; and	(b.i) separation of concept from (b) to make distinction clear.
(b.ii) as the number of shares when a total number of objects is partitioned into equal-sized groups;	(b.ii) as the number of shares when a total number of objects is partitioned into equal-sized groups;	(b.ii) separation of concept from (b) to make distinction clear.

(c) use multiplication and division within 100 to solve word problems in context in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem;	(c) use multiplication and division within 100 to solve problems in context in situations involving equal groups, arrays, and measurement quantities;	(c) Examples were removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(d) determine the unknown whole number in a multiplication or division equation relating three whole numbers; for example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48, 5 = ? \div 3, 6 \times 6 = ?;$	(d) determine the unknown whole number in a multiplication or division equation relating three whole numbers;	(d) Examples were removed for clarity, yet may still appear in guidance documents.
(e) apply properties of operations as strategies to multiply and divide; for example: if $6 \times 4 =$ 24 is known, then $4 \times 6 = 24$ is also known (commutative property of multiplication); $3 \times 5$ $\times 2$ can be found by $3 \times 5 = 15$ , then $15 \times 2 =$ 30, or by $5 \times 2 = 10$ , then $3 \times 10 = 30$ (associative property of multiplication); knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$ , one can find $8 \times 7$ as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2)$ = 40 + 16 = 56 (distributive property) the commutative property of multiplication, associative property of multiplication, and distributive property of multiplication over addition on whole numbers as strategies to multiply;	(e) apply the commutative property of multiplication, associative property of multiplication, and distributive property of multiplication over addition on whole numbers as strategies to multiply;	(e) Examples were removed for clarity, yet may still appear in guidance documents. Rewritten for clarity.
(f) <del>understand</del> <u>use</u> division as an unknown factor problem; <del>for example, find 32 + 8 by</del> <del>finding the number that makes 32 when</del> <del>multiplied by 8;</del>	(f) use division as an unknown factor problem;	(f) Examples were removed for clarity, yet may still appear in guidance documents.
(g) fluently flexibly, accurately, and efficiently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$ , one	(g) flexibly, accurately, and efficiently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations;	(g) Define what mathematical fluency looks like by adding "Flexibly, accurately and efficiently". Removal of memory expectation.



knows 40 ÷ 5 = 8) or properties of operations and by the end of Grade 3, know from memory all products of two one-digit numbers;		Examples were removed for clarity, yet may still appear in guidance documents.
(h) solve two step word problems in context using the four operations within cultural contexts, including those of Montana American Indians; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies including rounding; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(h) solve two step problems in context using the four operations; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(h) Elimination of "including rounding". Change "word problems" to "problems in context" to align with NAEP and NCTM.
(i) identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations; for example, observe that four times a number is always even, and explain why four times a number can be decomposed into two equal addends.	(i) identify arithmetic patterns and explain them using properties of operations.	(i) Examples were removed for clarity, yet may still appear in guidance documents. Elaboration was removed for clarity, yet may still appear in guidance documents.
(2) Mathematics number and operations in base ten content standards for Grade 3 are:	(2) Mathematics number and operations in base ten content standards for Grade 3 are:	(2) No change
(a) use place value understanding to round whole numbers to the nearest 10 or 100;	(a) use place value understanding to round whole numbers to the nearest 10 or 100;	(a) No change
(b) fluently flexibly, accurately, and efficiently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction; and	(b) flexibly, accurately, and efficiently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction; and	(b) Addition of "flexibly, accurately, and efficiently" to align with the definition of fluency.

(c) multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., $9 \times 80$ , $5 \times 60$ ) using strategies based on place value and properties of operations.	(c) multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	(c) Examples were removed for clarity, yet may still appear in guidance documents.
(3) Mathematics number and operations fractions content standards for Grade 3 are:	(3) Mathematics number and operations fractions content standards for Grade 3 are:	(3) No change.
(a) understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts and understand a fraction a/b as the quantity formed by a parts of size 1/b;	(a) understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts and understand a fraction a/b as the quantity formed by a parts of size 1/b;	(a) No change
(b) understand a fraction as a number on the number line and represent fractions on a number line diagram; by:	(b) understand a fraction as a number on the number line by:	(b) Simplified for clarity, addition of the word "by"
(b.i) representing a <u>unit</u> fraction <del>1/b</del> on a number line <del>diagram by defining the interval</del> from 0 to 1 as the whole and partitioning it into b equal parts, recognize that each part has size 1/b, and that the endpoint of the part based at 0 locates the number 1/b on the number line; and	(b.i) representing a unit fraction on a number line;	(b.i) Grammatical changes and separating elements into other sub-standards below.
(b.ii) representing a fraction a/b on a number line diagram by marking off a lengths 1/b from 0 and recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line as multiple copies of a unit fraction on a number line; and	(b.ii) representing a fraction as multiple copies of a unit fraction; and	(b.ii) Simplified for clarity, grammatical changes. Separating elements into other sub-standards below.
(b.iii) representing fractions on a number line;	(b.iii) representing fractions on a number line;	(b.iii) elements taken from (b.i) and (b.ii) incorporated here.

(c) explain understand the equivalence of fractions in special cases and compare fractions by reasoning about their size; by:	(c) understand the equivalence of fractions in special cases and compare fractions by reasoning about their size by:	(c) Grammatical changes.
(c.i) understand understanding two fractions as equivalent <del>(equal)</del> if they are the same size or the same point on a number line;	(c.i) understanding two fractions as equivalent if they are the same size of the same point on a number line;	(c.i) Grammatical changes. Remove the word "equal" due to redundancy.
(c.ii) recognize recognizing and generate generating simple equivalent fractions, e.g., 1/2 = 2/4, $4/6 = 2/3$ and explain why the fractions are equivalent, e.g., by using a visual fraction model; and by demonstrating or justifying why the fractions are equivalent;	(c.ii) recognizing and generating simple equivalent fractions; and by demonstrating or justifying why the fractions are equivalent;	(c.ii) Grammatical changes. Examples were removed for clarity, yet may still appear in guidance documents.
(c.iii) express writing whole numbers as fractions, and recognize recognizing fractions that are equivalent to whole numbers; for example: express 3 in the form $3 = 3/1$ ; recognize that $6/1 = 6$ ; and locate $4/4$ and 1 at the same point of a locating them on the number line diagram; and	(c.iii) writing whole numbers as fractions, recognizing fractions that are equivalent to whole numbers, and locating them on the number line;	(c.iii) Grammatical changes. Removed example.
(c.iv) compare comparing two fractions with the same numerator or the same denominator by reasoning about their size; recognize and recognizing that comparisons are valid only when the two fractions refer to the same whole; record the results of comparisons with the symbols >, =, or <; and justify the conclusions, e.g., by using a visual fraction model.: and	(c.iv) comparing two fractions with the same numerator or the same denominator by reasoning about their size and recognizing that comparisons are valid only when the two fractions refer to the same whole; and	(c.iv) Pulling the final statement into its own standard.
(c.v) recording the results of fraction comparisons with the symbols >, =, or < and justifying the conclusions.	(c.v) recording the results of fraction comparisons with the symbols >, =, or < and justifying the conclusions.	(c.v) Taking the final statement from (iv) and creating a new standard.

(4) Mathematics measurement and data content standards for Grade 3 are:	(4) Mathematics measurement and data content standards for Grade 3 are:	(4) No change
(a) tell and write time <u>on an analog and digital</u> <u>clock</u> to the nearest minute and measure time intervals in minutes and solve <del>word</del> problems <u>in context</u> involving addition and subtraction of time intervals in minutes <del>, e.g., by representing</del> the problem on a number line diagram;	(a) tell and write time on an analog and digital clock to the nearest minute and measure time intervals in minutes and solve problems in context involving addition and subtraction of time intervals in minutes;	(a) Consistency with 2nd grade standard. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(b) measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l) and customary and metric units by adding, subtracting, multiplying, or divide and dividing to solve one step word problems in context involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem;	(b) measure and estimate liquid volumes and masses of objects using customary and metric units by adding, subtracting, multiplying, and dividing to solve one step problems in context involving masses or volumes that are given in the same units;	(b) Inclusion of customary units. Revision for clarity. Examples were removed for clarity, yet may still appear in guidance documents.
(c) draw a scaled picture graph and a scaled bar graph to represent a data set with several categories <del>, within cultural contexts including</del> those of Montana American Indians; solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs; for example, draw a bar graph in which each square in the bar graph might represent five pets this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) draw a scaled picture graph and a scaled bar graph to represent a data set with several categories; solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC.
(d) generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch and show the data by making a line plot where the horizontal scale is	(d) generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch and show the data by making a line plot where the horizontal scale is marked off in appropriate units;	(d) Examples were removed for clarity, yet may still appear in guidance documents.

marked off in appropriate units <del>, i.e. whole</del> numbers, halves, or quarters;		
(e) recognize area as an attribute of plane figures and understand concepts of area measurement <del>; <u>by:</u></del>	(e) recognize area as an attribute of plane figures and understand concepts of area measurement by:	(e) Added the word "by:"
(e.i) <u>understanding that</u> a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area; and	(e.i) understanding that a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area; and	(e.i) Grammatical changes
(e.ii) <u>understanding that</u> a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units;	(e.ii) understanding that a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units;	(e.ii) Grammatical changes
(f) measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units);	(f) measure areas by counting unit squares;	(f) Examples were removed for clarity, yet may still appear in guidance documents.
(g) relate area to the operations of multiplication and addition <del>; <u>by:</u></del>	(g) relate area to the operations of multiplication and addition by:	(g) Added the word "by:"
(g.i) find-finding the area of a rectangle with whole-number side lengths by tiling it, and showing that the area is the same as would be found by multiplying the side lengths;	(g.i) finding the area of a rectangle with whole-number side lengths by tiling it, and showing that the area is the same as would be found by multiplying the side lengths;	(g.i) Grammatical changes
(g.ii) <u>multiply multiplying</u> side lengths to find areas of rectangles with whole-number side lengths <u>in the context of while</u> solving <u>real world and mathematical</u> problems <u>in</u> <u>context</u> and represent representing whole-number products as rectangular areas in mathematical recompany.	(g.ii) multiplying side lengths to find areas of rectangles with whole-number side lengths while solving problems in context and representing whole-number products as rectangular areas;	(g.ii) Grammatical changes. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(g.iii) <del>use <u>using</u> tiling to show in a concrete</del> case that the <u>and area models to represent the</u>	(g.iii) using tiling and area models to represent the distributive property in finding the area of a	(g.iii) Grammatical changes. Use of "area models" to demonstrate development of

distributive property in finding area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c and use area models to represent the distributive property in mathematical reasoning;	rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c;	distributive property, a foundational understanding for higher grade levels.
(g.iv) recognize-recognizing area as additive; finding areas of rectilinear straight-line figures by decomposing them into nonoverlapping rectangles and adding the areas of the nonoverlapping parts; and apply this technique to solve real-world problems, including those of Montana American Indians this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(g.iv) recognizing area as additive; finding areas of straight-line figures by decomposing them into nonoverlapping rectangles and adding the areas of the nonoverlapping parts; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and	(g.iv) Grammatical changes, clarifying language. Modified based on consultation with the Tribal panel, task force, and NRC.
(h) solve real-world and mathematical problems in context involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	(h) solve problems in context involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	(h) Change "word problems" to "problems in context" to align with NAEP and NCTM. Grammatical changes.
(5) Mathematics geometry content standards for Grade 3 are:	(5) Mathematics geometry content standards for Grade 3 are:	(5) No change
(a) understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides) and that the shared attributes can define a larger category (e.g., quadrilaterals); recognize rhombuses, rectangles, and squares as examples of quadrilaterals; and draw examples of quadrilaterals that do not belong to any of these subcategories; and	(a) understand that shapes in different categories may share attributes and that the shared attributes can define a larger category; recognize rhombuses, rectangles, and squares as examples of quadrilaterals; and draw examples of quadrilaterals that do not belong to any of these subcategories; and	(a) Examples were removed for clarity, yet may still appear in guidance documents.

(b) partition shapes into parts with equal areas; express the area of each part as a unit fraction of the whole; for example, partition a shape into four parts with equal area, and describe the area of each part as 1/4 of the area of the shape.	(b) partition shapes into parts with equal areas; express the area of each part as a unit fraction of the whole;	(b) Examples were removed for clarity, yet may still appear in guidance documents.

## **ARM 10.53.506<sup>13</sup>: Montana Grade 4 Mathematics Standards**

Proposed Action: Revision

### Summary of Proposed Changes:

- Total number of standards in 2011: 37
- Total number of standards proposed for 2024: 37
- Standards removed: 0
- New standards proposed: 0
- Standards identified as high cultural connections priorities: 5
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Use of "problems in context" The use of "word problems", "real-world problems" or other variations, were replaced with "problems in context". This was done to provide the use of consistent language throughout the K-12 standards.

<sup>&</sup>lt;sup>13</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E506</u>

## **Proposed Montana Grade 4 Mathematics Standards:**

4 <sup>th</sup> Grade Standards 2011	4 <sup>th</sup> Grade Standards 2024	Rationale
10.53.506 MONTANA GRADE 4	10.53.506 MONTANA GRADE 4	10.53.506 MONTANA GRADE 4
MATHEMATICS CONTENT STANDARDS	MATHEMATICS CONTENT STANDARDS	MATHEMATICS CONTENT STANDARDS
(1) Mathematics operations and algebraic thinking content standards for Grade 4 are:	(1) Mathematics operations and algebraic thinking content standards for Grade 4 are:	(1) No change
(a) interpret a multiplication equation as a <u>multiplicative</u> comparison, e.g., interpret 35 = 5 $\times$ 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5 and represent verbal statements of multiplicative comparisons as multiplication equations;	(a) interpret a multiplication equation as a multiplicative comparison and represent verbal statements of multiplicative comparisons as multiplication equations;	(a) Add: "multiplicative" for consistency with other standards. Examples were removed for clarity, yet may still appear in guidance documents. Specifically, non-prime examples are recommended for addition to guidance.
(b) multiply or divide to solve word problems in <u>context</u> involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, and distinguishing multiplicative comparison from additive comparison;	(b) multiply or divide to solve problems in context involving multiplicative comparison and distinguish multiplicative comparison from additive comparison;	(b) Examples were removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM. Grammatical changes.
(c) solve multistep-word problems in context within cultural contexts, including those of Montana American Indians, with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies including rounding; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) solve multistep problems in context with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c) Remove: "including rounding" Add: "i.e.; a variable" to use the proper term. Change "word problems" to "problems in context" to align with NAEP and NCTM. Modified based on consultation with the Tribal panel, task force, and NRC.

<ul> <li>(d) find all factor pairs for a whole number in the range 1-100; recognize that a whole number is a multiple of each of its factors; determine whether a given whole number in the range 1-1000 is a multiple of a given one-digit number; and determine whether a given whole number in the range 1-100 is prime or composite; and</li> <li>(e) generate analyze a number or shape patterns that follows a given rule; identify apparent and explain informally, features of the pattern that were not explicit in the rule itself; for example, given the rule "add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers; explain informally why the numbers will continue to alternate in this way the pattern.</li> </ul>	<ul> <li>(d) find all factor pairs for a whole number in the range 1-100; recognize that a whole number is a multiple of each of its factors; determine whether a given whole number in the range 1-1000 is a multiple of a given one-digit number; and determine whether a given whole number in the range 1-100 is prime or composite; and</li> <li>(e) analyze a number or shape pattern that follows a given rule; identify and explain informally, features of the pattern that were not explicit in the rule itself; generate terms in the resulting sequence and observe the pattern.</li> </ul>	(d) No change (e) Replace: "generate" with "analyze". Clarify multiple ways of knowing with a swap of "apparent" and "and explain informally". Examples were removed for clarity, yet may still appear in guidance documents.
<ul> <li>(2) Mathematics number and operations in base ten content standards for Grade 4 are:</li> <li>(a) recognize that in a multi-digit whole number, a digit in one each place represents ten times what it represents in than the the place to its right; for example, recognize that 700 ÷ 70 = 10 by applying concepts of place</li> </ul>	<ul> <li>(2) Mathematics number and operations in base ten content standards for Grade 4 are:</li> <li>(a) recognize that in a multi-digit whole number, each place represents ten times more than the place to its right;</li> </ul>	<ul><li>(2) No change</li><li>(a) Examples were removed for clarity, yet may still appear in guidance documents.</li></ul>
(b) read and write multi_digit whole numbers using base ten numerals, number names,standard form, word form, and expanded form and compare two multi_digit	(b) read and write multi-digit whole numbers using standard form, word form, and expanded form and compare two multi-digit numbers	(b) Clarifying language.

numbers based on <del>meanings <u>the value</u> of the digits in each place, using &gt;, =, and &lt; symbols <u>to record the results of comparisons</u>;</del>	based on the value of the digits in each place, using >, =, and < symbols;	
<ul> <li>(c) use place value understanding to round multi_digit whole numbers to any place;</li> <li>(d) fluently accurately and efficiently add and subtract multi_digit whole numbers using the standard algorithm;</li> <li>(e) multiply a whole number of up to four digits by a one-digit whole number; multiply two two-digit numbers, flexibly using strategies based on place value and the properties of operations; and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and</li> <li>(f) find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, flexibly using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> </ul>	<ul> <li>(c) use place value understanding to round multi-digit whole numbers to any place;</li> <li>(d) accurately and efficiently add and subtract multi-digit whole numbers using the standard algorithm;</li> <li>(e) multiply a whole number of up to four digits by a one-digit whole number; multiply two two-digit numbers, flexibly using strategies based on place value and the properties of operations; and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and</li> <li>(f) find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, flexibly using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> </ul>	<ul> <li>(c) No change</li> <li>(d) Utilize "accurately and efficiently" to replace "fluently".</li> <li>(e) Addition of word "flexibly"</li> <li>(f) Addition of word "flexibly"</li> </ul>
(3) Mathematics number and operations - fractions content standards for Grade 4 are:	(3) Mathematics number and operations - fractions content standards for Grade 4 are:	(3) No change
(a) explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models with attention to how the number and size of the parts differ even though the two fractions themselves are the same size and	(a) explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models and use this principle to recognize and generate equivalent fractions;	(a) Elaboration was removed for clarity, yet may still appear in guidance documents.

use this principle to recognize and generate equivalent fractions;		
(b) compare two fractions with different numerators and different denominators, <del>e.g.,</del> by creating common denominators or numerators, or by comparing to a benchmark fraction <del>such as 1/2</del> ; recognize that comparisons are valid only when the two fractions refer to the same whole; record the results of comparisons with symbols >, =, or <; and justify the conclusions <del>, e.g., by using a</del> visual fraction model;	(b) compare two fractions with different numerators and different denominators by creating common denominators or numerators, or by comparing to a benchmark fraction; recognize that comparisons are valid only when the two fractions refer to the same whole; record the results of comparisons with symbols >, =, or <; and justify the conclusions;	(b) Examples were removed for clarity, yet may still appear in guidance documents.
(c) understand a fraction a/b with a > 1 as a sum of fractions 1/b <del>; <u>by:</u></del>	(c) understand a fraction a/b with a > 1 as a sum of fractions 1/b by:	(c) Inclusion of the word "by:"
(c.i) understanding addition and subtraction of fractions as joining and separating parts referring to the same whole;	(c.i) understanding addition and subtraction of fractions as joining and separating parts referring to the same whole;	(c.i) Grammatical changes
(c.ii) decompose decomposing a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation; justify decompositions, e.g., by using a visual fraction model; for example: $3/8 = 1/8 + 1/8 + 1/8$ ; $3/8 = 1/8 + 2/8$ ; $2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$ ;	(c.ii) decomposing a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation;	(c.ii) Grammatical changes. Remove expectation of justification. Examples were removed for clarity, yet may still appear in guidance documents.
(c.iii) add-adding and subtract subtracting mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent improper fraction, and/or by using properties of operations and the relationship between addition and subtraction or other efficient strategies; and	(c.iii) adding and subtracting mixed numbers with like denominators, by replacing each mixed number with an equivalent improper fraction or other efficient strategies; and	(c.iii) Clarifying language. Elaboration on other efficient strategies may appear in guidance documents.

(c.iv) solve solving word problems within cultural contexts, including those of Montana American Indians, in context involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c.iv) solving problems in context involving addition and subtraction of fractions referring to the same whole and having like denominators; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(c.iv) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(d) apply and extend previous understandings of multiplication to multiply a fraction by a whole number; <u>by:</u>	(d) apply and extend previous understandings of multiplication to multiply a fraction by a whole number by:	(d) Addition of the word "by:"
(d.i) <u>understand understanding</u> a fraction a/b as a multiple of 1/b <del>; for example, use a visual fraction model to represent 5/4 as the product <math>5 \times (1/4)</math>, <u>and</u>-recording the conclusion by the equation <math>\frac{5/4}{5} \times (1/4) \cdot \frac{a}{b} = a^*(1/b)</math>;</del>	(d.i) understanding a fraction a/b as a multiple of 1/b and recording the conclusion by the equation a/b = a × (1/b));	(d.i) Grammatical changes. Example was generalized. Specific examples were removed for clarity, yet may still appear in guidance documents.
(d.ii) understand understanding a multiple of a/b as a multiple of 1/b, and use using this understanding to multiply a fraction by a whole number; for example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$ , and recognizing this product as $6/5$ (in general, n × (a/b) = (n × a)/b);	(d.ii) understanding a multiple of a/b as a multiple of 1/b, using this to multiply a fraction by a whole number and recognizing $n \times (a/b) =$ (n × a)/b; and	(d.ii) Grammatical changes. Examples were removed for clarity, yet may still appear in guidance documents. Generalized example retained.
(d.iii) solve word solving problems within cultural contexts, including those of Montana American Indians, in context involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem; for example, if each person at a party will eat 3/8 of a pound of roast beef and there will be five people at the party, how many pounds of roast beef will be needed? Between what two whole	(d.iii) solving problems in context involving multiplication of a fraction by a whole number; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(d.iii) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" to "problems in context" to align with NAEP and NCTM.

numbers does your answer lie? As a contemporary American Indian example, for family/cultural gatherings, the Canadian and Montana Cree bake bannock made from flour, salt, grease, and baking soda, in addition to 3/4 cup water per pan. When making four pans, how much water will be needed?; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;		
(e) express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100; for example, express $3/10$ as $30/100$ , and add 3/10 + 4/100 = 34/100;	(e) express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100;	(e) Examples were removed for clarity, yet may still appear in guidance documents.
(f) use decimal notation for fractions with denominators 10 or 100; for example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; and locate 0.62 on a number line diagram; and	(f) use decimal notation for fractions with denominators 10 or 100; and	(f) Examples were removed for clarity, yet may still appear in guidance documents.
(g) compare two decimals to hundredths by reasoning about their size; recognize that comparisons are valid only when the two decimals refer to the same whole; record the results of comparisons with the symbols >, =, or <; and justify the conclusions <del>, e.g., by using a visual model</del> .	(g) compare two decimals to hundredths by reasoning about their size; recognize that comparisons are valid only when the two decimals refer to the same whole; record the results of comparisons with the symbols >, =, or <; and justify the conclusions.	(g) Removal of "visual model" allows for multiple ways of representing justification.
(4) Mathematics measurement and data content standards for Grade 4 are:	(4) Mathematics measurement and data content standards for Grade 4 are:	(4) No change
(a) know relative sizes of measurement units within one system of <del>units including km, m, em, kg, g, lb., oz., l, ml, hr, min., and sec.;</del>	(a) know the relative sizes of units within one system of measurement and within the	(a) Examples were removed for clarity, yet may still appear in guidance documents.

within a single system of measurement, and within the system, express measurements in of a larger unit in terms of a smaller unit; record measurement equivalents in a two-column table; for example know that 1 ft is 12 times as long as 1 in.; express the length of a four ft snake as 48 in.; generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),;	system, express measurements of a larger unit in terms of a smaller unit;	
(b) use the four operations to solve word problems within cultural contexts, including those of Montana American Indians, involving in context of distances, intervals of time, liquid volumes, masses of objects, and money;. including problems involving-with simple fractions or decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit, represent measurement quantities using diagrams-such as number line diagrams that feature a measurement scale; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(b) use the four operations to solve problems in context of distances, intervals of time, liquid volumes, masses of objects, and money, including problems with simple fractions or decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit, represent measurement quantities using diagrams that feature a measurement scale; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(b) Grammatical changes. Modified based on consultation with the Tribal panel, task force, and NRC.Change "word problems" to "problems in context" to align with NAEP and NCTM.
(c) apply the area and perimeter formulas for rectangles in real-world and mathematical problems; for example, find the width of a rectangular room given the area of the flooring and the length by viewing the area formula as a multiplication equation with an unknown factor including problems in context;	(c) apply area and perimeter formulas for rectangles including problems in context;	(c) Examples were removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(d) make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8); and solve problems involving addition and subtraction of fractions by using information presented in line plots; for	(d) make a line plot to display a data set of measurements in fractions of a unit and solve problems involving addition and subtraction of	(d) Examples were removed for clarity, yet may still appear in guidance documents.

example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect or arrow/spearhead collection;	fractions by using information presented in line plots;	
<ul> <li>(e) recognize angles as geometric shapes that are formed wherever two rays share a common endpoint and understand concepts of angle measurement by:</li> <li>(e.i) an angle is measured with reference to a circle with its center at the common endpoint of the rays; by considering the fraction of the circular arc between the points where the two rays intersect the circle, an angle that turns through 1/360 of a circle is called a "one-degree angle" and can be used to measure angles understanding that an angle is formed by two rays with a common endpoint at the center of a circle that measures a total of 360 degrees, and a single-degree unit measure is equal to 1/360<sup>th</sup> of the circle; and</li> </ul>	<ul> <li>(e) recognize angles as geometric shapes that are formed wherever two rays share a common endpoint and understand concepts of angle measurement by:</li> <li>(e.i) understanding that an angle is formed by two rays with a common endpoint at the center of a circle that measures a total of 360 degrees, and a single-degree unit measure is equal to 1/360<sup>th</sup> of the circle; and</li> </ul>	(e) Inclusion of the word "by:" (e.i) Revision of wording of standard to use clarifying language that families and teachers will better understand. Concept retained.
(e.ii) <u>understanding that</u> an angle that turns through n one-degree angles is said to have		(e.ii) Clarifying language.
<ul> <li>an angle measure of n degrees;</li> <li>(f) measure angles in whole-number degrees using a protractor and sketch angles of specified measure; and</li> <li>(g) recognize angle measure as additive; when an angle is decomposed into nonoverlapping parts, the angle measure of the whole is the sum of the angle measurers of the parts; solve addition and subtraction problems to find</li> </ul>	<ul> <li>(e.ii) understanding that an angle that turns through n one-degree angles is said to have an angle measure of n degrees;</li> <li>(f) measure angles in whole-number degrees using a protractor and sketch angles of specified measure; and</li> <li>(g) recognize angle measure as additive; when an angle is decomposed into nonoverlapping parts, the angle measure of the whole is the</li> </ul>	<ul> <li>(f) Addition of "and" to match arm language.</li> <li>(g) Examples were removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM.</li> </ul>
unknown angles on a diagram in real-world and mathematical including problems in	sum of the angle measurers of the parts; solve addition and subtraction problems to find	

<u>context</u> ; e.g., by using an equation with a symbol for the unknown angle measure.	unknown angles on a diagram including problems in context.	
(5) Mathematics geometry content standards for Grade 4 are:	(5) Mathematics geometry content standards for Grade 4 are:	(5) No change
(a) draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures;	(a) draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures;	(a) No change
(b) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size; recognize right triangles as a category; and identify right triangles; and	(b) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size; recognize right triangles as a category; and identify right triangles; and	(b) No change
(c) recognize a line of symmetry for a two-dimensional figure, including those found in Montana American Indian designs, as a line across the figure such that the figure can be folded along the line into matching parts; identify line-symmetric figures; and draw lines of symmetry; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.	(c) recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts, identify line-symmetric figures, and draw lines of symmetry; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.	(c) Modified based on consultation with the Tribal panel, task force, and NRC.

## **ARM 10.53.507<sup>14</sup>: Montana Grade 5 Mathematics Standards**

Proposed Action: Revision

### **Summary of Proposed Changes:**

- Total number of standards in 2011: 40
- Total number of standards proposed for 2024: 40
- Standards removed: 0
- New standards proposed: 0
- Standards identified as high cultural connections priorities: 6
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Use of "problems in context" The use of "word problems", "real-world problems" or other variations, were replaced with "problems in context". This was done to provide the use of consistent language throughout the K-12 standards.

<sup>&</sup>lt;sup>14</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E507</u>

## **Proposed Montana Grade 5 Mathematics Standards:**

5 <sup>th</sup> Grade Standards 2011	5 <sup>th</sup> Grade Standards 2024	Rationale
10.53.507 MONTANA GRADE 5	10.53.507 MONTANA GRADE 5	10.53.507 MONTANA GRADE 5
MATHEMATICS CONTENT STANDARDS	MATHEMATICS CONTENT STANDARDS	MATHEMATICS CONTENT STANDARDS
(1) Mathematics operations and algebraic thinking content standards for Grade 5 are:	(1) Mathematics operations and algebraic thinking content standards for Grade 5 are:	(1) No change
(a) use parentheses, brackets, or braces in numerical expressions and evaluate expressions with these symbols <u>using the</u> <u>order of operations</u> ;	(a) use parentheses, brackets, or braces in numerical expressions and evaluate expressions with these symbols using the order of operations;	(a) Clarifying language.
(b) write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them; for example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7); recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product; and	(b) write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them; and	(b) Examples were removed for clarity, yet may still appear in guidance documents.
(c) generate two numerical patterns using two given rules and complete an input-output table for the data; identify apparent relationships between corresponding terms; form ordered pairs consisting of corresponding terms from the two patterns and graph the ordered pairs from the values in the input-output table and graph them on a coordinate plane; for example, given the rule "add 3" and the starting number 0, and given the rule "add 6" and the starting number 0, generate terms in the resulting sequences and observe that the terms in one sequence are twice the corresponding terms in the other sequence; and explain informally why this is so.	(c) generate numerical patterns using given rules and complete an input-output table for the data; identify apparent relationships between corresponding terms; form ordered pairs from the values in the input-output table and graph them on a coordinate plane.	(c) Clarifying language, simplified. Examples were removed for clarity, yet may still appear in guidance documents.

(2) Mathematics number and operations in base ten content standards for Grade 5 are:	(2) Mathematics number and operations in base ten content standards for Grade 5 are:	(2) No change
(a) recognize that in a multidigit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left;	(a) recognize that in a multidigit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left;	(a) No change
(b) explain patterns in the number of zeros of the product when multiplying a number by powers of 10; explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; and use whole-number exponents to denote powers of 10;	(b) explain patterns in the number of zeros of the product when multiplying a number by powers of 10; explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; and use whole-number exponents to denote powers of 10;	(b) No change
(c) read, write, and compare decimals to thousandths <del>; <u>by:</u></del>	(c) read, write, and compare decimals to thousandths by:	(c) Addition of the word "by"
(c.i) read-reading and write-writing decimals to thousandths using base ten numerals, number names, standard form, word form, and expanded form, e.g. $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ ; and	(c.i) reading and writing decimals to thousandths using standard form, word form, and expanded form; and	(c.i) Grammatical changes and clarifying language. Examples were removed for clarity, yet may still appear in guidance documents.
(c.ii) <u>compare_comparing</u> two decimals to thousandths based on meanings of the digits in each place using >, =, and < symbols <del>to</del> record the results of comparisons;	(c.ii) comparing two decimals to thousandths based on meanings of the digits in each place using >, =, and < symbols;	(c.ii) Grammatical changes. Removed "to record the results of comparisons" due to redundancy.
(d) use place value understandings to round decimals to any place;	(d) use place value understandings to round decimals to any place;	(d) No change
		(e) Addition of "accurately and efficiently"

<ul> <li>(e) fluently accurately and efficiently multiply multi-digit whole numbers using the standard algorithm;</li> <li>(f) flexibly, accurately, and efficiently find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and</li> <li>(g) add, subtract, multiply, and divide decimals to hundredths using concrete models or drawings within cultural contexts, including those of Montana American Indians, and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method; and explain the reasoning used ; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.</li> </ul>	<ul> <li>(e) accurately and efficiently multiply multi-digit whole numbers using the standard algorithm;</li> <li>(f) flexibly, accurately, and efficiently find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and</li> <li>(g) add, subtract, multiply, and divide decimals to hundredths using concrete models or drawings; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.</li> </ul>	<ul> <li>(f) Addition of "flexibly, accurately, and efficiently"</li> <li>(g) Adjusted for grade level expectations. Removed IEFA statement. Examples were removed for clarity, yet may still appear in guidance documents.</li> </ul>
(3) Mathematics number and operations – fractions content standards for Grade 5 are:	(3) Mathematics number and operations – fractions content standards for Grade 5 are:	(3) No change
(a) add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators; for example, $2/3 + 5/4 =$ 8/12 + 15/12 = 23/12 (in general, $a/b + c/d =(ad + bc)/bd$ );	(a) add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions;	(a) Elaboration was removed for clarity, yet may still appear in guidance documents.

(b) solve word problems in context involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem; and use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers; for example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that $3/7 < 1/2$ ;	(b) solve problems in context involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators and use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers;	(b) Elaboration was removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM. Examples were removed for clarity, yet may still appear in guidance documents.
(c) interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b); and solve word problems in context involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem; for example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3 and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4; if 9 people want to share a 50 pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?;	(c) interpret a fraction as division of the numerator by the denominator $(a/b = a \div b)$ and solve problems in context involving division of whole numbers leading to answers in the form of fractions or mixed numbers;	(c) Elaboration was removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(d) apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction; by:	(d) apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction by:	(d) Addition of the word "by"
(d.i) interpret expressing the product (a/b) × q as <u>"a"</u> parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b; for example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation within cultural contexts, including those of	(d.i) expressing the product (a/b) × q as "a" parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q $\div$ b; and	(d.i) Grammatical change, removal of example. Redundancy removal of IEFA statement. (Present in (f))

Montana American Indians; and do the same with (2/3) × (4/5) = 8/15 (in general, (a/b) × (c/d) = ac/bd); and		
(d.ii) find-finding the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths; show that the area is the same as would be found by multiplying the side lengths; multiply fractional side lengths to find areas of rectangles; and represent fraction products as rectangular areas;	(d.ii) finding the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths; show that the area is the same as would be found by multiplying the side lengths; multiply fractional side lengths to find areas of rectangles; and represent fraction products as rectangular areas;	(d.ii) Grammatical change.
(e) interpret multiplication as scaling (resizing), by:	(e) interpret multiplication as scaling (resizing), by:	(e) No change
(e.i) comparing the size of a product to the size of one factor on the basis of the size of the other factor without performing the indicated multiplication; and	(e.i) comparing the size of a product to the size of one factor on the basis of the size of the other factor without performing the indicated multiplication; and	(e.i) No change
(e.ii) explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1;	(e.ii) explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying $a/b$ by 1;	(e.ii) No change
(f) solve real-world problems in context involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem within cultural contexts, including those of Montana American Indians; this standard should incorporate cultural context relating to	(f) solve problems in context involving multiplication of fractions and mixed numbers; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(f) Elaboration was removed for clarity, yet may still appear in guidance documents. Change "word problems" to "problems in context" to align with NAEP and NCTM.
Montana Indigenous Peoples and local communities;		
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(g) apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions; by:	(g) apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions by:	(g) Addition of the word "by":
(g.i) interpret expressing division of a unit fraction by a nonzero whole number and compute such quotients; for example, create a story context within cultural contexts, including those of Montana American Indians, for (1/3) ÷ 4, and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3;	(g.i) expressing division of a unit fraction by a nonzero whole number and compute such quotients;	(g.i) IEFA statement removed due to redundancy in (iii). Elaboration was removed for clarity, yet may still appear in guidance documents.
(g.ii) interpret expressing division of a whole number by a unit fraction and compute such quotients; for example, create a story context within cultural contexts, including those of Montana American Indians, for $4 \div (1/5)$ , and use a visual fraction model to show the quotient; and use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$ ; and	(g.ii) expressing division of a whole number by a unit fraction and compute such quotients; and	(g.ii) IEFA statement removed due to redundancy in (iii) Elaboration was removed for clarity, yet may still appear in guidance documents.
(g.iii) solve solving real-world-problems in context involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem; for example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?.; this standard should incorporate cultural context	(g.iii) solving problems in context involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.	(g.iii) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC.

relating to Montana Indigenous Peoples and local communities.		
(4) Mathematics measurement and data content standards for Grade 5 are:	(4) Mathematics measurement and data content standards for Grade 5 are:	(4) No change
(a) convert among different-sized standard measurement units within a given measurement system <del>(e.g., convert 5 cm to 0.05 m)</del> and use these conversions in solving multi_step <del>, real-world</del> problems <del>-within a</del> <del>cultural context, including those of Montana</del> <del>American Indians;</del> <u>in context; this standard</u> <u>should incorporate cultural context relating to</u> <u>Montana Indigenous Peoples and local</u> <u>communities;</u>	(a) convert among different-sized standard measurement units within a given measurement system and use these conversions in solving multi-step problems in context; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) Change "word problems" to "problems in context" to align with NAEP and NCTM. Modified based on consultation with the Tribal panel, task force, and NRC.
(b) make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8); and use operations on fractions for this grade to solve problems involving information presented in line plots; for example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally;	(b) make a line plot to display a data set of measurements in fractions of a unit and use operations on fractions to solve problems involving information presented in line plots;	(b) Examples were removed for clarity, yet may still appear in guidance documents.
(c) recognize volume as an attribute of solid figures and understand concepts of volume measurement; by:	(c) recognize volume as an attribute of solid figures and understand concepts of volume measurement by:	(c) Addition of the word "by"
(c.i) <u>understanding that</u> a cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume and can be used to measure volume; and	(c.i) understanding that a cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume and can be used to measure volume; and	(c.i) Grammatical changes
(c.ii) <u>understanding that</u> a solid figure which can be packed without gaps or overlaps using	(c.ii) understanding that a solid figure can be packed without gaps or overlaps using n unit	(c.ii) Grammatical changes

n unit cubes is said to have a volume of n cubic units;	cubes is said to have a volume of n cubic units;	
(d) measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised <u>non-standard</u> units;	(d) measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units;	(d) Language change for clarity.
(e) relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume within cultural contexts, including those of Montana American Indians; volume problems including problems in context by:	(e) relate volume to the operations of multiplication and addition and volume problems including problems in context by:	(e) Addition of the word "by". Transference of IEFA statement to item 4.e.iii. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(e.i) find-finding the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base; and represent-representing threefold whole-number products as volumes, e.g., to represent the product of three whole numbers using the associative property of multiplication:	(e.i) finding the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base and representing the product of three whole numbers using the associative property of multiplication;	(e.i) Grammatical changes and clarifying language.
(e.ii) apply applying the formulas $V = I \times w \times h$ and $V = b\underline{B} \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems including problems in context; and	(e.ii) applying the formulas V = I × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths problems including problems in context; and	(e.ii) Grammatical changes. Change "word problems" to "problems in context" to align with NAEP and NCTM.
(e.iii) <u>recognize recognizing</u> volume as additive and <u>find-finding</u> volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve <u>real-world</u> problems <u>in</u>	(e.iii) recognizing volume as additive and finding volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve problems in context; this standard should incorporate cultural context relating to	(e.iii) Grammatical changes. Change "word problems" to "problems in context" to align with NAEP and NCTM. Modified based on consultation with the Tribal panel, task force, and NRC.

context: this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.	Montana Indigenous Peoples and local communities.	
(5) Mathematics geometry content standards for Grade 5 are:	(5) Mathematics geometry content standards for Grade 5 are:	(5) No change
(a) use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines (at_the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates; understand that the <u>x-coordinate</u> , the first number, indicates how far to travel from the origin in the direction of <del>one the x-</del> axis and the <u>y-coordinate</u> , the second number, indicates how far to travel in the direction of the second <u>y-axis</u> , with the convention that the names of the two axes and the coordinates correspond (e.g., <u>x-axis and x-coordinate</u> , <del>y-axis and y-coordinate</del> );	(a) use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines at the origin arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates; understand that the x-coordinate, the first number, indicates how far to travel from the origin in the direction of the x-axis and the y-coordinate, the second number, indicates how far to travel in the direction of the y-axis;	(a) Clarifying language used.
(b) represent real-world and mathematical problems including problems in context by graphing points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation <del>,</del> including those found in Montana American Indian designs; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities;	(b) represent problems including problems in context by graphing points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities;	(b) Change "word problems" to "problems in context" to align with NAEP and NCTM. Modified based on consultation with the Tribal panel, task force, and NRC.
(c) understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category; for example, all rectangles have four right angles	(c) understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category; and	(c) Examples were removed for clarity, yet may still appear in guidance documents.

and squares are rectangles, so all squares have four right angles; and		
(d) classify two-dimensional figures in a hierarchy based on properties.	(d) classify two-dimensional figures in a hierarchy based on properties.	(d) No change



# **ARM 10.53.508<sup>15</sup>: Montana Grade 6 Mathematics Standards**

Proposed Action: Revision

### **Summary of Proposed Changes:**

- Total number of standards in 2011: 47
- Total number of standards proposed for 2024: 41
- Standards removed: 6
  - Five standards were condensed into other standards. While the overall number was reduced, these concepts are retained. One standard was considered redundant and removed from the standards. It was felt that this concept was covered in another standard.
- New standards proposed: 0
- Standards identified as high cultural connections priorities: 6
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Use of "problems in context" The use of "word problems", "real-world problems" or other variations, were replaced with "problems in context". This was done to provide the use of consistent language throughout the K-12 standards.

<sup>&</sup>lt;sup>15</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E508</u>



## **Proposed Montana Grade 6 Mathematics Standards:**

6 <sup>th</sup> Grade Standards 2011	6 <sup>th</sup> Grade Standards 2024	Rationale
10.53.508MONTANA GRADE 6MATHEMATICS CONTENT STANDARDS	10.53.508MONTANA GRADE 6MATHEMATICS CONTENT STANDARDS	10.53.508MONTANA GRADE 6MATHEMATICS CONTENT STANDARDS
(1) Mathematics ratios and proportional relationship content standards for Grade 6 are:	(1) Mathematics ratios and proportional relationship content standards for Grade 6 are:	(1) No change
(a) understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities; for example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."	(a) understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities;	(a) Examples were removed for clarity, yet may still appear in guidance documents.
(b) understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship; for example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."	(b) understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship; and	(b) Examples were removed for clarity, yet may still appear in guidance documents.
(c) use ratio and rate reasoning to solve real-world and mathematical_proportional problems from a variety of cultural contexts, including those of Montana American Indians, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations_in context about unit rates, percentages (as a rate per 100), and/or measurement units using tables or equations; this standard should incorporate cultural context relating to Montana Indigenous	(c) use ratio and rate reasoning to solve proportional problems including problems in context about unit rates, percentages (as a rate per 100), and/or measurement units using tables or equations; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.	(c) Condensed (i), (ii), (iii) and (iv). Elaborations and examples were removed for clarity, yet may still appear in guidance documents.

Peoples and local communities.		
(c.i) make tables of equivalent ratios relating		(c.i) Condensed into (c)
quantities with whole-number measurements, find missing values in the tables, plot the pairs of values on the coordinate plane, and use		
tables to compare ratios;		
(c.ii) solve unit rate problems including those involving unit pricing and constant speed; for		(c.ii) Condensed into (c)
then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns		
being mowed? As a contemporary American Indian example, it takes at least 16 hours to		
two children. How many pairs of moccasins two children. How many pairs of moccasins can be completed in 72 hours?:		
(c.iii) find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity) and solve problems involving finding the whole, given a part and the percent;		(c.iii) Condensed into (c)
(c.iv) use ratio reasoning to convert measurement units and manipulate and transform units appropriately when multiplying or dividing quantities.		(c.iv) Condensed into (c)
(2) Mathematics number system content	(2) Mathematics number system content	(2) No change
standards for Grade 6 are:	standards for Grade 6 are:	
(a) <u>represent</u> , interpret, and compute quotients of fractions and solve <del>word</del> problems <u>in context</u> involving division of fractions by fractions of	(a) represent, interpret, and compute quotients of fractions and solve problems in context involving division of fractions by fractions:	(a) Examples were removed for clarity, yet may still appear in guidance documents.
by using visual fraction models and equations	involving division of fractions by fractions,	

to represent the problem; for example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?;		
(b) fluently accurately and efficiently divide multi-digit numbers using the standard algorithm;	(b) accurately and efficiently divide multi-digit numbers using the standard algorithm;	(b) update fluency language
(c) fluently accurately and efficiently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation;	(c) accurately and efficiently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation;	(c) update fluency language
(d) find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12; use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor; for example, express 36 + 8 as 4 (9 + 2);	(d) find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12; use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor;	(d) Examples were removed for clarity, yet may still appear in guidance documents.
(e) understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge) and use positive and negative numbers to represent quantities in real-world problems in contexts.	(e) understand that positive and negative numbers are used together to describe quantities having opposite directions or values and use positive and negative numbers to represent quantities in problems in context, explaining the meaning of 0 in each situation;	(e) Examples were removed for clarity, yet may still appear in guidance documents.

explaining the meaning of 0 in each situation;		
(f) understand a rational number as a point on the number line and extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates; by:	(f) understand a rational number as a point on the number line and extend number line diagrams and coordinate axes by:	(f) revised for clarity and inclusion of the word "by" for consistent vertical alignment.
(f.i) recognize recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize recognizing that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = -3$ ; and that 0 is its own opposite;	(f.i) recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognizing that the opposite of the opposite of a number is the number itself, and that 0 is its own opposite;	(f.i) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes occurred.
(f.ii) understand-understanding signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane and recognize-recognizing that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes; and	(f.ii) understanding signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane and recognizing that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes; and	(f.ii) Grammatical changes.
(f.iii) find-finding and position-positioning integers and other rational numbers on a horizontal or vertical number line diagram and find-finding and position-positioning pairs of integers and other rational numbers on a coordinate plane;	(f.iii) finding and positioning integers and other rational numbers on a horizontal or vertical number line diagram and finding and positioning pairs of integers and other rational numbers on a coordinate plane;	(f.iii) Grammatical changes occurred.
(g) understand ordering and absolute value of rational numbers; by:	(g) understand ordering and absolute value of rational numbers by:	(g) Inclusion of the word "by" for consistent vertical alignment.
(g.i) interpret interpreting statements of inequality as statements about the relative position of two numbers on a number line diagram; for example, interpret -3 > -7 as a	(g.i) interpreting statements of inequality as statements about the relative position of two numbers on a number line diagram;	(g.i) Grammatical changes. Examples were removed for clarity, yet may still appear in guidance documents.



statement that -3 is located to the right of -7 on a number line oriented from left to right;		
(g.ii) write_writing, interpret_interpreting, and explain_explaining_statements of order for rational numbers in real-world contexts; for example, write -30 C > -70 C to express the fact that -30 C is warmer than -70 C problems in context;	(g.ii) writing, interpreting, and explaining statements of order for rational numbers in problems in context;	(g.ii) Grammatical changes. Examples were removed for clarity, yet may still appear in guidance documents.
(g.iii) understand understanding the absolute value of a rational number as its distance from 0 on the number line; and interpret interpreting, absolute value as magnitude for a positive or negative quantity in a real-world situation; for example, for an account balance of -30 dollars, write  -30  = 30 to describe the size of the debt in dollars_problems in context; and	(g.iii) understanding the absolute value of a rational number as its distance from 0 on the number line and interpreting absolute value as magnitude for a positive or negative quantity in problems in context; and	(g.iii) Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes.
(g.iv) distinguish-distinguishing comparisons of absolute value from statements about order; for example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars;	(g.iv) distinguishing comparisons of absolute value from statements about order;	(g.iv) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes.
(h) solve real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, by graphing graph points in all four quadrants of the coordinate plane and include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(h) graph points in all four quadrants of the coordinate plane and include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(h) Reduced "real world" requirement to emphasize the mathematical tool of graphing and analysis. Modified based on consultation with the Tribal panel, task force, and NRC.

(3) Mathematics expressions and equations content standards for Grade 6 are:	(3) Mathematics expressions and equations content standards for Grade 6 are:	(3) No change
(a) write and evaluate numerical expressions involving whole-number bases and exponents;	(a) write and evaluate numerical expressions involving whole-number bases and exponents;	(a) Addition of words "bases and"
(b) write, read, and evaluate expressions in which letters stand for numbers; with variables by:	(b) write, read, and evaluate expressions with variables by:	(b) Use of appropriate vocabulary word "variables" to replace "letters stand for numbers". Use of the word "by" for vertical alignment consistency.
(b.i) write writing expressions that record operations with numbers and with letters standing for numbers; for example, express the calculation "subtract y from 5" as 5 - y variables;	(b.i) writing expressions that record operations with numbers and with variables;	(b.i) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes. Use of appropriate vocabulary word "variables".
(b.ii) identify identifying parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity; for example, describe the expression 2 (8 + 7) as a product of two factors; and view (8 + 7) as both a single entity and a sum of two terms; and (sum, product, difference, quotient, term, factor, coefficient, variable) and writing expressions that represent verbal descriptions of problems in context; and	(b.ii) identifying parts of an expression using mathematical terms (sum, product, difference, quotient, term, factor, coefficient, variable), and writing expressions that represent verbal descriptions of problems in context; and	(b.ii) Changed student action from "describe" to "write" implying a written rather than a verbal activity. Team believed this is a standard that can be supported by real world applications. Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes.
(b.iii) evaluate evaluating expressions at specific values of their variables; include including expressions that arise from formulas used in real world problems; perform performing arithmetic operations, including those involving whole-number exponents in the conventional order when there are no parentheses to specify a particular order (, and using the order of operations); for example, use the formulas V = s3 and A = 6 s2 to find	(b.iii) evaluating expressions at specific values of their variables, including expressions that arise from formulas, performing arithmetic operations, including those involving whole-number exponents, and using the order of operations;	(b.iii) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes.

the volume and surface area of a cube with sides of length s = 1/2;		
(c) apply the properties of operations including the distributive property, to generate equivalent expressions; for example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$ ; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$ ; and apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$ ; and determine when two expressions are equivalent;	(c) apply the properties of operations, including the distributive property, to generate equivalent expressions, and determine when two expressions are equivalent;	(c) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical and punctuation changes.
(d) identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them); for example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for;		(d) Standard removed due to redundancy
(e)(d) understand solving how to solve an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use_by using substitution to determine whether a given number in a specified set makes an equation or inequality true;	(d) understand how to solve an equation or inequality as a process by using substitution to determine whether a given number in a specified set makes an equation or inequality true;	(d) Make a statement rather than a question to make it clearer.
(f)(e) use variables to represent numbers and write expressions when solving a real-world or mathematical problem problems in context and understand that a variable can represent an	(e) write expressions when solving problems in context and understand that a variable can represent an unknown number, or any number in a specified set;	(e) Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Use clarifying language.



unknown number, or, <del>depending on the</del> <del>purpose at hand,</del> any number in a specified set;		
(g)(f) solve real-world and mathematical problems including problems in context by writing and solving equations of the form $x + p$ = q and px = q for cases in which p, q, and x are all nonnegative rational numbers;	(f) solve problems including problems in context by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers;	(f) Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM.
(h)(g) write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in-a real-world or mathematical problem; recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; and represent problems including problems in context; graph and describe solutions of such inequalities on number line diagrams; and	(g) write an inequality of the form x > c or x < c to represent a constraint or condition in problems including problems in context; graph and describe solutions of such inequalities on number line diagrams; and	(g) Changed the action verb or expectation to make the student outcome measurable. "Graph and describe" rather than "recognize".
(i)(h) use variables to represent two quantities in a real-world problem from a variety of cultural contexts, including those of Montana American Indians, that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable; analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation; for example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times and write the equation d = 65t to represent the relationship between distance and time. and write an equation to express one quantity in terms of the other; this standard should incorporate cultural context relating to Montana Indigenous Peoples and	(h) use variables to represent two quantities that change in relationship to one another; analyze the relationship between the dependent and independent variables using graphs and tables, and write an equation to express one quantity in terms of the other; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.	(h) Changed the order of the first line for clarity. Changed the student outcome to "write an equation to express" rather than the less measurable verbiage "analyze" and "relate". Modified based on consultation with the Tribal panel, task force, and NRC.

local communities.		
(4) Mathematics geometry content standards for Grade 6 are:	(4) Mathematics geometry content standards for Grade 6 are:	(4) Mathematics geometry content standards for Grade 6 are:
(a) find the area of right triangles, other triangles, special quadrilaterals, and other polygons by composing them into rectangles or decomposing them into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems within cultural contexts, including those of Montana American Indians; for example, use Montana American Indian designs to decompose shapes and find the area; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) find the area of triangles, quadrilaterals, and polygons by composing them into rectangles or decomposing them into triangles and other shapes; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(a) Reduced repetitive language. This item could benefit from a tribal-specific example in the guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC.
(b) find the volume of a right rectangular prism with fractional edge lengths by <u>packing filling</u> it with unit cubes of the appropriate unit fraction edge lengths and show that the volume is the same as would be found by multiplying the edge lengths of the prism and connect and apply the formulas $V = I w h and V = b B h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems to solve problems in context;	(b) find the volume of a right rectangular prism with fractional edge lengths by filling it with unit cubes of the appropriate unit fraction edge lengths and connect and apply the formulas V = I w h and V = B h to find volumes of right rectangular prisms with fractional edge lengths to solve problems in context;	(b) Simplified for clarity. Change volume formula to remedy mistakes in 2011. The previous edition erroneously recorded volume as being equal to bh, which is the formula for area. V=Bh were B refers to the area of the base of a solid.
(c) draw polygons in the coordinate plane given coordinates for the vertices <del>; use coordinates to,</del> find the length of a side joining	(c) draw polygons in the four-quadrant coordinate plane given coordinates for the vertices, find the length of a horizontal or	(c) Simplified for clarity. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM

<ul> <li>points with the same first coordinate or the same second coordinate; horizontal or vertical side and apply these techniques in the context of solving real-world and mathematical problems in context; and</li> <li>(d) represent three-dimensional figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures and apply these techniques in the context of solving real-world and mathematical problems within cultural contexts, including those of Montana American Indians. in problems including problems in context; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.</li> </ul>	vertical side, and apply these techniques to solve problems in context; and (d) represent three-dimensional figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures in a mathematical and real-world context; this standard should incorporate a cultural context relating to Montana American Indians and local communities.	(d) Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM
(5) Mathematics statistics and probability content standards for Grade 6 are:	(5) Mathematics statistics and probability content standards for Grade 6 are:	(5) No change
(a) recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers; for example, "How old am !?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages;	(a) recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers;	(a) Examples were removed for clarity, yet may still appear in guidance documents.
(b) understand that a set of data collected (including Montana American Indian demographic data) to answer a statistical question has a distribution which_that can be described by its center, spread, and overall shape; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;	(b) understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) Modified based on consultation with the Tribal panel, task force, and NRC.

(c) recognize that <u>a measures measures</u> of <u>center central tendency</u> for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number:	(c) recognize that a measures of central tendency for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number;	(c) Use of the appropriate vocabulary word "central tendency" to replace "center".
(d) display numerical data in plots on a number line, including dot plots, histograms, and box plots and describe any overall pattern and any striking deviations from the overall pattern with reference to the context which the data were gathered; and	(d) display numerical data in plots on a number line, including dot plots, histograms, and box plots and describe any overall pattern and any striking deviations from the overall pattern with reference to the context which the data were gathered; and	(d) Display and describe data distributions
(e) summarize characterize numerical data sets from a sample in relation to their context, such as by:	(e) characterize numerical data sets from a sample in relation to their context by:	(e) Link data to the context from which it is drawn
	(e.i) reporting the number of observations;	(e.i) No change
(e.i) reporting the number of observations;	(a ii) describing the pature of the attribute	
(e.ii) describing the nature of the attribute under investigation, including how it was measured and its units of measurement; and	under investigation, including how it was measured and its units of measurement; and	
(e.iii) <u>giving finding</u> quantitative measures of <u>center central tendency</u> (mode, median and/or mean) and variability (interquartile range and/or mean absolute deviation), <del>as well as</del> describing any overall pattern and any striking deviations from the overall pattern with reference to for numerical data sets and relating the choice of measures of central tendency and variability to the shape of the data distribution and the context in which the data were gathered: <del>and</del>	(e.iii) finding quantitative measures of central tendency (mode, median and/or mean) and variability (interquartile range and/or mean absolute deviation), for numerical data sets and relating the choice of measures of central tendency and variability to the shape of the data distribution and the context in which the data were gathered.	(e.iii) Numerically summarize center and spread. Use of the appropriate vocabulary word "central tendency" to replace "center".
		(e.iv) Combined (iv) to (iii) for practicality
(e.iv) relating the choice of measures of center		
distribution and the context in which the data		

## **ARM 10.53.509<sup>16</sup>: Montana Grade 7 Mathematics Standards**

Proposed Action: Revision

### Summary of Proposed Changes:

- Total number of standards in 2011: 42
- Total number of standards proposed for 2024: 27
- Standards removed: 16

Six standards were condensed into other standards. While the overall number was reduced, these concepts are retained. Ten standards were removed as expectations from the 7th grade standards. These may still appear in guidance documents as elaborations.

- New standards proposed: 0
- Standards identified as high cultural connections priorities: 7
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate

<sup>&</sup>lt;sup>16</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E509</u>

to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.

• Use of "problems in context" - The use of "word problems", "real-world problems" or other variations, were replaced with "problems in context". This was done to provide the use of consistent language throughout the K-12 standards.

7 <sup>th</sup> Grade Standards 2011	7 <sup>th</sup> Grade Standards 2024	Rationale
10.53.509 MONTANA GRADE 7 MATHEMATICS CONTENT STANDARDS	10.53.509 MONTANA GRADE 7 MATHEMATICS CONTENT STANDARDS	10.53.509 MONTANA GRADE 7 MATHEMATICS CONTENT STANDARDS
(1) Mathematics ratios and proportional relationship content standards for Grade 7 are:	(1) Mathematics ratios and proportional relationship content standards for Grade 7 are:	(1) No change
(a) compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units; for example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2 / 1/4 miles per hour, equivalently 2 miles per hour;	(a) compute unit rates associated with ratios of fractions, measured in like or different units;	(a) Examples were removed for clarity, yet may still appear in guidance documents. Used clarifying language
(b) recognize and represent proportional relationships between quantities, including those represented in Montana American Indian cultural contexts; using tables, graphs, and equations by:	(b) recognize and represent proportional relationships between quantities, using tables, graphs, and equations by:	(b) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC. Contextualized settings as "table, graph and equation". Use of the word "by" for vertical alignment consistency.
(b.i) decide deciding whether two a table represents quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing and deciding whether a graph represents quantities in a proportional	(b.i) deciding whether a table represents quantities in a proportional relationship by testing for equivalent ratios and deciding whether a graph represents quantities in a proportional relationship if the graph is a straight line through the origin; and	(b.i) Split the two settings up: table and graph. Grammatical changes.

#### **Proposed Montana Grade 7 Mathematics Standards:**



relationship if the graph is a straight line through the origin; and		
(b.ii) identify-identifying the constant of proportionality (unit rate) in tables, graphs, <u>and</u> equations, <del>diagrams, and verbal descriptions</del> of proportional relationships; <u>and</u>	(b.ii) identifying the constant of proportionality (unit rate) in tables, graphs, and equations of proportional relationships; and	(b.ii) Removed diagrams and verbal descriptions.
(b.iii) represent proportional relationships by equations; for example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn; as a contemporary American Indian example, analyze cost of beading materials; cost of cooking ingredients for family gatherings, community celebrations, etc.; and		(b.iii) Omitted
(b.iv) explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate;		(b.iv) Omitted
(c) use proportional relationships to solve multistep ratio and percent problems-within cultural contexts, including those of Montana American Indians (e.g., percent of increase and decrease of tribal land); for example: including problems in context involving simple interest, tax, markups and markdowns, gratuities and commissions, fees, and percent increase and decrease, percent error: this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(c) use proportional relationships to solve multi-step ratio and percent problems including problems in context involving simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, and percent error; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(c) Modification of real-world connections statement. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Grammatical change. Modified based on consultation with the Tribal panel, task force, and NRC.

(2) Mathematics number system content standards for Grade 7 are:	(2) Mathematics number system content standards for Grade 7 are:	(2) No change
(a) apply and extend previous understandings of addition and subtraction to add and subtract rational numbers, and represent addition and subtraction on a horizontal or vertical number line diagram, and understand subtraction as adding the additive inverse $p - q = p + (-q)$ ;	(a) add and subtract rational numbers, represent addition and subtraction on a horizontal or vertical number line diagram, and understand subtraction as adding the additive inverse, $p - q = p + (-q)$ ;	(a) Reduced the number of sub-standards by clarifying within the standard itself. Redundancy.
(a.i) describe situations in which opposite quantities combine to make 0; for example, a hydrogen atom has 0 charge because its two constituents are oppositely charged;		(a.i) Omitted
(a.ii) understand p + q as the number located a distance  q  from p, in the positive or negative direction depending on whether q is positive or negative; show that a number and its opposite have a sum of 0 (are additive inverses); and interpret sums of rational numbers by describing real-world contexts;		(a.ii) Omitted
(a.iii) understand subtraction of rational numbers as adding the additive inverse, $p - q$ = $p + (-q)$ ; show that the distance between two rational numbers on the number line is the absolute value of their difference; and apply this principle in real-world contexts; and		(a.iii) Omitted
(a.iv) apply properties of operations as strategies to add and subtract rational numbers;		(a.iv) Omitted
(b) apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers; and use operations of rational numbers to solve problems in context; this standard should	(b) multiply and divide rational numbers and use operations of rational numbers to solve problems in context; this standard should incorporate a cultural context relating to	(b) Combine the third standard and condensed sub-standards into this standard, and use Oregon as a model.

incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and	Montana Indigenous Peoples and local communities; and	
(b.i) understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers; and interpret products of rational numbers by describing real-world contexts;		(b.i) Omitted
(b.ii) understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with nonzero divisor) is a rational number, i.e. if p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$ ; and interpret quotients of rational numbers by describing real-world contexts;		(b.ii) Omitted
(b.iii) apply properties of operations as strategies to multiply and divide rational numbers; and		(b.iii) Omitted
(b.iv)(c) convert a write any rational number-to as a fraction, decimal, and percent using long division; and know that the decimal form of a rational number terminates-in 0s or eventually repeats;	(c) write any rational number as a fraction, decimal, and percent using long division and know that the decimal form of a rational number terminates or repeats;	(b.iv)(c) Changed verb to measurable/accessible action, added other forms of rational numbers. Updated numbering to reflect deletion of other standards.
(c) solve real world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, involving the four operations with rational numbers.		(c) Culturally responsive language added to item (b)

(3) Mathematics expressions and equations	(3) Mathematics expressions and equations	(3) No change
content standards for Grade 7 are:	content standards for Grade 7 are:	
(a) apply use properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients and generate equivalent expressions;	(a) use properties of operations to add, subtract, factor and expand linear expressions with rational coefficients and generate equivalent expressions;	(a) expanded to include generation of equivalent expressions.
(b) understand that rewriting an expression in different forms in a problem <u>in</u> context can <del>shed light on the problem and show</del> how the quantities in it are related; for example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05;"	(b) understand that rewriting an expression in different forms in a problem in context can show how the quantities are related;	(b) Examples were removed for clarity, yet may still appear in guidance documents. Open to wording of "shed light"used Oregon as an example.
(c) <u>write and solve multistep real-life and</u> <u>mathematical one- and two-step equations</u> <u>including</u> problems posed with positive and negative in context with rational numbers, in any form (whole numbers, fractions, and decimals), using tools strategically; apply properties of operations to calculate with numbers in any form; convert between forms as appropriate;, and assess the reasonableness of answers using mental computation and estimation strategies; for example: if a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10	(c) write and solve one- and two-step equations including problems in context with rational numbers, convert between forms as appropriate, and assess the reasonableness of answers; and	(c) Examples and elaborations were removed for clarity, yet may still appear in guidance documents. Reduce language. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM.
of her salary an hour, or \$2.50, for a new salary of \$27.50 and if you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation; and	(d) use variables to represent quantities and	(d) Modified based on consultation with the
(d) use variables to represent quantities in a real-world or mathematical problems, including	construct simple equations and inequalities to solve problems in context; this standard should	Tribal panel, task force, and NRC. Change "word problems" or "real-world" to "problems in

those represented in Montana American Indian cultural contexts, and construct simple equations and inequalities to solve problems by reasoning about the quantities in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	context" to align with NAEP and NCTM. Use of the word "by" for vertical alignment consistency.
(d.i) solve word solving, accurately and efficiently, problems in context leading to equations of the form $px + q = r$ and $p(x + q) = r$ , where p, q, and r are specific rational numbers; solve equations of these forms fluently;, compare comparing an algebraic solution to an arithmetic solution, and identifying the sequence of the operations used in each approach; for example, the perimeter of a rectangle is 54 cm. and its length is 6 cm. What is its width?; and	(d.i) solving, accurately and efficiently, problems in context leading to equations of the form $px + q = r$ and $p(x + q) = r$ , where p, q, and r are specific rational numbers, comparing an algebraic solution to an arithmetic solution, and identifying the sequence of the operations used in each approach; and	(d.i) Addition of fluency language. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Examples were removed for clarity, yet may still appear in guidance documents Grammatical changes.
(d.ii) solve word solving problems in context leading to inequalities of the form $px + q > r$ or px + q < r, where p, q, and r are specific rational numbers; graph, graphing the solution set of the inequality, and interpret_interpreting it in the context of the problem the solution in context; for example: as a salesperson, you are paid \$50 per week plus \$3 per sale; this week you want your pay to be at least \$100; write an inequality for the number of sales you need to make and describe the solutions.	(d.ii) solving problems in context leading to inequalities of the form $px + q > r$ or $px + q < r$ , where p, q, and r are specific rational numbers, graphing the solution set of the inequality, and interpreting the solution in context.	(d.ii) Examples were removed for clarity, yet may still appear in guidance documents. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Grammatical changes.
(4) Mathematics geometry content standards for Grade 7 are:	(4) Mathematics geometry content standards for Grade 7 are:	(4) No change
(a) solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and	(a) solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and	(a) No change

reproducing a scale drawing at a different scale;	reproducing a scale drawing at a different scale;	
(b) draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions; focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle;	(b) draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions; focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle;	(b) No change
(c) describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids;		<del>(c)</del> Removed standard, limited applications.
(d)(c) know and use the formulas for the area and circumference of a circle and use them to solve problems from a variety of cultural contexts, including those of Montana American Indians and give an informal derivation of the relationship between the circumference and area of a circle; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(c) know and use the formulas for the area and circumference of a circle and give an informal derivation of the relationship between the circumference and area of a circle; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(c) Modified based on consultation with the Tribal panel, task force, and NRC. Addition of expectation to use what the student knows. Update coding system with removal of previous item (c)
(e)(d) use facts about supplementary, complementary, vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure; and	(d) use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure; and	(d) Update coding system with removal of previous item (c)
(f)(e) solve-real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, geometrical problems including problems in context involving area, volume, and surface area of two- and three-dimensional objects	(e) solve geometrical problems including problems in context involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms; this standard should incorporate a	(e) Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM. Grammatical changes. Update coding system with removal of previous item (c)



composed of triangles, quadrilaterals, polygons, cubes, and right prisms <u>; this</u> <u>standard should incorporate a cultural context</u> <u>relating to Montana Indigenous Peoples and</u> <u>local communities</u> .	cultural context relating to Montana Indigenous Peoples and local communities.	
(5) Mathematics statistics and probability content standards for Grade 7 are:	(5) Mathematics statistics and probability content standards for Grade 7 are:	(5) No change
(a) understand that statistics can be used to gain information about a population by examining a <u>representative</u> sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population; and understand that random sampling tends to produce representative samples and support valid inferences;	(a) understand statistics can be used to gain information about a population by examining a representative sample of the population;	(a) Utilization of "representative" to distinguish the type of sampling to be used, and to cover the statement that "generalizations about a population from a sample are valid if…" in order to shorten the standard for clarity. Elaborations may appear in guidance documents.
(b) use data, including Montana American Indian demographics data, from a random sample to draw inferences about a population with an unknown characteristic of interest; and generate or simulate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions; for example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data; predict how many text messages your classmates receive in a day and gauge how far off the estimate or prediction might be; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) use data, from a random sample to draw inferences about a population with an unknown characteristic of interest and generate or simulate multiple samples of the same size to gauge the variation in estimates or predictions; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) Examples were removed for clarity, yet may still appear in guidance documents. Use clarifying language. Modified based on consultation with the Tribal panel, task force, and NRC.

(c) informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability; for example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable; visually analyze two data distributions to compare measures of central tendency and variability;	(c) visually analyze two data distributions to compare measures of central tendency and variability;	(c) Complete rewrite using Oregon. Use of appropriate vocabulary "central tendency".
(d) use measures of <u>center central tendency</u> and measures of variability for numerical data from random samples to draw <u>informal</u> comparative inferences about two populations; for example, decide whether the words in a chapter of a seventh grade science book are generally longer than the words in a chapter of a fourth-grade science book;	(d) use measures of central tendency and measures of variability for numerical data from random samples to draw comparative inferences about two populations;	(d) Examples were removed for clarity, yet may still appear in guidance documents.
(e) understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring; <del>larger numbers indicate greater</del> <del>likelihood; a probability near 0 indicates an</del> <del>unlikely event; a probability around 1/2</del> <del>indicates an event that is neither unlikely nor</del> <del>likely; and a probability near 1 indicates a likely event;</del>	(e) understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring;	(e) Examples were removed for clarity, yet may still appear in guidance documents.
(f) approximate the find the experimental probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency-and predict the approximate relative frequency	(f) find the experimental probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency; this standard should incorporate a cultural context relating to	(f) Modified based on consultation with the Tribal panel, task force, and NRC. Examples were removed for clarity, yet may still appear in guidance documents.

given the probability; for example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times and when playing Montana American Indian hand/stick games, you can predict the approximate number of accurate guesses; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	Montana Indigenous Peoples and local communities;	
(g) develop a <u>theoretical</u> probability model and use it to find probabilities of events;, compare <u>theoretical and experimental</u> probabilities, from a model to observed frequencies; and if the agreement is not good, and explain possible sources of <del>the</del> discrepancy, if any exist; and	(g) develop a theoretical probability model and use it to find probabilities of events, compare theoretical and experimental probabilities, and explain possible sources of discrepancy, if any exist; and	(g) Complete rewrite using Oregon. Heavy condensing of three parts into one.
(g.i) develop a uniform probability model by assigning equal probability to all outcomes and use the model to determine probabilities of events; for example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected; and		(g.i) Condensed into (g)
(g.ii) develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process; for example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open end down; do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?;		(g.ii) Condensed into (g)
(h) represent sample spaces for compound events, identify the desired outcomes in the sample spaces, and find probabilities of	(h) represent sample spaces for compound events, identify the desired outcomes in the sample spaces, and find probabilities of events	(h) Complete rewrite and heavy condensing of four parts into one.



<ul> <li>compound events using organized lists, tables, tree diagrams, and simulation;<u>s.</u></li> <li>(h.i) understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs;</li> </ul>	using organized lists, tables, tree diagrams, and simulations.	(h.i) Condensed into (h). Elaborations were removed for clarity, yet may still appear in guidance documents.
(h.ii) represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams; for an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event; and		(h.ii) Condensed into (h). Examples were removed for clarity, yet may still appear in guidance documents.
(h.iii) design and use a simulation to generate frequencies for compound events; for example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?.		(h.iii) Condensed into (h). Examples were removed for clarity, yet may still appear in guidance documents.

# **ARM 10.53.510<sup>17</sup>: Montana Grade 8 Mathematics Standards**

Proposed Action: Revision

### **Summary of Proposed Changes:**

- Total number of standards in 2011: 36
- Total number of standards proposed for 2024: 33
- Standards removed: 3 Three standards were condensed into other standards. While the overall number was reduced, these concepts are retained.
- New standards proposed: 0
- Standards identified as high cultural connections priorities: 5
- Common updates:
  - Expansion of fluency language Previous standards used the broad word "fluently" which was vague and difficult to quantify. These standards now use variations of "flexibly", "accurately", and/or "efficiently" where appropriate to provide more clarity regarding the specific way students can demonstrate fluency.
  - Use of common language Previous standards sometimes used complex or lengthy sentences to describe the skill. These proposals have been simplified, where possible, to use common language more easily understood by all.
  - Removal of examples The examples have been removed from the official language presented in ARM. All parties involved in the revision of these standards agree that educators and families need examples to support instruction. These will be present in guidance documents, rather than within the ARM. This will allow teachers to choose their own examples for instruction, rather than risk mandating specific examples to be used within the classroom under law.
  - Update for IEFA language Previously, the cultural connections, or IEFA statements, existed in the middle of individual standards. These statements now appear as their own clauses at the end of some standards. This placement provides more emphasis on the IEFA component and contributes to the increased clarity of the standard itself. The statements have also been updated to include culturally responsive language and expanded to emphasize local communities, highlighting the intention that these standards relate to the community and culture(s) of the Indigenous Tribal Nations that exist, or historically existed, in the geographical region in which they are taught.
  - Use of "problems in context" The use of "word problems", "real-world problems" or other variations, were replaced with "problems in context". This was done to provide the use of consistent language throughout the K-12 standards

<sup>&</sup>lt;sup>17</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E510</u>



## **Proposed Montana Grade 8 Mathematics Standards:**

8 <sup>th</sup> Grade Standards 2011	8 <sup>th</sup> Grade Standards 2024	Rationale
10.53.510MONTANA GRADE 8MATHEMATICS CONTENT STANDARDS	10.53.510MONTANA GRADE 8MATHEMATICS CONTENT STANDARDS	10.53.510MONTANA GRADE 8MATHEMATICS CONTENT STANDARDS
(1) Mathematics number system content standards for Grade 8 are:	(1) Mathematics number system content standards for Grade 8 are:	(1) No change
(a) <u>know real numbers are made up of rational</u> and <u>irrational numbers</u> , understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually; and convert a decimal expansion which repeats eventually into a rational number; and	(a) know real numbers are made up of rational and irrational numbers, understand informally that every real number has a decimal expansion, and convert a decimal expansion which repeats eventually into a rational number; and	(a) Added clarifying language. Simplified for clarity.
(b) use rational approximations of irrational numbers to compare the size value of irrational numbers; locate them approximately on a number line diagram; and estimate the value of expressions (e.g., $\pi^2$ ); for example, by truncating the decimal expansion of $\sqrt{2}$ , show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	(b) use rational approximations of irrational numbers to compare the value of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions.	(b) Examples were removed for clarity, yet may still appear in guidance documents.
(2) Mathematics expressions and equations content standards for Grade 8 are:	(2) Mathematics expressions and equations content standards for Grade 8 are:	(2) No change
(a) know and apply the properties of integer exponents to generate equivalent numerical expressions; for example, $32 \times 3-5 = 3-3 = 1/33 = 1/27$ ;	(a) know and apply the properties of integer exponents to generate equivalent numerical expressions;	(a) Examples were removed for clarity, yet may still appear in guidance documents.
(b) use square root and cube root symbols to represent solutions to equations of the form $x^2$	(b) use square root and cube root symbols to represent solutions to equations of the form $x^2$	(b) repeated in 1(a)

= p and $x^3$ = p, where p is a positive rational number; evaluate square roots of small perfect squares and cube roots of small perfect cubes; and know that $\sqrt{2}$ is irrational;	= p and x <sup>3</sup> = p, where p is a positive rational number; evaluate square roots of small perfect squares and cube roots of small perfect cubes;	
(c) use numbers expressed in the form of a single digit times a whole number power of 10 to estimate represent very large or very small quantities and to express how many times as much one is than the other; for example, estimate the population of the United States as 3 times 108 and the population of the world as 7 times 109 and determine that the world population is more than 20 times larger;, using scientific notation, limited to a single digit times an integer power of ten;	(c) represent very large or very small quantities, using scientific notation, limited to a single digit times an integer power of ten;	(c) Simplified for clarity. Examples were removed for clarity, yet may still appear in guidance documents.
(d) perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used; use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading); and interpret scientific notation that has been generated by technology;	(d) perform operations with numbers expressed in scientific notation;	(d) Simplified for clarity. Examples were removed for clarity, yet may still appear in guidance documents.
(e) graph proportional relationships, interpreting the unit rate as the slope of the graph; and compare two different proportional relationships represented in different ways; for example, compare a distance time graph to a distance-time equation to determine which of two moving objects has greater speed as tables, graphs, and equations;	(e) graph proportional relationships, interpreting the unit rate as the slope of the graph and compare two different proportional relationships as tables, graphs, and equations;	(e) Examples were removed for clarity, yet may still appear in guidance documents.
(f) use similar triangles to explain why the slope m is the same between any two distinct		(f) Punctuation changes.

points on a nonvertical line in the coordinate	(f) use similar triangles to explain why the	
plane; and derive the equation y = mx for a	slope m is the same between any two distinct	
line through the origin and the equation $y = mx$	points on a nonvertical line in the coordinate	
+ b for a line intercepting the vertical axis at b;	plane and derive the equation y = mx for a line	
	through the origin and the equation $y = mx + b$	
(g) solve linear equations in one variable; by:	for a line intercepting the vertical axis at b;	
		(g) Use of the word "by" for vertical alignment
	(g) solve linear equations in one variable by:	consistency.
(g.i) <u>give giving</u> examples of linear equations in		
one variable with one solution, infinitely many		(g.i) Grammatical and punctuation changes.
solutions, or no solutions and show showing	(g.i) giving examples of linear equations in one	
which of these possibilities is the case by	variable with one solution, infinitely many	
successively transforming the given equation	solutions, or no solutions and showing which	
into simpler forms, until an equivalent equation	of these possibilities is the case by	
of the form $x = a$ , $a = a$ , or $a = b$ results (where	successively transforming the given equation	
a and b are different numbers); and	into simpler forms, until an equivalent equation	
	of the form $x = a$ , $a = a$ , or $a = b$ results (where	
(g.ii) solve solving linear equations with	a and b are different numbers); and	
rational number coefficients, including		(g.ii) Grammatical and punctuation changes.
equations whose solutions require expanding	(g.ii) solving linear equations with rational	
expressions using the distributive property and	number coefficients, including equations	
collecting like terms; and	whose solutions require expanding	
	expressions using the distributive property and	
(h) analyze and solve pairs of simultaneous	collecting like terms; and	
linear equations <del>; by:</del>		(h) Use of the word "by" for vertical alignment
	(h) analyze and solve pairs of simultaneous	consistency.
(h.i) understand understanding that solutions	linear equations by:	
to a system of two linear equations in two		(h.i) Grammatical and punctuation changes.
variables correspond to points of intersection	(h.i) understanding that solutions to a system	
of their graphs, because points of intersection	of two linear equations in two variables	
satisfy both equations simultaneously;	correspond to points of intersection of their	
	graphs, because points of intersection satisfy	
(h.ii) solve solving systems of two linear	both equations simultaneously;	
equations in two variables algebraically and		(h.ii) Grammatical and punctuation changes.
estimate, estimating solutions by graphing the	(h.ii) solving systems of two linear equations in	Examples were removed for clarity, yet may
equations; solve, and solving simple cases by	two variables algebraically, estimating	still appear in guidance documents.
inspection; for example, 3x + 2y = 5 and 3x +	solutions by graphing the equations, and	
<del>2y = 6 have no solution because 3x + 2y</del>	solving simple cases by inspection; and	
cannot simultaneously be 5 and 6; and		

(h.iii) solve real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, leading solving problems in context that lead to two linear equations in two variables; for example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(h.iii) solving problems in context that lead to two linear equations in two variables; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(h.iii) Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC.
(3) Mathematics functions content standards for Grade 8 are:	(3) Mathematics functions content standards for Grade 8 are:	(3) No change
(a) understand that a function is a rule that assigns to each input exactly one output and the graph of a function is the set of ordered pairs $(x,y)$ each consisting of an input, x, and the corresponding output, y;	(a) understand that a function is a rule that assigns to each input exactly one output and the graph of a function is the set of ordered pairs (x, y) each consisting of an input, x, and the corresponding output, y;	(a) Elaborated the definition of a graph of a function.
(b) compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions); for example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change using tables. graphs, and equations;	(b) compare properties of two functions using tables, graphs, and equations;	(b) Elaborations and examples were removed for clarity, yet may still appear in guidance documents. Generalized representation to possibly include functions in the same form (i.e. both in table form or both in equation form)
(c) interpret the equation y = mx + b as defining a linear function whose graph is a straight line; give examples of functions that are not linear; for example, the function A = s2 giving the area of a square as a function of its	(c) interpret the equation y = mx + b as defining a linear function whose graph is a straight line with slope m passing through the point (0, b);	(c) Added specification for slope and y-intercept. Removed the necessity of identification of non-linear equations which is implied by the ability to recognize linear equations. Examples and elaborations were

<ul> <li>side length is not linear because its graph contains the points (1,1), (2,4), and (3,9), which are not on a straight line with slope m passing through the point (0, b);</li> <li>(d) given linear data relating two quantities, construct a linear function to model a linear relationship between two quantities; determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph; that models the data and interpret the rate of change and initial value of a linear function in terms of the situation it models-and in terms of its graph or a table of values; and</li> <li>(e) given the graph of a function, describe qualitatively the function is increasing or decreasing, linear or nonlinear) and given a verbal description of a functional relationship, sketch a graph that exhibits the qualitative features of a function that has been described verbally.</li> </ul>	<ul> <li>(d) given linear data relating two quantities, construct a linear function that models the data and interpret the rate of change and initial value of the linear function in terms of the situation it models; and</li> <li>(e) given the graph of a function, describe qualitatively the functional relationship between quantities and given a verbal description of a functional relationship, sketch a graph that exhibits the qualitative features of a function.</li> </ul>	removed for clarity, yet may still appear in guidance documents. (d) Rewritten for clarity. Elaborations were removed for clarity, yet may still appear in guidance documents. (e) Rewritten for clarity. Elaborations were removed for clarity, yet may still appear in guidance documents. Including verbal description expectation.
(4) Mathematics geometry content standards for Grade 8 are:	(4) Mathematics geometry content standards for Grade 8 are:	(4) No change
(a) verify experimentally the properties of rotations, reflections, and translations from a variety of cultural contexts, including those of Montana American Indians: and understand that these are rigid transformations, lines are taken to lines, line segments to line segments of the same length, angles are taken to angles of the same measure, and parallel lines are	(a) verify experimentally the properties of rotations, reflections, and translations and understand that these are rigid transformations, lines are taken to lines, line segments to line segments of the same length, angles are taken to angles of the same measure, and parallel lines are taken to parallel lines; this standard should incorporate	(a) Condensing language from 4 standards into one.

taken to parallel lines; this standard should incorporate a cultural context relating to	a cultural context relating to Montana Indigenous Peoples and local communities;	
Montana Indigenous Peoples and local communities;		
(a.i) lines are taken to lines and line segments to line segments of the same length;		(a.i) Removal, condensed into (a)
<del>(a.ii) angles are taken to angles of the same</del> <del>measure; and</del>		(a.ii) Removal, condensed into (a)
(a.iii) parallel lines are taken to parallel lines;	(b) understand that a two dimensional figure is	(a.iii)Removal, condensed into (a)
(b) understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations by a sequence of rigid transformations and given two congruent figures, describe a sequence that exhibits the congruence between them;	(b) understand that a two-dimensional figure is congruent to another if the second can be obtained by a sequence of rigid transformations and given two congruent figures, describe a sequence that exhibits the congruence between them;	(b) Clarifying language, and appropriate vocabulary utilized.
(c) describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures-from a variety of cultural contexts, including those of Montana American Indians, using coordinates; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(c) describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(c) Modified based on consultation with the Tribal panel, task force, and NRC.
(d) understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations and given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them;	(d) understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations and given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them;	(d) No change
(e) use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles; for example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line and give an argument in terms of transversals why this is so;	(e) use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles;	(e) Examples were removed for clarity, yet may still appear in guidance documents.
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(f) explain a proof of the Pythagorean Theorem and its converse;	(f) explain a proof of the Pythagorean Theorem and its converse;	(f) No change
(g) apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems including problems in context in two and three dimensions; for example, determine the unknown height of a Plains Indian tipi when given the side length and radius; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(g) apply the Pythagorean Theorem to determine unknown side lengths in right triangles problems including problems in context in two and three dimensions; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(g) Modified based on consultation with the Tribal panel, task force, and NRC. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM.
(h) apply the Pythagorean Theorem to find the distance between two points in a coordinate system; and	(h) apply the Pythagorean Theorem to find the distance between two points in a coordinate system; and	(h) No change
(i) know <u>, use, and apply</u> the formulas for the volumes of cones, cylinders, and spheres <del> and use them</del> to solve real-world and mathematical problems <u>, including problems in context</u> .	(i) know, use, and apply the formulas for the volumes of cones, cylinders, and spheres to solve problems, including problems in context.	(i) Move "use" to the front. Addition of expectation to apply. Change "word problems" or "real-world" to "problems in context" to align with NAEP and NCTM.
(5) Mathematics statistics and probability content standards for Grade 8 are:	(5) Mathematics statistics and probability content standards for Grade 8 are:	(5) No change

(a) construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities and describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association;	(a) construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities and describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association;	(a) No change
(b) know that straight lines are widely used to model relationships between two quantitative variables and for scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit by judging the closeness of the data points to the line;	(b) know that straight lines are widely used to model relationships between two quantitative variables and for scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit by judging the closeness of the data points to the line;	(b) No change
(c) use the equation of a linear model to solve problems in the context of bivariate measurement data, <u>interpreting and interpret</u> the slope and intercept; <del>for example, in a linear</del> model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height;	(c) use the equation of a linear model to solve problems in the context of bivariate measurement data and interpret the slope and intercept; and	(c) Examples were removed for clarity, yet may still appear in guidance documents. Grammatical changes.
(d) understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table; construct and interpret a two-way table summarizing data including data from Montana American Indian sources on two categorical variables collected from the same subjects; use relative frequencies calculated for rows or columns to describe possible association between the two variables; for example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to	(d) construct and interpret frequencies and relative frequencies for bivariate categorical data in a two-way table to investigate patterns of association; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(d) Complete rewrite for clarity. Examples were removed for clarity, yet may still appear in guidance documents. Modified based on consultation with the Tribal panel, task force, and NRC.

have chores? construct and interpret frequencies and relative frequencies for bivariate categorical data in a two-way table to investigate patterns of association; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	

# Montana High School Mathematics Standards:

## Summary:

The following actions have been proposed to each ARM item under the high school standards:

ltem	Description	Proposed Action
<u>10.53.511 - <del>S</del></u> D	Symbols Definitions of the 9-12 Math Content Standards	Amend
<u> 10.53.512 - HSNQS</u>	Montana High School Mathematics Number and Quantity Standards	Repeal
<del>10.53.513 - HSA</del>	Montana High School Mathematics Algebra Standards	Repeal
<u> 10.53.514 - HSF</u>	Montana High School Mathematics Functions Standards	Repeal
<del>10.53.515 - HSM</del>	Montana High School Mathematics Modeling Standards	Repeal
<u> 10.53.516 - HSG</u>	Montana High School Mathematics Geometry Standards	Repeal
<del>10.53.517 - HSSP</del>	Montana High School Mathematics Statistics and Probability Standards	Repeal
<u> 10.53.518 - CNR</u>	Montana High School Mathematics Core Numeric Reasoning Standards	Adopt
<u> 10.53.519 - CAF</u>	Montana High School Mathematics Core Algebraic and Functional Reasoning Standards	Adopt
<u> 10.53.520 - CDRP</u>	Montana High School Mathematics Core Data Reasoning and Probability Standards	Adopt
<u> 10.53.521 - CGR</u>	Montana High School Mathematics Core Geometric Reasoning Standards	Adopt
<u> 10.53.522 - CPNQ</u>	Montana High School Mathematics Core Plus Number and Quantity Standards	Adopt
<u> 10.53.523 - CPAFR</u>	Montana High School Mathematics Core Plus Algebraic and Functional Reasoning Standards	Adopt
<u> 10.53.524 - CPDR</u>	Montana High School Mathematics Core Plus Data Reasoning Standards	Adopt

### Task Force Rationale: Package Overview

#### The Task Force offers the following statement as rationale for the overall work they have presented:

"Let us be honest. The 2011 Montana High School Math Standards were a mess. We knew this as users of the standards, and it was reinforced by the research conducted by the Northwest Regional Education Laboratory (NREL), which was contracted by OPI to provide research to guide the standards revision. The research, combined with our own experience as teachers and mentors of teachers, highlighted four issues with the 2011 standards:

1. **Scope:** There were too many standards to be covered in four years, let alone the two years of high school math that are required by state law, or the three years that are required by many districts.

2. **Wording:** The standards used complicated language that was familiar to professional mathematicians, but which was confusing to teachers, students, and families.

3. **Organization:** Mathematics is a web-like structure of interconnected topics. Standards are organized into a hierarchy of domains and clusters. There are many "correct" ways to slice the mathematical web into an organized hierarchy, each of which will have different utility for different communities. Unfortunately, the organization chosen for the 2011 standards was simply not useful for teachers because it did not match the ways that modern curricula or courses were structured. Thus, for example, a single standard may have spanned multiple instructional units, or, in many cases, multiple courses.

4. **Rigidity:** The standards prescribed the same 4-year math pathway for all students. This pathway prioritized algebraic symbol manipulation and abstract geometrical reasoning, often at the expense of more applied mathematical concepts such as mathematical modeling and data science.

The net effect was that teachers were confused and overwhelmed by the standards. Teachers had to spend inordinate time to understand the standards and reorganize them into a useful structure that matched their curriculum. Even then, teachers were so overwhelmed by the scope of the standards that they had no choice but to prioritize coverage over understanding, leading to instruction that was "a mile wide and an inch deep." Schools, too, were constrained to funnel all students into the same pathway, leading many students to take math courses that were simply not relevant or useful to their lives and careers.

The situation was untenable, making Superintendent Arntzen's call for simplicity, practicality, and clarity especially urgent and germane for the high school math standards. To respond to Superintendent Arntzen's call, we had to address all four of the issues highlighted above.

To address Superintendent Arntzen's call for **simplicity**, we addressed the scope and organization issues, as follows:

1. **Organization:** We organized the standards into two sets: (1) a CORE set, which details that standards that all Montana math students should learn upon graduation of high school; and (2) a third year of standards called CORE PLUS, which details the additional standards that Montana Universities expect a student with three years of mathematics to have learned (often in a course called "Algebra II"). This "two plus" model was recommended in the research from NREL.

2. **Scope:** Within each set we were very careful to ensure that there were few enough standards so as to be achievable in the given time frame (2 years for CORE and 1 year for CORE PLUS). We drew on our decades of combined experience in teaching high school mathematics to make these judgements.

To address Superintendent Arntzen's call for **practicality**, we addressed the organization and rigidity issues, as follows:

1. **Organization**: We organized the standards into domains and clusters that match common instructional units. This makes it easy for teachers to know what their students are expected to know, do, and understand in a given unit or class. Of course, the standards do not prescribe a particular instructional organization, and teachers can make decisions on how to organize the standards into instructional units that fit their contexts.

2. **Rigidity:** In the CORE standards, we struck a careful balance between abstract and applied mathematics, including data science. This way the CORE standards provide a rigorous grounding in mathematics for diverse purposes, including college and career readiness, and quantitative literacy for citizenship in the modern world. This grounding, in turn, enables flexibility, as the CORE opens the door for students to pursue different pathways in the remaining years of high school (including pathways that incorporate the CORE PLUS standards, for students that are planning to attend a 4-year university).

To address Superintendent Arntzen's call for *clarity*, we addressed the wording issue.

We maintained the mathematical rigor of the standards without using unnecessarily-technical terms or overly-wordy language. The resulting standards are understandable to teachers, students, and families.

Given the breadth of issues that we faced, we had to reimagine the high school standards in order to adequately respond to Superintendent Arntzen's call. But we did not start from scratch. We drew on resources, including research from NREL, guidance from professional organizations such as the National Council of Teachers of Mathematics, and modern standards from states that addressed similar issues including Alabama, Utah, and Oregon. We also drew on our own experience as teachers in Montana. Thus, although the standards incorporate wisdom from across the country, they are unique to Montana, both in wording and organization. We believe that they will serve as a model for other states. Most importantly, they will empower Montana teachers to offer mathematical experiences to their students that expand their professional opportunities, support their engagement in civic life, and foster an appreciation for the beauty, joy, and wonder of mathematics (cf., NCTM 2018)."

### - 9-12 Development Team Task Force (2023)

In addition to the above statement, the Task Force has also provided rationale for why certain items were adjusted and these rationale have been provided in each of the tables presenting the 9-12 proposals. The task force also provided overview statements for each proposal, which the reader will find in the summary of each ARM Item Proposal for the 9-12 standards.



# **ARM 10.53.511<sup>18</sup>: Symbols**

Proposed Action: Revision

### Summary of Proposed Changes:

The previous item, titled symbols, is no longer applicable to the proposed set of standards. Therefore, it is proposed that this item title be revised to "ARM 10.53.511 Definitions" and that the following language be adopted.

<sup>&</sup>lt;sup>18</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E511</u>



## **Proposed Montana Mathematics Definitions:**

10.53.511 – <del>Symbols Definitions</del>	10.53.511 – Definitions	Rationale
(1) The symbol "+" denotes science, technology, engineering, mathematics (STEM) standards that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics. The Montana High School Math Standards are broken into two groups, Core and Core Plus. Together these standards cover all Essential Concepts for high school. These terms are defined in the following manner:	(1) The Montana High School Math Standards are broken into two groups, Core and Core Plus. Together these standards cover all Essential Concepts for high school mathematics. These terms are defined in the following manner:	
(2) The symbol "*" denotes specific modeling standards appearing throughout the high school mathematics standards. (a) Core standards: foundational standards that all Montana students should know and be able to do upon graduation of High School; and	(a) Core standards: foundational standards that all Montana students should know and be able to do upon graduation of High School; and	The spirit of the former "symbols" section was to provide clarification on the format and structure of the standards. Symbols are no longer utilized in the recommended standards for 9-12. The proposed "Definitions" serve the same purpose but with the structure of the proposed 9-12 standards in mind. It is, therefore, reasonable to utilize the same ARM Rule, 10.53.511, in a way that establishes this
(b) Core Plus: Additional standards that all Montana students can pursue to prepare for postsecondary education and careers.	(b) Core Plus: Additional standards that all Montana students can pursue to prepare for postsecondary education and careers.	foundation of understanding.



# **ARM 10.53.512<sup>19</sup>: Montana High School Mathematics Number and Quantity Standards**

Proposed Action: Repeal

### **Summary of Proposed Changes:**

### Package Overview Statement from the Task Force:

#### There are two major improvements to the Number & Quantity standards:

1. **Simplicity:** To improve simplicity, the proposed standards focus only on Essential Concepts related to number and quantity. In practice, this means that the proposed standards do not include standards related to matrices and vectors, nor advanced operations with complex numbers. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.

- 2. **Organization:** the Number & Quantity standards are split between Core and Core Plus as follows:
  - Standards related to exponents and scientific notation are grouped in the Core standards
  - Standards related to complex numbers are grouped in the Core Plus standards
  - Standards related to modeling are grouped in sections specific to modeling in both the Core and Core Plus standards.

### Data Summary:

- Total number of standards 2011: 32
- Number of standards where concepts present were retained: 10
- Number of standards where the concepts have been omitted from the 2024 proposed package with the recommendation that teachers consider including these concepts in advanced courses: 22

<sup>&</sup>lt;sup>19</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E512</u>

Previous 2011 – 10.53.512 HSNQS - REPEAL	Rationale and Notes
(1) Mathematics number and quantity: the real number system content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents; for example, we define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5;	(a) Concept retained with revisions - Reworded for clarity, including removing the example. Consolidated with (1)(b) for simplicity
(b) rewrite expressions involving radicals and rational exponents using the properties of exponents; and	(b) Concept retained with revisions - Reworded for clarity. Consolidated with (1)(a) for simplicity
(c) explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	(c) Concept retained with revisions - Reworded for clarity. Moreover, the focus of the new standards is understanding rational and irrational numbers in <i>context</i> and <i>applications</i> , whereas the current standard is focused on abstract number theory. The revised focus improves the practicality of the standard.
(2) Mathematics number and quantity: quantities content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
-(a) use units as a way to understand problems from a variety of contexts (e.g., science, history, and culture), including those of Montana American Indians, and to guide the solution of multistep problems; choose and interpret units consistently in formulas; and choose and interpret the scale and the origin in graphs and data displays;	(a) Concept retained with revisions – Reworded for clarity. Consolidated with (2)(b) and moved to a section on mathematical modeling, which helps to clarify the intent of the standard.
(b) define appropriate quantities for the purpose of descriptive modeling; and	(b) Concept retained with revisions – Reworded for clarity. Consolidated with (2)(b) and moved to a section on mathematical modeling, which helps to clarify the intent of the standard.

(c) choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	(c) Concept retained with revisions – Reworded for clarity. Moved to a section on mathematical modeling, which helps to clarify the intent of the standard.
(3) Mathematics number and quantity: the complex number system content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) know there is a complex number i such that i2 = ¬C1 and every complex number has the form a + bi with a and b real;	(a) Concept retained with revisions – This standard is retained verbatim.
(b) use the relation i2 = aC1 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers;	(b) Concept retained with revisions – Reworded for clarity.
(c) (+) find the conjugate of a complex number and use conjugates to find moduli and quotients of complex numbers;	(c) Concept retained with revisions – Reworded for clarity.
(d) (+) represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers) and explain why the rectangular and polar forms of a given complex number represent the same number;	(d) Concept omitted – The proposed standards include only the essential, core understandings and operations with complex numbers. Advanced skills and concepts related to complex numbers were removed for simplicity, as these are not included in NCTM's Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
<del>(c) (+) represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation; for example, (-1 + กฬ3 i)3 = 8 because (-1 + กฬ3 i) has modulus 2 and argument 120กใ;</del>	(e) Concept omitted – See (3)(d). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(f) (+) calculate the distance between numbers in the complex plane as the modulus of the difference and the midpoint of a segment as the average of the numbers at its endpoints;	(f) Concept omitted - See (3)(d). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(g) solve quadratic equations with real coefficients that have complex solutions;	(g) Concept retained with revisions – Added a connection to conjugate pairs to facilitate deeper understanding.

<del>(h) (+) extend polynomial identities to the complex numbers and for example, rewrite x2 + 4 as (x + 2i)(x ৰC 2i); and</del>	(h) Concept omitted– See (3)(d). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(i) (+) know the Fundamental Theorem of Algebra and show that it is true for quadratic polynomials.	(i) Concept omitted– See (3)(d). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(4) Mathematics number and quantity: vector and matrix quantities content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) (+) recognize vector quantities as having both magnitude and direction; represent vector quantities by directed line segments; and use appropriate symbols for vectors and their magnitudes (e.g., v,  v ,   v  , v);	(a) Concept omitted – Standards related to matrices and vectors were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include in advanced math courses.
(b) (+) find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point;	(b) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(c) (+) solve problems from a variety of contexts (e.g., science, history, and culture), including those of Montana American Indians, involving velocity and other quantities that can be represented by vectors;	(c) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(d) (+) add and subtract vectors;	(d) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(d.i) add vectors end to end, component-wise, and by the parallelogram rule and understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes;	(d.i) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(d.ii) given two vectors in magnitude and direction form, determine the magnitude and direction of their sum; and	(d.ii) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
$(d.iii)$ understand vector subtraction v $\neg C$ w as v + ( $\neg Cw$ ) where $\neg Cw$ is the additive inverse of w, with the same magnitude as w and pointing in the opposite direction and represent vector subtraction graphically by	(d.iii) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.

connecting the tips in the appropriate order and perform vector	
(e) (+) multiply a vector by a scalar;	(e) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(e.i) represent scalar multiplication graphically by scaling vectors and possibly reversing their direction and perform scalar multiplication component-wise, e.g., as c(vx, vy) = (cvx, cvy); and	(e.i) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(e.ii) compute the magnitude of a scalar multiple cv using $  cv   =  c v$ and compute the direction of cv knowing that when $ c v n 0$ , the direction of cv is either along v (for c > 0) or against v (for c < 0);	(e.ii) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(f) (+) use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network;	(f) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(g) (+) multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled;	(g) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(h) (+) add, subtract, and multiply matrices of appropriate dimensions;	(h) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(i) (+) understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties;	(i) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(j) (+) understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers and the determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse;	(j) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(k) (+) multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector and work with matrices as transformations of vectors; and	(k) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
<del>(I) (+) work with 2                                   </del>	(I) Concept omitted – See (4)(a). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.

# **ARM 10.53.513<sup>20</sup>: Montana High School Mathematics Algebra Standards**

Proposed Action: Repeal

### **Summary of Proposed Changes:**

### Package Overview Statement from the Task Force:

#### There are two major improvements to the Algebra standards:

1. **Simplicity:** We believe algebraic skills are very important. When there are too many standards, students "learn" algebra purely as rules for symbol manipulation without understanding. To improve students' algebra skills, the proposed standards are simplified to focus on Essential Concepts and skills, rather than a long list of esoteric concepts and techniques.

2. **Organization:** The algebra standards are combined with the function standards, and grouped by function family (e.g., linear, quadratic, etc). This improves the practicality of the standards because the groupings match common instructional units.

#### Data Summary:

- Total number of standards 2011: 34
- Number of standards where concepts present were retained: 21
- Number of standards where the concepts have been omitted from the 2024 proposed package with the recommendation that teachers consider including these concepts in advanced courses: 13

<sup>&</sup>lt;sup>20</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E513</u>

Previous 2011 – 10.53.513 HSA - REPEAL	Rationale and Notes
(1) Mathematics algebra: seeing structure in expressions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) interpret expressions that represent a quantity in terms of its context;*	(a) Concept retained with revisions – Revised for clarity, removing unnecessarily technical language. Moved to a section on mathematical modeling for practicality.
(a.i) interpret parts of an expression, such as terms, factors, and coefficients; and	(a.i) Concept retained with revisions – This standard is unchanged in the proposed 2024 standards.
(a.ii) interpret complicated expressions by viewing one or more of their parts as a single entity; for example, interpret P(1+r)n as the product of P and a factor not depending on P;	(a.ii) Concept retained with revisions – For practicality, this was revised to be specific to polynomials.
(b) use the structure of an expression to identify ways to rewrite it; for example, see x4 y4 as (x2)2 (y2)2, thus recognizing it as a difference of squares that can be factored as (x2 – y2)(x2 + y2);	(b) Concept retained with revisions – The proposed standards are more explicit about the types of expressions that students are expected to be able to rewrite, with each organized into common instructional units (e.g., linear, quadratic, etc.). This improves the practicality of the standards.
(c) choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression;*	(c) Concept retained with revisions – The proposed standards are more explicit about the types of expressions that students are expected to be able to rewrite, with each organized into common instructional units (e.g., linear, quadratic, etc.). This improves the practicality of the standards.
(c.i) factor a quadratic expression to reveal the zeros of the function it defines;	(c.i) Concept retained with revisions – Revised for clarity, and moved to a section on quadratic functions for practicality.
(c.ii) complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines; and	(c.ii) Concept retained with revisions – Revised for clarity, and moved to a section on quadratic functions for practicality.
(c.iii) use the properties of exponents to transform expressions for exponential functions; for example the expression 1.15t can be	(c.iii) Concept retained with revisions – Revised for clarity, and moved to a section on quadratic functions for practicality.

rewritten as (1.151/12)12t ≈ 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%;	
(d) derive the formula for the sum of a finite geometric series (when the common ratio is not 1) and use the formula to solve problems; for example, calculate mortgage payments.*	(d) Concept omitted - Standards related to sequences and series were removed for simplicity, as these are not included in NCTM's Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(2) Mathematics algebra: arithmetic with polynomials and rational expressions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication and add, subtract, and multiply polynomials;	(a) Concept omitted - Removed for simplicity, as this concept is more appropriate for a university-level abstract algebra course. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(b) know and apply the Remainder Theorem: for a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$ , so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$ ;	(b) Concept omitted - Removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(c) identify zeros of polynomials when suitable factorizations are available and use the zeros to construct a rough graph of the function defined by the polynomial;	(c) Concept retained with revisions - Revised for clarity, and to focus on *understanding the relationships* between factors and zeros of polynomials, rather than solely the skill of identifying zeros in factored form.
(d) prove polynomial identities and use them to describe numerical relationships; for example, the polynomial identity (x2 + y2)2 = (x2 - y2)2 + (2xy)2 can be used to generate Pythagorean triples;	(d) Concept omitted - Esoteric algebraic manipulations like this were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include in advanced math courses or to deepen students' understanding of other standards
(c) (+) know and apply the Binomial Theorem for the expansion of (x + y)n in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle;	(e) Concept omitted - See (2)(d). This is a non-essential, esoteric algebraic manipulation, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.

$\frac{(f)}{(f)}$ rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$ , where $a(x)$ , $b(x)$ , $q(x)$ , and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$ , using inspection, long division, or, for the more complicated examples, a computer algebra system; and	(f) Concept omitted - Standards related to rational functions were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses.
(g) (+) understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression and add, subtract, multiply, and divide rational expressions.	(g) Concept omitted - See (2)(a). Removed for simplicity, as this concept is more appropriate for a university-level abstract algebra course in college. Teachers may still include this concept in advanced math courses.
(3) Mathematics algebra: creating equations content standards for high school are:	Although it has been proposed that these standards be <b>repealed</b> , the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) create equations and inequalities in one variable and use them to solve problems from a variety of contexts (e.g., science, history, and culture, including those of Montana American Indians) and include equations arising from linear and quadratic functions, and simple rational and exponential functions;	(a) Concept retained with revisions - Revised for clarity
(b) create equations in two or more variables to represent relationships between quantities and graph equations on coordinate axes with labels and scales;	(b) Concept retained with revisions - Revised to clarify that this standard focuses on expressing functions in multiple representations and translating between representations.
-(c) represent constraints by equations or inequalities and by systems of equations and/or inequalities and interpret solutions as viable or nonviable options in a modeling context; for example, represent inequalities describing nutritional and cost constraints on combinations of different foods; and	(c) Concept retained with revisions - Revised for clarity
(d) rearrange formulas to highlight a quantity of interest using the same reasoning as in solving equations; for example, rearrange Ohm's law V = IR to highlight resistance R.	(d) Concept retained with revisions - Very slightly revised for clarity

(4) Mathematics algebra: reasoning with equations and inequalities content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution and construct a viable argument to justify a solution method;	(a) Concept omitted – Removed for simplicity, as this standard is thoroughly covered in the 6-8 standards.
(b) solve simple rational and radical equations in one variable and give examples showing how extraneous solutions may arise;	(b) Concept omitted – Standards related to rational functions were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include in advanced math courses.
(c) solve linear equations and inequalities in one variable, including equations with coefficients represented by letters;	(c) Concept omitted – Removed for simplicity, as this standard is thoroughly covered in the 6-8 standards.
(d) solve quadratic equations in one variable;	(d) Concept retained with revisions - Revised for clarity, including consolidating (d), (d)(i), and (d)(ii) into a single parsimonious standard for simplicity. Moved to a section on quadratic functions for practicality.
(d.i) use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)2 = q$ that has the same solutions and derive the quadratic formula from this form; and	(d.i) Concept retained with revisions - Revised for clarity, including consolidating (d), (d)(i), and (d)(ii) into a single parsimonious standard for simplicity. Moved to a section on quadratic functions for practicality.
(d.ii) solve quadratic equations by inspection (e.g., for $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation and recognize when the quadratic formula gives complex solutions and write them as a $\pm$ bi for real numbers a and b;	(d.ii) Concept retained with revisions - Revised for clarity, including consolidating (d), (d)(i), and (d)(ii) into a single parsimonious standard for simplicity. Moved to a section on quadratic functions for practicality.
(c) prove that given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions;	(e) Concept retained with revisions - Revised for clarity, using language that teachers understand. Namely, this standard is related to solving systems using elimination, so that language is used instead.
<del>(f) solve systems of linear equations exactly and approximately (e.g., with graphs) focusing on pairs of linear equations in two variables;</del>	(f) Concept retained with revisions - Revised for clarity, including specifying the specific techniques that students should learn for solving systems of linear equations.

(g) solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically; for example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$ ;	(g) Concept omitted - See (2)(d). This is a non-essential, esoteric algebraic manipulation, so removed for simplicity. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(h) (+) represent a system of linear equations as a single matrix equation in a vector variable;	(h) Concept omitted - Standards related to matrices and vectors were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(i) (+) find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater);	(i) Concept omitted - See (4)(h). Non-essential, so removed for simplicity. Teachers may still include in advanced math courses.
(j) understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line);	(j) Concept retained with revisions - Revised for clarity
(k) explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values or find successive approximations and include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions;* and	(k) Concept retained with revisions - Revised for clarity, including removing unnecessarily technical language.
(I) graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality) and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	(I) Revised to focus on understanding the meaning of inequalities in context. Modern students should learn to use technology to produce graphs, switching the focus from the skill of graphing by hand to interpreting the meaning of the graphs produced by technology. The revised focus improves the practicality of the standard.



# **ARM 10.53.514<sup>21</sup>: Montana High School Mathematics Functions Standards**

Proposed Action: Repeal

### Summary of Proposed Changes:

### Package Overview Statement from the Task Force:

#### There are two major improvements to the Functions standards:

- 1. The functions standards are split between Core and Core Plus as follows:
  - Standards related to linear, exponential, and quadratic functions are in the Core standards
  - Standards related to polynomials, logarithmic functions, and trigonometric functions are in the Core Plus standards.

This improves the **simplicity** of the standards because it provides guidance to teachers.

2. Within the Core and Core Plus, the function standards are grouped by function family (e.g., linear, quadratic, etc.). *This improves the practicality of the standards because the groupings match common instructional units.* 

### Data Summary:

- Total number of standards 2011: 45
- Number of standards where concepts present were retained: 34
- Number of standards where the concepts have been omitted from the 2024 proposed package with the recommendation that teachers consider including these concepts in advanced courses: 11

<sup>&</sup>lt;sup>21</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E514</u>

Previous 2011 – 10.53.514 HSF - REPEAL	Rationale and Notes
(1) Mathematics functions: interpreting functions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range; if f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x; and the graph of f is the graph of the equation $y = f(x)$ ;	(a) Concept retained with revisions – This standard covered two important concepts: The definition of function and function notation. Combining both into one standard is confusing. The proposed standards split these into separate standards. Both are revised for clarity, including removing unnecessarily technical language
(b) use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context;	(b) Concept retained with revisions – Very slightly revised for clarity—removed the unnecessary clarifier, "for inputs in their domains."
(c) recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers; for example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$ , $f(n+1) = f(n) + f(n-1)$ for $n \ge 1$ ;	(c) Concept omitted – Standards related to sequences and series were removed for simplicity, as these are not included in NCTM's Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include in advanced math courses or to deepen students' understanding of other standards.
(d) for a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities and sketch graphs showing key features given a verbal description of the relationship; key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity;*	(d) Concept retained with revisions – The proposed standards make two key revisions. First, this standard was very broad. The proposed standards are more specific and are organized by function family, to match common instructional units. This improves the clarity and practicality of the standards. Second, the proposed standards clarify that students should use technology strategically to produce graphs, rather than graphing by hand. This improves the practicality of the standards, as using technology is a more important skill for modern students than graphing by hand.
(e) relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes; for example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function;*	(e) Concept retained with revisions - Revised for clarity, including removing the example.

(f) calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval and estimate the rate of change from a graph;*	(f) Concept retained with revisions – Revised to focus specifically on linear functions, which have a constant rate of change. Other proposed standards address rates of change for nonlinear functions. This improves the simplicity of the standards.
(g) graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases;*	(g) Concept retained with revisions – Revised to state that students should be able to translate between multiple representations (not just symbolic to graphical), and that students should use technology strategically when doing so. This improves the practicality of the standards. Moreover, specific standards are written for each function family. This improves the clarity and practicality of the standards because it matches the organization of common instructional units.
(g.i) graph linear and quadratic functions and show intercepts, maxima, and minima;	(g.i) Concept retained with revisions – Revised to state that students should be able to translate between multiple representations (not just symbolic to graphical), and that students should use technology strategically when doing so. This improves the practicality of the standards. Moreover, specific standards are written for each function family. This improves the clarity and practicality of the standards because it matches the organization of common instructional units.
(g.ii) graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions;	(g.ii) Concept omitted - Standards related to radical and step functions were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses.
(g.iii) graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior;	(g.iii) Concept retained with revisions – Revised for clarity and practicality as described in (1)(g).
(g.iv) (+) graph rational functions, identifying zeros and asymptotes when suitable factorizations are available and showing end behavior; and	(g.iv) Concept omitted - Standards related to rational functions were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses.
(g.v) graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude;	(g.v) Concept retained with revisions – Revised for clarity and practicality as described in (1)(g).

(h) write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function;	(h) Concept retained with revisions – Revised to focus on understanding that different forms reveal different aspects, and the strategic skill of choosing the form that best suits the given information and intended use. This improves the practicality of the standards. Moreover, specific standards are written for each function family. This improves the clarity and practicality of the standards because it provides specificity for teachers, and matches the organization of common instructional units.
(h.i) use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph and interpret these in terms of a context; and	(h.i) Concept retained with revisions – Revised for clarity
(h.ii) use the properties of exponents to interpret expressions for exponential functions; for example, identify percent rate of change in functions such as $y = (1.02)t$ , $y = (0.97)t$ , $y = (1.01)12t$ , $y = (1.2)t/10$ and classify them as representing exponential growth or decay; and	(h.ii) Concept retained with revisions – Revised for clarity, including removing the example and unnecessary technical language.
(i) compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions); for example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	(i) Concept retained with revisions – Very slightly revised for clarity.
(2) Mathematics functions: building functions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) write a function that describes a relationship between two quantities;*	(a) Concept retained with revisions - Revised for clarity, including replacing unnecessarily technical language with the simpler phrase "mathematical modeling." Moved to a section on mathematical modeling, which helps to clarify the intent of the standard.
(a.i) determine an explicit expression, a recursive process, or steps for calculation from a context;	(a.i) Concept retained with revisions - See (2)(a): Revised for clarity.

(a.ii) combine standard function types using arithmetic operations; for example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential and relate these functions to the model; and	(a.ii) Concept omitted – Removed for simplicity based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(a.iii) (+) compose functions; for example, if T(y) is the temperature in the atmosphere as a function of height and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time;	(a.iii) Concept omitted – Removed for simplicity based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(b) write arithmetic and geometric sequences both recursively and with an explicit formula; use them to model situations from a variety of contexts (e.g., science, history, and culture, including those of the Montana American Indian); and translate between the two forms;*	(b) Concept omitted – Standards related to sequences and series were removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(c) identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs; experiment with cases and illustrate an explanation of the effects on the graph using technology; and include recognizing even and odd functions from their graphs and algebraic expressions for them;	(c) Concept retained with revisions – The first part of the standard is kept verbatim. The remaining parts were removed. This simplifies the standard to focus on the core ideas.
(d) find inverse functions;	(d) Concept retained with revisions – Revised to focus on understanding the meaning of an inverse function, which is more important for modern students. This improves the practicality of the standard.
-(d.i) solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse; for example, $f(x) = \frac{2 \times 3 \text{ or } f(x) = (x+1)/(x-1) \text{ for } x \neq 1;}{(x-1) \text{ for } x \neq 1;}$	(d.i) Concept retained with revisions – See (2)(d): Revised to focus on understanding.
(d.ii) (+) verify by composition that one function is the inverse of another;	(d.ii) Concept retained with revisions – See (2)(d): Revised to focus on understanding.
<del>(d.iii) (+) read values of an inverse function from a graph or a table,</del> <del>given that the function has an inverse; and</del>	(d.iii) Concept retained with revisions – See (2)(d): Revised to focus on understanding.

(d.iv) (+) produce an invertible function from a noninvertible function by restricting the domain;	(d.iv) Concept retained with revisions – See (2)(d): Revised to focus on understanding.
(c) (+) understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.	(e) Concept retained with revisions – This standard was moved to a section on exponential and logarithmic functions, which improves practicality because it matches common instructional units. Also, broken into two standards as the core understanding of the inverse relationship is distinct from the skill of solving problems.
(3) Mathematics functions: linear, quadratic, and exponential models content standards for high school are:	Although it has been proposed that these standards be <b>repealed</b> , the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) distinguish between situations that can be modeled with linear functions and with exponential functions;	(a) Concept retained with revisions – Some of the standards in this section were revised for clarity, but the main revision in this section is organizational. First, linear and core exponential functions are in the CORE standards, while advanced exponential and logarithmic functions are in the CORE PLUS standards. This improves the simplicity of the standards by distinguishing between the standards that all Montana students should learn upon graduation (linear and core exponential functions in the CORE) and the additional standards that Montana Universities expect a student with three years of mathematics to have learned (logarithmic and advanced exponential, in the CORE PLUS). Second, the standards are organized by function family: linear (CORE.ALG.LIN) and exponential and logarithmic (PLUS.ALG.LOG) in the CORE PLUS standards. This organization improves the practicality of the standards because it matches the organization of common instructional units. Some standards were also moved to a dedicated section on mathematical modeling, which clarifies the intent of the standards.
(a.i) prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals;	(a.i) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality.
(a.ii) recognize situations in which one quantity changes at a constant rate per unit interval relative to another; and	(a.ii) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality.

(a.iii) recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another;	(a.iii) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality.
(b) construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table);	(b) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality. Removed aspects related to sequences and series for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(c) observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function;	(c) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality. The revision shifts the focus to understanding the rates of change in each function family, rather than the end behavior. This shift in emphasis improves the practicality of the standards because rates of changes are a unifying concept across middle- and high school mathematics.
(d) for exponential models, express as a logarithm the solution to abet = d where a, c, and d are numbers and the base b is 2, 10, or e and evaluate the logarithm using technology; and	(d) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality.
<del>(e) interpret the parameters in a linear or exponential function in terms of a context.</del>	(e) Concept retained with revisions – See (3)(a): Revised for clarity and reorganized for simplicity and practicality.
(4) Mathematics functions: trigonometric functions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
-(a) understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle;	(a) Concept retained with revisions – Very slightly revised for clarity, removing unnecessarily technical language.
(b) explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle;	(b) Concept retained with revisions – Very slightly revised for clarity, removing unnecessarily technical language.
(c) (+) use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$ , $\pi/4$ and $\pi/6$ and use the unit circle to	(c) Concept retained with revisions – Revised to focus on special right triangles with the angle measures indicated.

express the values of sine, cosines, and tangent for x, $\pi$ + x, and $2\pi$ – x in terms of their values for x, where x is any real number;	
<del>(d) (+) use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions;</del>	(d) Concept omitted – Removed for simplicity, based on an analysis of Essential Concepts and other state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(c) choose trigonometric functions to model periodic phenomena from a variety of contexts (e.g. science, history, and culture, including those of the Montana American Indian) with specified amplitude, frequency, and midline;*	(e) Concept retained with revisions – Moved to a section on mathematical modeling for clarity, and consolidated with other modeling standards for simplicity.
(f) (+) understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed;	(f) Concept omitted – Advanced concepts related to trigonometric functions, including inverse trig functions and trigonometric identities were removed for simplicity, as these are not Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.
<del>(g) (+) use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology; and interpret them in terms of the context;*</del>	(g) Concept omitted – See (4)(f): Non-essential so removed for simplicity. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.
<del>(h) prove the Pythagorean identity sin2(0) + cos2(0) = 1 and use it to</del> calculate trigonometric ratios; and	(h) Concept omitted – See (4)(f): Non-essential so removed for simplicity. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.
(i) (+) prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.	(i) Concept omitted – See (4)(f): Non-essential so removed for simplicity. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.

# **ARM 10.53.515<sup>22</sup>: Montana High School Mathematics Modeling Standards**

### Proposed Action: Repeal

### Summary of Proposed Changes:

### Package Overview Statement from the Task Force:

The major improvement in the proposed standards is that modeling standards are now grouped together in dedicated sections in the algebra and geometry standards, rather than being distributed throughout the standards. In the time since the adoption of the previous standards, modeling has grown in importance. Having dedicated sections for modeling helps to underscore its importance, which modernizes the standards. The dedicated sections also improve the simplicity for teachers because they can see all modeling standards at once, rather than having to flip between many pages of standards.

### Data Summary:

A data summary cannot be provided for this standards set due to the nature of expression of symbols that are not utilized in the proposed 2011 standards. It is worth noting that, while this standard is not formally retained in the proposed standards, elements of modeling concepts can be found in multiple proposed standards and that there are specific modeling standard clusters given within each domain. These are given through the use of explicit language rather than through the use of symbols.



<sup>&</sup>lt;sup>22</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E515</u>

Previous 2011 – 10.53.515 HSM - REPEAL	Rationale and Notes
(1) Mathematics modeling content standards for high school are best interpreted in relation to other standards. Specific standards for modeling are indicated by a "*" symbol and appear throughout the high school standards.	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale: (1) REPEAL - As described in the package overview, the proposed standards group the modeling standards in dedicated sections to underscore the importance of modeling for modern students, and to improve simplicity.

# **ARM 10.53.516<sup>23</sup>: Montana High School Mathematics Geometry Standards**

### Proposed Action: Repeal

### Summary of Proposed Changes:

### Package Overview Statement from the Task Force:

The major improvement to the geometry standards is that they are simplified to focus on Essential Concepts related to geometry. This is in line with modern state standards and the research from NREL, which de-emphasize learning a long list of geometric facts and techniques for their own sake in favor of engaging students fully in the geometric reasoning process. Thus, rather than treating transformations, constructions, and proof as discrete concepts and skills, the proposed standards unify them into a geometric reasoning process of exploring, conjecturing, and proving. To enable full engagement in the process, the facts and theorems to be explored and proven are streamlined.

Organizationally, the geometry standards are largely grouped in the CORE standards, with only a few of the more-advanced trigonometry standards in the CORE PLUS standards. This improves the simplicity of the standards by providing guidance to teachers.

### Data Summary:

- Total number of standards 2011: 45
- Number of standards where concepts present were retained: 26
- Number of standards where the concepts have been omitted from the 2024 proposed package with the recommendation that teachers consider including these concepts in advanced courses: 19

<sup>&</sup>lt;sup>23</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E516</u>

Previous 2011 – 10.53.516 HSG - REPEAL	Rationale and Notes
(1) Mathematics geometry: congruence content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) know precise definitions of angle, circle, perpendicular line, parallel line, and line segment based on the undefined notions of point, line, distance along a line, and distance around a circular arc;	(a) Concept omitted – The proposed standards focus on application of the definitions. This improves the practicality of the standards.
(b) represent transformations in the plane using transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs; and compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch);	(b) Concept retained with revisions – This standard was simplified to focus on representing transformations. Describing transformations as functions was removed for simplicity, as this is not included in NCTM's Essential Concepts, nor is it in the core of other modern state standards. Teachers may still include this concept in advanced math courses, although it is likely more suited to a university-level course in abstract algebra.
(c) given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself;	(c) Concept retained with revisions – Rather than transformation for "transformations" sake, the proposed standards clarify that students should use transformations to demonstrate congruence or similarity. This improves the practicality of the standards. This particular standard was revised to clarify that its focus is on using transformations to demonstrate congruence.
(d) develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments;	(d) Concept omitted – See (1)(a). The proposed standards focus on the <i>application</i> of the definitions.
(c) given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software and specify a sequence of transformations that will carry a given figure onto another;	(e) Concept retained with revisions – See $(1)(c)$ . This standard was revised to clarify the focus on congruence, and consolidated with $(1)(f)$ for simplicity.
(f) use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure and given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent;	(f) Concept retained with revisions – Revised for clarity and consolidated with (1)(e) for simplicity.



(g) use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent;	(g) Concept retained with revisions – This standard is kept verbatim.
(h) explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions;	(h) Concept retained with revisions – Revised for clarity.
(i) prove theorems about lines and angles; theorems include: vertical angles are congruent, when a transversal crosses parallel lines, alternate interior angles are congruent, corresponding angles are congruent, and points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints;	(i) Concept retained with revisions – The proposed standards related to proof were moved to a dedicated section on geometric arguments. This improves the simplicity of the standards. The proposed standards also situate proof within a broader process of geometric reasoning that includes investigating figures, making conjectures, and proving theorems—not just proving statements that are given to them.
(j) prove theorems about triangles; theorems include: measures of interior angles of a triangle sum to 180°, base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length, and the medians of a triangle meet at a point;	(j) Concept retained with revisions – See (1)(i): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. Also consolidated with (2)(d) for simplicity, with the list of theorems condensed to focus on those that are important for modeling. This improves the practicality of the standard.
(k) prove theorems about parallelograms; theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals;	(k) Concept retained with revisions – See (1)(i): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. Also, this standard was broadened to include other quadrilaterals, with a focus on the theorems that are important for modeling. This improves the practicality.
(I) make formal geometric constructions, including those representing Montana American Indians, with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.); copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line; and	(I) Concept retained with revisions – Rather than construction for "constructions" sake, the proposed standards clarify that students should use constructions to explore, conjecture, and prove theorems. This simplifies the standards. Moreover, to modernize the standards, the proposed standards emphasize the strategic use of technology for constructions. This improves the practicality.
(m) construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	(m) Concept omitted - See (1)(I). Constructions using technology or other tools to support exploration, conjectures, and proofs, instead of for "construction" sake.

(2) Mathematics geometry: similarity, right triangles, and trigonometry content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) verify experimentally the properties of dilations given by a center and a scale factor:	(a) Concept omitted – This standard was removed for simplicity and practicality. As described in (1)(c), rather than transformations for "transformations" sake, the proposed standards focus on using transformations (including dilations) to demonstrate congruence or similarity. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.
(a.i) a dilation takes a line not passing through the center of the dilation to a parallel line and leaves a line passing through the center unchanged; and	(a.i) Concept omitted – See (2)(a): Removed for simplicity and practicality. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.
(a.ii) the dilation of a line segment is longer or shorter in the ratio given by the scale factor;	(a.ii) Concept omitted – See (2)(a): Removed for simplicity and practicality. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.
(b) given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar and explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides;	(b) Concept retained with revisions – This standard covers two concepts: Using transformations to determine similarity, and the criteria for triangle similarity. To improve clarity, this was split into two standards in the proposed.
(c) use the properties of similarity transformations to establish the AA criterion for two triangles to be similar;	(c) Concept retained with revisions – Kept nearly verbatim, but with a clarification that AA means "Angle-Angle".
(d) prove theorems about triangles; theorems include: a line parallel to one side of a triangle divides the other two proportionally and, conversely, the Pythagorean Theorem proved using triangle similarity;	(d) Concept retained with revisions – Consolidated with (1)(j) and moved to a dedicated section on geometric arguments for simplicity. The list of theorems was condensed to focus on those that are important for modeling. This improves the practicality of the standard.
(e) use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures;	(e) Concept retained with revisions – This standard was redundant, so removed for simplicity. Using triangles as a tool is implicit in the proposed standards related to proof and problem solving.

(f) understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles;	(f) Concept retained with revisions – Revised for clarity.
<del>(g) explain and use the relationship between the sine and cosine of complementary angles;</del>	(g) Concept omitted – Advanced concepts related to trigonometry, including trigonometric identities like this, were removed for simplicity, as these are not Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.
(h) use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems;	(h) Concept retained with revisions – Kept nearly verbatim, but removed the restriction to "applied problems."
(i) (+) derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side;	(i) Concept omitted – See (2)(g). Non-essential so removed for simplicity. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.
<del>(j) (+) prove the Laws of Sines and Cosines and use them to solve</del> <del>problems; and</del>	(j) Concept retained with revisions – Consolidated with (2)(k) for simplicity. Revised to focus on <i>application</i> of the Laws (removed the part requiring students to prove the laws). The focus on application improves the practicality of the standard.
(k) (+) understand and apply the Laws of Sines and Cosines to find unknown measurements in right and nonright triangles (e.g., surveying problems, resultant forces).	(k) Concept retained with revisions – Revised for clarity: removed "right triangles" as the Laws are redundant in right triangles, and removed example contexts. Consolidated with (2)(j) for simplicity.
( <del>3) Mathematics geometry: circles content standards for high</del> <del>school are:</del>	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) prove that all circles are similar;	(a) Concept omitted – Removed for simplicity, to keep the amount of theorems to be proven at a reasonable level. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.

(b) identify and describe relationships among inscribed angles, radii, and chords; include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; and the radius of a circle is perpendicular to the tangent where the radius intersects the circle;	(b) Concept retained with revisions – See (1)(i). Moved to a dedicated section on geometric arguments for simplicity. The list of theorems was kept verbatim.
(c) construct the inscribed and circumscribed circles of a triangle and prove properties of angles for a quadrilateral inscribed in a circle;	(c) Concept omitted - Removed for simplicity. The first part of the standard describes construction for "construction" sake, which is not included in the proposed standards—see (1)(I). The second part of the standard was removed to keep the amount of theorems to be proven at a reasonable level. Teachers may still include these concepts in advanced math courses, or to deepen students' understanding of other standards.
<del>(d) (+) construct a tangent line from a point outside a given circle to the circle; and</del>	(d) Concept omitted - See (1)(I). Construction for "construction" sake, so removed for simplicity. Teachers may still include in advanced math courses, or to deepen students' understanding of other standards.
(e) derive, using similarity, the fact that the length of the arc intercepted by an angle is proportional to the radius; define the radian measure of the angle as the constant of proportionality; and derive the formula for the area of a sector.	(e) Concept retained with revisions - This standard covers two concepts. The first concept is related to the definition of radian measure. This concept was retained but the standard was revised for clarity, removing unnecessary technical language. The second concept is the area of a sector. This was removed for simplicity, as it is not an Essential Concept, nor is it in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(4) Mathematics geometry: expressing geometric properties with equations content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) derive the equation of a circle of given center and radius using the Pythagorean Theorem and complete the square to find the center and radius of a circle given by an equation;	(a) Concept retained with revisions –The first part is included verbatim. The second part was removed for simplicity, as it is not an Essential Concept, nor is it at the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(b) derive the equation of a parabola given a focus and directrix;	(b) Concept omitted – Advanced concepts related to conic sections were removed for simplicity, as these are not Essential Concepts, nor are they in the core of many modern state standards. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.
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(c) (+) derive the equations of ellipses and hyperbolas given the foci and directrices;	(c) Concept omitted – See (4)(b). Non-essential, so removed. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(d) use coordinates to prove simple geometric theorems algebraically; for example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle and prove or disprove that the point (1, $\sqrt{3}$ ) lies on the circle centered at the origin and containing the point (0, 2);	(d) Concept omitted – Removed for simplicity, to keep the amount of theorems to be proven at a reasonable level. Teachers may still include this concept in advanced math courses, or to deepen students' understanding of other standards.
(e) prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point);	(e) Concept retained with revisions – Moved to a section on linear functions, to match common instructional units. Revised to focus on applications of the slope criteria, rather than proof. These changes improve the practicality of the standard.
<del>(f) find the point on a directed line segment between two given points that partitions the segment in a given ratio; and</del>	(f) Concept omitted – Removed for simplicity, as this is not an Essential Concepts, nor is it in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(g) use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*	(g) Concept retained with revisions – Revised for clarity.
(5) Mathematics geometry: geometric measurement and dimension content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone and use dissection arguments, Cavalieri's principle, and informal limit arguments;	(a) Concept omitted - Removed because students learn these formulas in 6-8, and they should learn justifications for the formulas then.

(b) (+) give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures;	(b) Concept omitted - Removed for simplicity, as this is not an Essential Concept, nor is it in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(c) use volume formulas for cylinders, pyramids, cones, and spheres to solve problems;* and	(c) Concept retained with revisions - Revised for clarity, specifying that problems may include composite shapes.
(d) identify the shapes of two-dimensional cross-sections of three-dimensional objects and identify three-dimensional objects generated by rotations of two-dimensional objects.	(d) Concept omitted - Removed for simplicity. While interesting, this is not an Essential Concept, nor is it in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(6) Mathematics Geometry: modeling with geometry content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder; modeling a Montana American Indian tipi as a cone);*	(a) Concept retained with revisions - Kept nearly verbatim, but removed the examples and included the updated IEFA language. Consolidated with (6)(c) for simplicity.
(b) apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot);* and	(b) Concept omitted - Removed for simplicity, as this is not an Essential Concept, nor is it in the core of many modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(c) apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*	(c) Concept retained with revisions - Consolidated with (6)(a) for simplicity.

# **ARM 10.53.517<sup>24</sup>: Montana High School Mathematics Statistics and Probability Standards**

Proposed Action: Repeal

## Summary of Proposed Changes:

## Package Overview Statement from the Task Force:

There are two major improvements to the Statistics and Probability standards:

1. **Focus**: In line with modern recommendations around data science, the proposed standards focus on reasoning with data in context, rather than abstract probability theory. This improves the practicality of the standards.

- 2. Organization: Concepts in the proposed standards are split between Core and Core Plus as follows:
  - Descriptive analyses (representing, describing, and interpreting data) are grouped in the Core standards
  - Inferential statistics are grouped in the Core Plus standards.

This improves the simplicity of the standards because it provides guidance to teachers.

## Data Summary:

- Total number of standards 2011: 35
- Number of standards where concepts present were retained: 23
- Number of standards where the concepts have been omitted from the 2024 proposed package with the recommendation that teachers consider including these concepts in advanced courses: 12

Be advised: The tables provided for the 9-12 standards are constructed in a different fashion than the K-8 standards proposals. You will notice that there are two columns. The left hand column shows the previous set of standards. These are entirely struck out in red due to the motion to repeal the entire set of standards. The right hand column provides a rationale for each item. This rationale contains the presence of each standard in the newly proposed 2024 standards. "Concept retained with revisions" indicates that the concept contained within the standard is also present in the 2024 proposed set, but has undergone revisions. "Concept omitted" indicates that the concept is no longer a standard for high school mathematics. Each designation is accompanied by a justification of the committee's recommendation.

<sup>&</sup>lt;sup>24</sup> See <u>https://rules.mt.gov/gateway/RuleNo.asp?RN=10%2E53%2E517</u>

Previous 2011 – 10.53.517 HSSP - REPEAL	Rationale and Notes
(1) Mathematics statistics and probability: interpreting categorical and quantitative data content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) represent data with plots on the real number line (dot plots, histograms, and box plots);	(a) Concept retained with revisions – This standard is kept nearly verbatim, but consolidated with (1)(f) for simplicity
(b) use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets;	(b) Concept retained with revisions – Kept nearly verbatim, with slight revision for clarity
(c) interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers);	(c) Concept retained with revisions – Kept nearly verbatim.
(d) use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages; recognize that there are data sets for which such a procedure is not appropriate; and use calculators, spreadsheets, tables, and Montana American Indian data sources to estimate areas under the normal curve;	(d) Concept retained with revisions – Split into three standards to clarify precisely what students are expected to do. Also specified that students should use technology for fitting and interacting with normal distributions. This improves the practicality for modern students.
(e) summarize categorical data for two categories in two-way frequency tables;interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies); and recognize possible associations and trends in the data;	(e) Concept retained with revisions – This standard covered many skills. The proposed standards keep the same skills but split them into sub-standards for clarity. Each is slightly revised for clarity. Moreover, they are grouped into a super-ordinate standard that clarifies the intent of these skills is to analyze categorical data in context.
<del>(f) represent data on two quantitative variables on a scatter plot and describe how the variables are related;</del>	(f) Concept retained with revisions – In the CORE data standards, this standard was revised to focus on the statistics of linear models, as linear models are the primary models used by statisticians to analyze bivariate data (quadratic and exponential models are included in the CORE modeling standards). Also, clarified that the purpose of these skills is to analyze bivariate quantitative data in context.

(f.i) fit a function to the data; use functions fitted to data to solve problems in the context of the data; use given functions or choose a function suggested by the context; and emphasize linear, quadratic, and exponential models;	(f.i) Concept retained with revisions – Moved to a section on modeling, so that the statistics standards can focus on linear models.
<del>(f.ii) informally assess the fit of a function by plotting and analyzing residuals; and</del>	(f.ii) Concept omitted – Removed for simplicity, as this is not included in NCTM's Essential Concepts, nor is it in the core of other modern state standards. Teachers may still include this concept in advanced math courses or to deepen students' understanding of other standards.
(f.iii) fit a linear function for a scatter plot that suggests a linear association;	(f.iii) Concept retained with revisions – Revised to clarify that technology should be used to fit linear functions. This improves the practicality of the standard.
(g) interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data;	(g) Concept retained with revisions – Moved to a section on linear functions, as this standard applies to all linear functions, not just those derived from linear models.
(h) compute (using technology) and interpret the correlation coefficient of a linear fit; and	(h) Concept retained with revisions – Revised very slightly for clarity.
(i) distinguish between correlation and causation.	(i) Concept retained with revisions – Mostly kept verbatim, with the following changes: Moved to a section on data literacy. Changed "correlation: to "association", as "correlation" is too narrow of a term.
(2) Mathematics statistics and probability: making inferences and justifying conclusions content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
-(a) understand statistics as a process for making inferences about population parameters based on a random sample from that population;	(a) Concept retained with revisions – Revised slightly to focus on the activity of making inferences.
(b) decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation; for example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?;	(b) Concept retained with revisions – The main concept is retained, but the focus is different. Broadly, this is about hypothesis testing through simulation, which is captured in a specific form in the proposed standard PLUS.DATA.INF.3.b (the current standard exemplifies the concept in terms of a test of a single proportion, while the proposed

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	standard discusses the same concept in terms of comparing two groups)
(c) recognize the purposes of and differences among sample surveys, experiments, and observational studies and explain how randomization relates to each;	(c) Concept retained with revisions – Standard is kept verbatim
(d) use data from a sample survey to estimate a population mean or proportion and develop a margin of error through the use of simulation models for random sampling;	(d) Concept retained with revisions – Statistical estimation is a HUGE concept in modern data science, but it tends to get lost with only this one small standard. In the proposed standards, this concept is elaborated to clarify precisely what students should understand and be able to do.
(e) use data from a randomized experiment to compare two treatments and use simulations to decide if differences between parameters are significant; and	(e) Concept retained with revisions – Similar to (2)(d), this concept is retained and elaborated, given its importance in modern data science.
<del>(f) evaluate reports based on data.</del>	(f) Concept retained with revisions – This standard was very broad. The proposed standards clarify the specific aspects of reports that students are expected to evaluate, including experimental design, sampling strategy, and bias.
(3) Mathematics statistics and probability: conditional probability and the rules of probability content standards for high school are:	Although it has been proposed that these standards be repealed, the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not");	(a) Concept retained with revisions - Revised to improve clarity, including removing overly-technical language.
(b) understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities and use this characterization to determine if they are independent;	(b) Concept retained with revisions – The concepts of independence and conditional probability—expressed in standards (3)(b)-(3)(f)—were retained in the proposed standards, as these are Essential Concepts that appear in the core of many modern state standards. However, current standards are repetitive and wordy. The proposed standards are revised and consolidated to improve clarity, including removing lots of unnecessarily-technical language. The proposed standards also

	emphasize the use of representations, which improves the practicality of the standards.
(c) understand the conditional probability of A given B as P(A and B)/P(B) and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B, probability of B;	(c) Concept retained with revisions – See (3)(b): Revised for clarity and practicality.
(d) construct and interpret two way frequency tables of data, including information from Montana American Indian data sources, when two categories are associated with each object being classified; use the two way table as a sample space to decide if events are independent and to approximate conditional probabilities; for example, collect data from a random sample of students in your school on their favorite subject among math, science, and English; estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade; and do the same for other subjects and compare the results;	(d) Concept retained with revisions – See (3)(b): Revised for clarity and practicality.
(e) recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations; for example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer;	(e) Concept retained with revisions – See (3)(b): Revised for clarity and practicality.
(f) find the conditional probability of A given B as the fraction of B's outcomes that also belong to A and interpret the answer in terms of the model;	(f) Concept retained with revisions – See (3)(b): Revised for clarity and practicality.
(g) apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B) and interpret the answer in terms of the model;	(g) Concept omitted – In line with modern standards and research provided by NREL, the proposed standards prioritize data science over abstract probability theory, thus standards that focus on probability theory, including this one, are removed. For students, this increases the practicality of the standards. For teachers, removing abstract probability theory standards improves the simplicity of the standards. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.



(h) (+) apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$ , and interpret the answer in terms of the model; and	(h) Concept omitted – See (3)(g). Abstract probability theory standards were removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(i) (+) use permutations and combinations to compute probabilities of compound events and solve problems.	(i) Concept omitted – See (3)(g). Abstract probability theory standards were removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(4) Mathematics statistics and probability: using probability to make decisions content standards for high school are:	Although it has been proposed that these standards be <b>repealed</b> , the concepts of these standards have the following presentation in the newly proposed standards with the provided rationale:
(a) (+) define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space and graph the corresponding probability distribution using the same graphical displays as for data distributions;	(a) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(b) (+) calculate the expected value of a random variable and interpret it as the mean of the probability distribution;	(b) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(c) (+) develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated and find the expected value; for example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple choice test where each question has four choices and find the expected grade under various grading schemes;	(c) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(d) (+) develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically and find the expected value; for example, find a current data distribution on the number of TV sets per household in the United States and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?;	(d) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.

(c) (+) weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values;	(e) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
<del>(e.i) find the expected payoff for a game of chance; for example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant; and</del>	(e.i) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(e.ii) evaluate and compare strategies on the basis of expected values; for example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident;	(e.ii) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
(f) (+) use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator); and	(f) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.
<del>(g) (+) analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).</del>	(g) Concept omitted - See (3)(g). Abstract probability theory standards removed for practicality and simplicity. Teachers may still include probability theory in more advanced math courses, or to deepen students' understanding of existing standards.

# ARM 10.53.518: Montana High School Mathematics Core Numeric Reasoning Standards

Proposed Action: Adopt

## **Summary of Proposed Changes:**

### Package Overview Statement from the Task Force:

There are two major improvements to the Numeric Reasoning standards:

1. **Simplicity:** To improve simplicity, the proposed standards focus only on Essential Concepts related to number and quantity. In practice, this means that the proposed standards do not include standards related to matrices and vectors, nor advanced operations with complex numbers. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.

- 2. **Organization:** the Number & Quantity standards are split between Core and Core Plus as follows:
  - Standards related to exponents and scientific notation are grouped in the Core standards
  - Standards related to complex numbers are grouped in the Core Plus standards
  - Standards related to modeling are grouped in sections specific to modeling in both the Core and Core Plus standards.

#### Data Summary:

- Total number of standards 2024: 3
- Number of standards where concepts present were retained from previous standards: 1
- Number of standards where the concepts are newly added and were not present in previous standards: 2

Proposed 2024 – 10.53.518 CORE NUMERIC REASONING STANDARDS	Rationale and Notes
(1) Mathematics numeric reasoning: understand and apply the real number system content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
<u>(a) use reasoning to establish properties of integer exponents, including scientific notation;</u>	(a) New Concept - The 2011 standards had scientific notation completely contained in 8th grade. In the proposed standards, the 8th-grade standards were revised such that scientific notation is only introduced in 8th grade. Hence we added this standard and (1)(a)(i) to the high school set to ensure students have a complete treatment of scientific notation.
(b) represent and perform operations within very large and very small numbers using scientific notation; and	(b) New Concept - See (1)(a): Added to ensure students have a complete treatment of scientific notation.
(c) define, manipulate, interpret, and compare real numbers presented through different representations, including both rational and irrational numbers and apply comparisons in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(c) Adapted from previous standards with revisions - Reworded for clarity. Moreover, the focus of the proposed standards is understanding rational and irrational numbers in context and applications, whereas the previous standard is focused on abstract number theory. The revised focus improves the practicality of the standard.

# ARM 10.53.519: Montana High School Mathematics Core Algebraic and Functional Reasoning Standards

#### Proposed Action: Adopt

## **Summary of Proposed Changes:**

#### Package Overview Statement from the Task Force:

There are two major improvements to the Algebraic and Functional Reasoning standards:

1. **Simplicity:** We believe algebraic skills are very important. When there are too many standards, students "learn" algebra purely as rules for symbol manipulation without understanding. To improve students' algebra skills, the proposed standards are simplified to focus on Essential Concepts and skills, rather than a long list of esoteric concepts and techniques.

2. **Practicality:** In the previous standards, there was a lot of overlap between the algebra and the function standards and the groupings did not match typical instructional units. In the proposed, the algebra and functions standards are combined to eliminate redundancy. They are organized by a function family (e.g., linear, quadratic, etc) to match common instructional units, with a common structure across groups. Finally, they are split between Core and Core Plus to provide further guidance to teachers, as follows:

- Standards related to linear, exponential, and quadratic functions are in the Core standards.
- Standards related to polynomials, logarithmic functions, and trigonometric functions are in the Core Plus standards.

## Data Summary:

- Total number of standards 2024: 43
- Number of standards where concepts present were retained from previous standards: 39
- Number of standards where the concepts are newly added and were not present in previous standards: 4

Proposed 2024 – 10.53.519 CORE ALGEBRAIC AND FUNCTIONAL REASONING STANDARDS	Rationale and Notes
(1) Mathematics algebraic and functional reasoning: understand and express functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) interpret parts of an expression, such as terms, factors, and coefficients;	(a) Concept adapted from previous standards with revisions - This part of the current standard is unchanged.
(b) understand the definition of a function and distinguish between functions and relations;	(b) Concept adapted from previous standards with revisions - Revised for clarity, including making a dedicated standard for the definition of function, and removing unnecessarily-technical language.
(c) represent functions using tables, graphs with appropriate scales and labels, equations, and verbal situations; using technology strategically by:	(c) Concept adapted from previous standards with revisions - Revised to clarify that this standard focuses on expressing functions in multiple representations (.the old standard only included graphs and equations).
(c.i) understanding that different representations highlight different aspects of functions, and choosing the representation that is appropriate for the context; and	(c.i) Concept adapted from previous standards with revisions - This standard is included to ensure that students do not just learn representations for "representations" sake, but rather because each representation highlights different aspects of functions.
(c.ii) comparing properties of two functions, including when each is represented in a different way;	(c.ii) Concept adapted from previous standards with revisions - This is kept verbatim, with one grammatical change.
(d) use function notation, evaluate functions, and interpret statements that use function notation in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(d) Concept adapted from previous standards with revisions - Revised for clarity, including making a dedicated standard for function notation and removing unnecessarily technical language.
(e) identify the domain and range of a function, including considering the constraints imposed by context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities	(e) Concept adapted from previous standards with revisions - Added Range (current standard only includes domain), and revised for clarity, including removing an example and removing unnecessarily technical language.



(f) understand that a graph of an equation in two variables is the set of all of its solutions plotted in a coordinate plane;	(f) Concept adapted from previous standards with revisions - Revised slightly for clarity.
(g) understand that expressions can be rewritten in equivalent forms to make different characteristics or features visible; and	(g) Concept adapted from previous standards with revisions - Revised slightly for clarity. Also, the current standard has two sub-standards that discuss rewriting quadratic and exponential expressions. The proposed standards are more explicit about the types of expressions that students are expected to be able to rewrite, with each organized into common instructional units (e.g., linear, quadratic, etc.). This improves the practicality of the standards.
(h) rearrange literal equations to highlight quantities of interest.	(h) Concept adapted from previous standards with revisions - Revised very slightly for clarity, replacing "formula" with "literal equation" as this is the more accurate term. Examples removed, but may yet appear in guidance documents.
(2) Mathematics algebraic and functional reasoning: linear functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand that linear functions have a constant rate of change;	(a) Concept adapted from previous standards with revisions - The next sets of standards (sets 2, 3, and 4) are grouped by function family: linear, quadratic, and exponential. This increases the practicality of the standards because it matches common instructional units.
	Within each family, the standards are generally adapted from previous standards. Except as noted, they are primarily revised for clarity and to fit the organizational scheme described below. The major improvement is that they are arranged with an eye toward simplicity. For each family, the structure of the standards is repeated:
	1. Understand key features of the function family including understanding how the variables change together, and the meaning of key features of the family (e.g., slope and y-intercept).
	2. Using and converting between multiple representations of the function family and converting between them.

	3. Rewriting algebraic expressions/equations in forms that are specific to each family, with a focus on understanding the affordances of each form and strategically choosing the form that is best suited to the use.
	4. Solving equations using techniques that are appropriate to each family.
(b) understand slope as a rate of change and y-intercept as initial value:	(b) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c) represent linear functions using tables, graphs, equations, and verbal situations; using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	(c) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity
(c.i) identifying the rate of change and initial value in each representation;	(c.i) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c.ii) converting between representations; and	(c.ii) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c.iii) writing equations for a line perpendicular or parallel to a given line that passes through a given point;	(c.iii) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(d) understand that linear equations can be represented in multiple forms and the specific features of each form by:	(d) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.

(d.i) choosing the form strategically when writing an equation based on given information and intended use;	(d.i) New Concept - This standard is included to ensure that students do not just learn to rewrite expressions for its own sake, but rather because each form highlights different aspects.
(d.ii) converting between slope-intercept, point-slope, and standard form symbolically;	(d.ii) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
<u>(d.iii) understanding the relationship between slope-intercept form, the rate of change, and the initial value;</u>	(d.iii) New Concept - Although rewriting linear expressions was implicit in the previous standards, the particular forms were never explicitly listed. The proposed standards clarify the different forms that students should learn and what they should "see" in each form.
(d.iv) understanding the relationship between point-slope form, the rate of change, and a given point; and	(d.iv) New Concept - See (2).(d).(iii): Added for clarity.
(d.v) understanding the relationship between standard form and the x- and y-intercepts.	(d.v) New Concept - See (2).(d).(iii): Added for clarity.
(e) understand that a solution to a system of equations is a coordinate pair that makes both equations true; and	(e) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(f) solve systems of linear equations by graphing, substitution, and elimination, including systems with zero, one, or infinite solutions; using technology and representations strategically.	(f) Concept adapted from previous standards with revisions - See (2)(a): grouped into a common section with all other standards related to linear functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(3) Mathematics algebraic and functional reasoning: quadratic functions and expressions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand that quadratic functions do not have a constant rate of change but have a constant second difference over equal intervals and identify the constant second difference in tables;	<ul> <li>(a) Concept adapted from previous standards with revisions - See</li> <li>(2)(a). The standards in this section are generally adapted from previous standards. Except as noted, they are primarily revised for</li> </ul>

	<ul> <li>clarity and to fit the organizational scheme described below. The major improvement is that they are organized to improve practicality and simplicity by grouping all standards related to quadratic functions together, and by following the pattern established in set 2:</li> <li>1. Understand key features of quadratic functions, including how the variables change together.</li> <li>2. Using and converting between multiple representations.</li> <li>3. Rewriting algebraic expressions/equations.</li> <li>4. Solving equations.</li> </ul>
(b) represent quadratic functions using tables, graphs, equations, and verbal situations, using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c) understand that quadratic expressions can be represented in multiple forms and the specific features of each form by:	(c) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c.i) choosing the form strategically when writing an expression based on given information and intended use:	(c.i) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c.ii) converting between factored, standard, and vertex form symbolically and using representations:	(c.ii) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also emphasizes the use of representations (e.g., area model). This improves the practicality of the standard.
(c.iii) understanding the relationship between factored form and the zeros of the function; and	(c.iii) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c.iv) understanding the relationship between vertex form and the vertex of the function.	(c.iv) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related



(d) solve quadratic equations by factoring, graphing, completing the square and using inverse operations, and the quadratic formula; use technology and representations strategically.	<ul> <li>to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.</li> <li>(d) Concept adapted from previous standards with revisions - See (3)(a): grouped into a common section with all other standards related to quadratic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standards also emphasize technology and representations as tools for solving equations. This improves the practicality of the standard.</li> </ul>
(4) Mathematics algebraic and functional reasoning: exponential functions and expressions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand that exponential functions have a constant common ratio over equal intervals, and identify the common ratio in tables and equations:	(a) Concept adapted from previous standards with revisions - See (2)(a). The standards in this section are generally adapted from previous standards. Except as noted, they are primarily revised for clarity and to fit the organizational scheme described below. The major improvement is that they are organized to improve practicality and simplicity by grouping all standards related to exponential functions together, and by following the pattern established in set 2:
	<ol> <li>Understand key features of exponential functions, including how the variables change together and the meaning of parameters (initial value, growth/decay factor)</li> <li>Using and converting between multiple representations</li> <li>Rewriting algebraic expressions/equations (this is an advanced skill and is in CORE PLUS rather than CORE)</li> <li>Solving equations</li> </ol>
(b) understand a as the initial value and b as the growth/decay factor for an exponential function written in standard form, y=a*b^x;	(b) Concept adapted from previous standards with revisions - See (4)(a): grouped into a common section with all other standards related to exponential functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c) understand the relationship between growth/decay factor and growth/decay rate:	(c) Concept adapted from previous standards with revisions - See (4)(a): grouped into a common section with all other standards related

	to exponential functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(d) represent exponential functions using tables, graphs, equations, and verbal situations; using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and	(d) See (4)(a): grouped into a common section with all other standards related to exponential functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(e) solve exponential equations graphically; using technology strategically.	(e) Concept adapted from previous standards with revisions - See (4)(a): grouped into a common section with all other standards related to exponential functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also clarifies that in the CORE standards, students should use technology to solve exponential equations. (Solving algebraically requires logarithms, which are in the CORE PLUS standards)
(5) Mathematics algebraic and functional reasoning: modeling with functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) model situations in context, with linear, quadratic, and exponential functions: this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	<ul> <li>(a) Concept adapted from previous standards with revisions - The standards in this section are all revised for clarity, but the major improvement is related to organization. The previous standards did not include a dedicated section on modeling, instead using a * symbol to indicate standards that were related to modeling. Since then, modeling has grown in importance, so having this dedicated section for modeling helps to modernize the standards. Having a dedicated section also improves the simplicity for teachers so they can see all modeling standards at once, rather than having to flip between many pages of standards.</li> <li>The CORE PLUS standards also have a modeling section that follows the same organization as this section, but which focuses on the additional functions introduced in CORE PLUS,</li> </ul>

(a.i) determining if a set of data is best modeled by a linear function, quadratic function, exponential function, or none, and explaining why; and	<ul><li>(a.i) Concept adapted from previous standards with revisions - See</li><li>(5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.</li></ul>
(a.ii) understanding that there are contexts where solutions may not lie on the curve;	(a.ii) Concept adapted from previous standards with revisions - See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.
(b) interpret the coefficients in a linear, quadratic, and exponential model in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) Concept adapted from previous standards with revisions - See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.
(c) choose and interpret measurement units in formulas, graphs, and data displays to understand problems and to guide problem-solving in modeling situations; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and	(c) Concept adapted from previous standards with revisions - See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.
(d) choose a level of accuracy appropriate to limitations on measurement when reporting quantities in modeling situations; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.	(d) Concept adapted from previous standards with revisions - See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.

# ARM 10.53.520: Montana High School Mathematics Core Data Reasoning And Probability Standards

Proposed Action: Adopt

## **Summary of Proposed Changes:**

### Package Overview Statement from the Task Force:

There are two major improvements to the Data Reasoning and Probability standards:

1. **Focus:** In line with modern recommendations around data science, the proposed standards focus on reasoning with data in context, rather than abstract probability theory. This improves the practicality of the standards.

- 2. Organization: Concepts in the proposed standards are split between Core and Core Plus as follows:
  - Descriptive analyses (representing, describing, and interpreting data) are grouped in the Core standards
  - Inferential statistics (statistical estimation and hypothesis testing) are grouped in the Core Plus standards.

#### Data Summary:

- Total number of standards 2024: 20
- Number of standards where concepts present were retained from previous standards: 19
- Number of standards where the concepts are newly added and were not present in previous standards: 1

Proposed 2024 – 10.53.520 CORE DATA REASONING AND PROBABILITY STANDARDS	Rationale and Notes
(1) Mathematics data reasoning and probability: quantitative literacy content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) distinguish between quantitative and categorical data and use representations and analysis techniques that are appropriate for each type;	(a) Concept adapted from previous standards with revisions - Although the previous standards discussed categorical and quantitative data, there was not an explicit standard about understanding these data types and distinguishing between them.
(b) ask a statistical question to determine whether there appears to be an association between two variables, design and carry out an investigation, and write a persuasive argument based on the results of the investigation; and	(b) Concept adapted from previous standards with revisions - The previous standards were focused on analysis techniques for data that was already given. In line with modern data science recommendations, this standard clarifies that students should participate in the entire statistical problem-solving process, including asking statistical questions, collecting data, analyzing data, and reporting results.
(c) distinguish between association and causation.	(c) Concept adapted from previous standards with revisions - Mostly kept verbatim, with the following changes: Moved to a section on data literacy (as this is a key aspect of data literacy). Changed "correlation" to "association", as "correlation" is too narrow of a term (it only refers to linear association).
(2) Mathematics data reasoning and probability: visualizing, summarizing, and interpreting data content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) use technology to organize data, including very large data sets, into a useful and manageable structure;	(a) New concept - With the rise of big data, organizing and "cleaning" large data sets using technology has become more prominent. Including this standard modernizes the standards to be in line with modern recommendations for data science, which improves the practicality.

(b) represent the distribution of univariate quantitative data with plots on the real number line, choosing a format most appropriate to the data set, and representing the distribution of bivariate quantitative data with a scatter plot;	(b) Concept adapted from previous standards with revisions - Mostly kept verbatim, but consolidates two previous standards for simplicity.
(c) understand that standard deviation measures the variability of a data distribution, and calculate standard deviation using technology;	(c) Concept adapted from previous standards with revisions - Although the previous standards mentioned standard deviation, there was not a standard that focused on understanding and calculating SD. This standard clarifies what students should understand about the SD, and that they should calculate SD using technology rather than by hand. Including this standard modernizes the standards to be in line with modern recommendations for data science, which improves the practicality.
(d) interpret differences in the shape, center, and spread of quantitative data distributions, in context, accounting for possible effects of outliers on measures of central tendency and variability:	(d) Concept adapted from previous standards with revisions - Kept nearly verbatim with removal of redundant definitions and use of appropriate vocabulary.
(e) compare and contrast two or more quantitative data distributions, using shape, center, and spread in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(e) Concept adapted from previous standards with revisions - Kept nearly verbatim, with slight revision for clarity.
(f) analyze the relationship between two quantitative data distributions in context that have a linear association; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	(f) Concept adapted from previous standards with revisions - Revised to focus on linear models in context, which improves the practicality of the standard.
(f.i) using technology strategically, represent two quantitative data distributions on scatter plots;	(f.i) Concept adapted from previous standards with revisions - Revised to clarify that technology should be used to make the plot.
(f.ii) describing verbally how the variables are related;	(f.ii) Concept adapted from previous standards with revisions - Revised for clarity.
(f.iii) using technology to find the least-squares regression line (line of best) fit for two quantitative variables; and	(f.iii) Concept adapted from previous standards with revisions - Revised to clarify that technology should be used to find the line of best fit.

(f.iv) understanding that the line of best fit minimizes the square of the residuals; and	(f.iv) Concept adapted from previous standards with revisions - Revised very slightly for clarity.
(f.v) understanding correlation as a measure of linear association and using technology, compute the correlation coefficient of a linear relationship; and	(f.v) Concept adapted from previous standards with revisions - Revised very slightly for clarity.
(g) analyze the relationship between two categorical variables in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	<ul> <li>(g) Concept adapted from previous standards with revisions - The related previous standard covered multiple skills in a single standard. The proposed standards keep the same skills but with the following improvements:</li> <li>1. The discrete skills are split into sub-standards (i), (ii), and (iii) under (g) for clarity.</li> <li>2. The sub-standards are grouped under this super-ordinate standard (g) that clarifies the intent of these skills is to analyze categorical data in context.</li> </ul>
(g.i) summarizing categorical data for two categories in two-way frequency tables and visual representations;	(g.i) Concept adapted from previous standards with revisions - See (2)(g): Discrete skills are split into sub-standards for clarity.
(g.ii) interpreting relative frequencies for categorical data in context: and	(g.ii) Concept adapted from previous standards with revisions - See (2)(g): Discrete skills are split into sub-standards for clarity.
(g.iii) identifying possible associations and trends in categorical data.	(g.iii) Concept adapted from previous standards with revisions - See (2)(g): Discrete skills are split into sub-standards for clarity.
(3) Mathematics data reasoning and probability: probability content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand the concept of a sample space and describe events as subsets of a sample space; and	(a) Concept adapted from previous standards with revisions - Revised for clarity, removing unnecessarily-technical language.
(b) understand the concepts of conditional probability and independence in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	(b) Concept adapted from previous standards with revisions - Although most of the proposed standards focus on data science rather than abstract probability theory, two probability concepts—independence and conditional probability—were retained, as these are Essential

<ul> <li>(b.i) determining whether two events, A and B, are independent by using two-way tables, tree diagrams, and/or Venn diagrams, and interpreting the answer in context; and</li> <li>(b.ii) computing the conditional probability of event A given event B by using two-way tables, tree diagrams, and/or Venn diagrams, and interpreting the answer in context.</li> </ul>	Concepts that appear in the core of many modern state standards. The previous standards related to these concepts were repetitive and wordy. The proposed standards are revised and consolidated to improve clarity, including removing lots of unnecessarily-technical language. The proposed standards also emphasize the use of representations, and that the concepts should be understood in context. These recommendations bring the standards in line with modern data science recommendations, which improves the practicality of the standards. (b.i) Concept adapted from previous standards with revisions - See (3)(b): Revised for clarity and practicality.

# ARM 10.53.521: Montana High School Mathematics Core Geometric Reasoning Standards

Proposed Action: Adopt

## **Summary of Proposed Changes:**

## Package Overview Statement from the Task Force:

The major improvement to the Geometric Reasoning standards is that they are simplified to focus on Essential Concepts related to geometry. This is in line with modern state standards and the research from NREL, which de-emphasize learning a long list of geometric facts and techniques for their own sake in favor of engaging students fully in the geometric reasoning process. Thus, rather than treating transformations, constructions, and proof as discrete concepts and skills, the proposed standards unify them into a geometric reasoning process of exploring, conjecturing, and proving. To enable full engagement in the process, the facts and theorems to be explored and proven are streamlined.

Organizationally, the geometry standards are largely grouped in the CORE standards, with only a few of the more-advanced trigonometry standards in the CORE PLUS standards. This improves the simplicity of the standards by providing guidance to teachers.

#### Data Summary:

- Total number of standards 2024: 21
- Number of standards where concepts present were retained from previous standards: 20
- Number of standards where the concepts are newly added and were not present in previous standards: 1

Proposed 2024 – 10.53.521 CORE GEOMETRIC REASONING STANDARDS	Rationale and Notes
(1) Mathematics geometric reasoning: transformations content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) represent transformations in the plane using a variety of methods;	(a) Concept adapted from previous standards with revisions - Revised to focus on representing transformations.
(b) define the congruence of two and show that two figures are congruent by finding a sequence of rigid motions that maps one figure to the other by:	(b) Concept adapted from previous standards with revisions - Revised to clarify that the focus is on using transformations for congruence, rather than for "transformations" sake.
(b.i) using the definition of congruence in terms of rigid motions to show that two triangles are congruent if, and only if, corresponding pairs of sides and corresponding pairs of angles are congruent; and	(b.i) Concept adapted from previous standards - This standard is retained verbatim.
(b.ii) verifying that two triangles are congruent if, but not only if, the following groups of corresponding parts are congruent: angle-side-angle (ASA), side-angle-side (SAS), side-side-side (SSS); and	(b.ii) Concept adapted from previous standards with revisions - Revised for clarity.
(c) define the similarity of two figures in terms of similarity transformations by:	(c) Concept adapted from previous standards with revisions - The previous standards combined two concepts into a single standard (definition of similarity, and criteria for triangle similarity). The proposed standards break these concepts into two separate standards for clarity: (1)(c) and (1)(c)(i).
(c.i) verifying that two triangles are similar if, and only if, corresponding pairs of sides are proportional and corresponding pairs of angles are congruent; and	(c.i) Concept adapted from previous standards with revisions - See (1)(c). The concept—criteria for triangle similarity—is retained from the previous standards, but is its own standard in the proposed.
(c.ii) using the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.	(c.ii) Concept adapted from previous standards with revisions - Kept nearly verbatim, but clarified that "AA" means "Angle-Angle."

(2) Mathematics geometric reasoning: geometric arguments, reasoning, and proof content standards for high school are:	The following standards are proposed for <b>adoption</b> . Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) investigate, conjecture, prove theorems, and communicate the proofs in a variety of ways by:	(a) Concept adapted from previous standards with revisions - The previous standards focused on proving theorems, with associated standards in many different clusters. The proposed standards retain the important practice of proving theorems, but with the following improvements:
	<ol> <li>Situates proof within a broader process of geometric reasoning, in which students investigate figures, make conjectures, and prove them. This improves the practicality of the standards.</li> <li>Groups all standards related to investigating, conjecturing, and proving into a dedicated section. This improves the simplicity of the standards.</li> </ol>
(a.i) proving theorems about lines and angles; theorems include: vertical angles are congruent; when a transversal crosses parallel lines alternate interior angles are congruent and corresponding angles are congruent; and the points on the perpendicular bisector of a line segment are those equidistant from the segment's endpoints;	(a.i) Concept adapted from previous standards with revisions - See (2)(a): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. The list of theorems is kept verbatim.
(a.ii) proving theorems about triangles; theorems include: the sum of the measures of the interior angles of a triangle is 180°; the Pythagorean Theorem: the base angles of isosceles triangles are congruent; and a line parallel to one side of a triangle divides the other two sides proportionally:	(a.ii) Concept adapted from previous standards with revisions - See (2)(a): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. The standard consolidates two previous standards related to triangle theorems; the list of theorems is condensed to focus on those that are important for modeling. This improves the practicality of the standard.
<u>(a.iii) proving theorems about parallelograms and other quadrilaterals;</u> <u>theorems include: necessary and sufficient conditions for rectangles,</u> <u>parallelograms, rhombi, and kites; and</u>	(a.iii) Concept adapted from previous standards with revisions - See (2)(a): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. The standard is broadened to include all quadrilaterals, with the focus on theorems that are important for modeling. This improves the practicality of the standard.

(a.iv) proving theorems about circles; theorems include: the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; and the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	(a.iv) See (2)(a): Moved to a section on geometric arguments for simplicity, and clarified to include explore and conjecture in addition to proof. The list of theorems is kept verbatim.
(3) Mathematics geometric reasoning: measurement, problem solving, and geometric modeling content standards for high school are:	The following standards are proposed for <b>adoption</b> . Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) use the Pythagorean Theorem to calculate distance in the coordinate plane:	(a) Concept adapted from previous standards with revisions - Revised for clarity.
(b) derive the equation of a circle of a given center and radius using the Pythagorean Theorem:	(b) Concept adapted from previous standard - This standard is kept verbatim.
(c) use similarity to explore and define the sine ratio, cosine ratio, and tangent ratio in terms of right triangles by:	(c) Concept adapted from previous standards with revisions - Revised for clarity, including removing unnecessarily technical language.
(c.i) deriving and applying the trigonometric ratios in special right triangles; and	(c.i) Concept adapted from previous standards with revisions - Moved to the geometry standards, revised for clarity.
(c.ii) using trigonometric ratios and the Pythagorean Theorem to solve right triangles; and	(c.ii) Concept adapted from previous standards with revisions - Kept nearly verbatim. The proposed standards remove the restriction that the triangles should be situated in a context .
(d) use geometric shapes, their measures, and their properties to model objects and use those models to solve problems in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	(d) Concept adapted from previous standards with revisions - This is a consolidation of two previous standards. The standards were repetitive, so consolidating improves simplicity. The text was also revised for clarity.
(d.i) modeling and solving problems with 2D shapes by using the perimeter and area of polygons, circles, and composite shapes with portions removed:	(d.i) Concept adapted from previous standards with revisions - This clarifies that geometric modeling should include composite shapes.
(d.ii) modeling and solving problems with 3D solids by using surface area and volume of solids, including composite solids and solids with portions removed; and	(d.ii) Concept adapted from previous standards with revisions - This clarifies that geometric modeling should include composite shapes.



(d.iii) deriving and applying the relationships between the lengths, perimeters, areas, and volumes of similar figures in relation to their scale factor.	(d.iii) New Concept - This concept was added based on analysis of other modern state standards.



# ARM 10.53.522: Montana High School Mathematics Core Plus Number and Quantity Standards

Proposed Action: Adopt

## **Summary of Proposed Changes:**

### Package Overview Statement from the Task Force:

There are two major improvements to the Number & Quantity standards:

**1. Simplicity:** To improve simplicity, the proposed standards focus only on Essential Concepts related to number and quantity. In practice, this means that the proposed standards do not include standards related to matrices and vectors, nor advanced operations with complex numbers. Teachers may still include these concepts in advanced math courses or to deepen students' understanding of other standards.

- 2. Organization: the Number & Quantity standards are split between Core and Core Plus as follows:
  - Standards related to exponents and scientific notation are grouped in the Core standards
  - Standards related to complex numbers are grouped in the Core Plus standards
  - Standards related to modeling are grouped in sections specific to modeling in both the Core and Core Plus standards.

#### Data Summary:

- Total number of standards 2024: 4
- Number of standards where concepts present were retained from previous standards: 4
- Number of standards where the concepts are newly added and were not present in previous standards: 0

Proposed 2024 – 10.53.522 CORE PLUS NUMBER AND QUANTITY STANDARDS	Rationale and Notes
(1) Mathematics number and quantity: numeric reasoning content standards for high school are:	The following standards are proposed for <b>adoption</b> . Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) extend the properties of exponents to rational exponents, including converting between exponential and radical form; and	(a) Concept adapted from previous standards with revisions - Revised for clarity; consolidated two standards into one for simplicity.
(b) understand there is a complex number i such that $i^2 = -1$ , and every complex number has the form a + bi with a and b as real numbers by:	(b) Concept adapted from previous standard - This standard is unchanged.
(b.i) adding, subtracting, multiplying, and dividing complex numbers; and	(b.i) Concept adapted from previous standards with revisions - Revised for clarity.
(b.ii) finding the conjugate of a complex number.	(b.ii) Concept adapted from previous standards with revisions - Revised for clarity.



# ARM 10.53.523: Montana High School Mathematics Core Plus Algebraic and Functional Reasoning Standards

#### Proposed Action: Adopt

## **Summary of Proposed Changes:**

#### Package Overview Statement from the Task Force:

There are two major improvements to the Number & Quantity standards:

**1. Simplicity:** We believe algebraic skills are very important. When there are too many standards, students "learn" algebra purely as rules for symbol manipulation without understanding. To improve students' algebra skills, the proposed standards are simplified to focus on Essential Concepts and skills, rather than a long list of esoteric concepts and techniques.

**2. Practicality:** In the previous standards, there was a lot of overlap between the algebra and the function standards and the groupings did not match typical instructional units. In the proposed, the algebra and functions standards are combined to eliminate redundancy. They are organized by a function family (e.g., linear, quadratic, etc) to match common instructional units, with a common structure across groups. Finally, they are split between Core and Core Plus to provide further guidance to teachers, as follows:

- Standards related to linear, exponential, and quadratic functions are in the Core standards
- Standards related to polynomials, logarithmic functions, and trigonometric functions are in the Core Plus standards

#### Data Summary:

- Total number of standards 2024: 31
- Number of standards where concepts present were retained from previous standards: 29
- Number of standards where the concepts are newly added and were not present in previous standards: 2

Proposed 2024 – 10.53.523 CORE PLUS ALGEBRAIC AND FUNCTIONAL REASONING STANDARDS	Rationale and Notes
(1) Mathematics algebraic and functional reasoning: functions, expressions, and inequalities content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k \cdot f(x)$ , $f(k \cdot x)$ , and $f(x + k)$ for specific values of k (both positive and negative); and (b) understand the relationship between a function and its inverse	(a) Concept adapted from previous standard– This is kept verbatim.
	(b) Concept adapted from previous standards with revisions – Revised to focus on understanding the meaning of an inverse function, which is more important for modern students. This improves the practicality of the standard.
(2) Mathematics algebraic and functional reasoning: polynomial functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand polynomials are created by multiplying linear factors;	(a) Concept adapted from previous standards with revisions – See 10.53.519(2)(a): The next sets of standards (sets 2, 3, and 4) are grouped by function family: polynomial, logarithmic & exponential, and trigonometric. This increases the practicality of the standards because it matches common instructional units.
	Within each family, the standards are generally adapted from previous standards. Except as noted, they are primarily revised for clarity and to fit the organizational scheme described below. The major improvement is that they are arranged with an eye toward simplicity. For each family, the structure of the standards is repeated:
	1. Understand key features of the function family, including how the function families are defined and the meaning of key features of each family.



	<ol> <li>Rewriting algebraic expressions/equations in forms that are specific to each family, with a focus on understanding the affordances of each form and strategically choosing the form that is best suited to the use.</li> <li>Graphing using technology, including identifying features of the graph that are specific to each family.</li> <li>Solving equations using techniques that are appropriate to each family.</li> </ol>
(b) understand that polynomial expressions can be represented in both factored and standard form, and the specific features of each form by:	(b)New concept– Although multiple forms of polynomials were implicit in the previous standards, this makes the particular forms explicit. The standard also fits the common organizational scheme described in (2)(a) for simplicity.
<u>(b.i) choosing the form strategically based on given information and intended use when writing an expression:</u>	(b.i) Concept adapted from previous standards with revisions – See (2)(a): grouped into a common section with all other standards related to polynomial functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(b.ii) converting between factored and standard form symbolically and using representations (e.g., area model); and	(b.ii) Concept adapted from previous standards with revisions – See (2)(a): grouped into a common section with all other standards related to polynomial functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(b.iii) interpreting the relationship between the factored form of the expression and the zeros of the function;	(b.iii) Concept adapted from previous standards with revisions – See (2)(a): grouped into a common section with all other standards related to polynomial functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c) graph polynomial functions with and without the use of technology. by identifying zeros, relative maxima and minima, and end behavior; and	(c) Concept adapted from previous standards with revisions – See (2)(a): grouped into a common section with all other standards related to polynomial functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also emphasizes that students should use technology for graphing, and to clarify the particular features of graphs that are relevant to polynomial functions.

(d) solve quadratic equations that have complex solutions, and understand why the solutions form a conjugate pair.	(d) Concept adapted from previous standards with revisions – See (2)(a): grouped into a common section with all other standards related to polynomial functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(3) Mathematics algebraic and functional reasoning: exponential and logarithmic functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) understand logarithmic functions as the inverse of exponential functions:	(a) Concept adapted from previous standards with revisions – See (2)(a). The standards in this section are generally adapted from previous standards. Except as noted, they are primarily revised for clarity and to fit the organizational scheme described below. The major improvement is that they are organized to improve practicality and simplicity by grouping all standards related to exponential and logarithmic standards together, and by following the pattern established in set 2:
	<ol> <li>Understand key features of logarithmic and exponential functions.</li> <li>Rewriting algebraic expressions/equations.</li> <li>Graphing using technology.</li> <li>Solving equations.</li> </ol>
	ALSO: Exponential functions are introduced in the CORE standards. In CORE PLUS, logarithmic functions are introduced, enabling more advanced operations with exponential functions.
(b) understand why e is defined as the natural base;	(b) Concept adapted from previous standards with revisions – See (3)(a): grouped into a common section with all other standards related to exponential and logarithmic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also specifies the particular algebraic forms of logarithmic functions that students should know.
(c) understand that exponential and logarithmic functions can be represented using multiple forms by:	(c) Concept adapted from previous standards with revisions – See (3)(a): grouped into a common section with all other standards related
	to exponential and logarithmic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
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<u>(c.i) expressing exponential functions in the form <math>f(x)=ab^x</math> and <math>f(x)=Pe^{(rt)}</math>; and</u>	(c.i) Concept adapted from previous standards with revisions – See (3)(a): grouped into a common section with all other standards related to exponential and logarithmic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also specifies the particular algebraic forms of exponential functions that students should know.
(c.ii) expressing logarithmic functions in base 10 and base e;	(c.ii) Concept adapted from previous standards with revisions – See (3)(a): grouped into a common section with all other standards related to exponential and logarithmic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also specifies the particular algebraic forms of logarithmic functions that students should know.
(d) graph logarithmic and exponential functions with and without the use of technology by identifying intercepts, asymptotes, and end behavior; and	(d) Concept adapted from previous standards with revisions – See (3)(a): grouped into a common section with all other standards related to exponential and logarithmic functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(e) solve exponential and logarithmic equations using inverse operations with and without the use of technology.	(e) Concept adapted from previous standards with revisions – The revised standard also emphasizes that students should experience using technology for graphing, and to clarify the particular features of graphs that are relevant to exponential and logarithmic functions." Solving equations is a key part of working with exponential and logarithmic functions, but this was not explicit in the previous standards. The proposed standard also clarifies that students should use both algebra and technology to solve exponential and logarithmic equations.
(4) Mathematics algebraic and functional reasoning: trigonometric functions content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given
(a) understand how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers by:	<ul> <li>(a) Concept adapted from previous standards with revisions – "See</li> <li>(2)(a). The standards in this section are generally adapted from</li> </ul>

	previous standards. Except as noted, they are primarily revised for clarity and to fit the organizational scheme described below. The major improvement is that they are organized to improve practicality and simplicity by grouping all standards related to trigonometric functions together, and by following the pattern established in set 2:
	<ol> <li>Understand key features of trigonometric functions.</li> <li>Rewriting algebraic expressions/equations.</li> <li>Graphing using technology.</li> <li>Solving equations.</li> </ol>
(a.i) defining the sine and cosine functions in terms of the unit circle; and	(a.i) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(a.ii) defining the tangent, cotangent, secant, and cosecant functions in terms of sin and cosine;	(a.ii) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(b) understand and use the radian measure of an angle, and convert between degree and radian measures;	(b) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity.
(c) graph trigonometric functions with and without the use of technology by:	(c) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also emphasizes that students should experience using technology for graphing.
(c.i) graphing sine and cosine functions, identifying period, midline, and amplitude; and	(c.i) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also clarifies the particular features of graphs that are relevant to sine and cosine functions.

(c.ii) graphing tangent functions, identifying period and asymptotes;	(c.ii) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality. Revised for clarity and to fit a common organizational scheme for simplicity. The revised standard also clarifies the particular features of graphs that are relevant to tangent functions.
(d) solve trigonometric equations with and without the use of technology; and	(d) New concept - Solving equations is a key part of working with trigonometric functions, but this was not explicit in the previous standards. The proposed standard also clarifies that students should experience using technology to solve trigonometric equations.
(e) apply the Law of Sines and the Law of Cosines to find unknown measurements in non-right triangles.	(e) Concept adapted from previous standards with revisions – See (4)(a): grouped into a common section with all other standards related to trigonometric functions for practicality and to fit a common organizational scheme for simplicity. Revised only very slightly for clarity (removed "right triangles", as the Laws are only needed for non-right triangles).
(5) Mathematics algebraic and functional reasoning: modeling content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) model situations in context with polynomial, exponential, logarithmic, and trigonometric functions; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:	(a) Concept adapted from previous standards with revisions – See 10.53.519(5)(a). The standards in this section are all revised for clarity, but the major improvement is related to organization. The previous standards did not include a dedicated section on modeling, instead using a * symbol to indicate standards that were related to modeling. Since then, modeling has grown in importance, so having this dedicated section for modeling helps to modernize the standards. Having a dedicated section also improves the simplicity for teachers so they can see all modeling standards at once, rather than having to flip between many pages of standards.
	The standards in this section follow the same organization as the modeling standards in the CORE (10.53.519(5)), however, these

	standards focus on modeling using the additional function families introduced in CORE PLUS (polynomials, logarithmic & exponential, and trigonometric).
(a.i) determining if a set of data is best modeled by a polynomial, exponential, logarithmic, or trigonometric function or none, and explaining why; and	<ul> <li>(a.i) Concept adapted from previous standards with revisions – See</li> <li>(5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.</li> </ul>
(a.ii) understanding that there are contexts where solutions may not lie on the curve;	<ul> <li>(a.ii) Concept adapted from previous standards with revisions – See</li> <li>(5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.</li> </ul>
(b) interpret the coefficients in a polynomial, exponential, logarithmic, and trigonometric model in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;	(b) Concept adapted from previous standards with revisions – See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.
(c) use and interpret units correctly in modeling situations; and	<ul> <li>(c) Concept adapted from previous standards with revisions – See</li> <li>(5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.</li> </ul>
(d) choose a level of accuracy appropriate to limitations on measurement when reporting quantities in modeling situations.	(d) Concept adapted from previous standards with revisions – See (5)(a): Revised for clarity and grouped into a dedicated section on modeling to improve simplicity.

### ARM 10.53.524: Montana High School Mathematics Core Plus Data Reasoning Standards

Proposed Action: Adopt

#### **Summary of Proposed Changes:**

#### Package Overview Statement from the Task Force:

There are two major improvements to the Data Reasoning standards:

**1. Focus:** In line with modern recommendations around data science, the proposed standards focus on reasoning with data in context, rather than abstract probability theory. This improves the practicality of the standards.

- 2. Organization: Concepts in the proposed standards are split between Core and Core Plus as follows:
  - Descriptive analyses (representing, describing, and interpreting data) are grouped in the Core standards
  - Inferential statistics (statistical estimation and hypothesis testing) are grouped in the Core Plus standards.

#### Data Summary:

- Total number of standards 2024: 21
- Number of standards where concepts present were retained from previous standards: 16
- Number of standards where the concepts are newly added and were not present in previous standards: 5

Be advised: The tables provided for the 9-12 standards are constructed in a different fashion than the K-8 standards proposals. You will notice that there are two columns. The left hand column shows the proposed set of standards. These are entirely underlined in red due to the motion to adopt the entire set of standards. The right hand column provides a rationale for each item. This rationale contains the presence of each standard from the previous 2011 standards. Each designation is accompanied by a justification of the committee's recommendation.

### **Proposed Repeals and Justifications:**

Proposed 2024 – 10.53.524 CORE PLUS DATA AND REASONING STANDARDS	Rationale and Notes
(1) Mathematics data reasoning and probability: normal distribution content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) determine if a data set is normally distributed	(a) Concept adapted from previous standards with revisions – The See (1)(b): Revised for clarity and practicality
(b) use technology to find the mean and standard deviation of a normally distributed data set and apply the empirical rule to estimate population percentages; and	<ul> <li>(b) Concept adapted from previous standards with revisions – The concept of modeling data with a normal distribution is carried from the previous standards. The proposed standards make two improvements:</li> <li>(1) The concept is split into three standards to clarify precisely what students are expected to do. (2) The proposed standards specify that students should use technology for fitting and interacting with normal distributions. This improves the practicality for modern students.</li> </ul>
(c) estimate areas under a normal curve to solve problems in context, using calculators, spreadsheets, and tables as appropriate.	(c) Concept adapted from previous standards with revisions – The See (1)(a): Revised for clarity and practicality
(2) Mathematics data reasoning and probability: experimental design content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) describe the purposes of and differences among sample surveys, experiments, and observational studies and explain how randomization relates to each;	(a) Concept adapted from previous standards with revisions – This standard is retained verbatim.
(b) describe differences between randomly selecting samples and randomly assigning subjects to experimental treatment groups in terms of inferences drawn regarding a population versus regarding cause and effect by:	(b) New concept - Additional focus on experiment design and data collection, as these are key components of data literacy. This improves the practicality of the standards for students, enabling them to interpret data in the world.



(b.i) explaining the consequences, due to uncontrolled variables, of non-randomized assignment of subjects to groups in experiments; and	(b.i) Concept adapted from previous standards with revisions – See (2)(b): stronger focus on data literacy to improve practicality.
(b.ii) evaluating where bias, including sampling, response, or nonresponse bias, may occur in surveys, and whether results are representative of the population of interest;	(b.ii) Concept adapted from previous standards with revisions – See (2)(b): stronger focus on data literacy to improve practicality.
(c) evaluate the effect of sample size on the expected variability in the sampling distribution of a sample statistic by:	(c) New concept - As with (2)(b), this standard is included to strengthen students' data literacy to improve the practicality of the standards. Specifically, these standards and the sub-standards focus on understanding how sample size affects uncertainty when making inferences beyond the sample.
(c.i) simulating a sampling distribution of sample means from a population with a known distribution, observing the effect of the sample size on the variability; and	(c.i) New concept - See (2)(c): stronger focus on data literacy to improve practicality.
(c.ii) demonstrating that the standard deviation of each simulated sampling distribution is the known standard deviation of the population divided by the square root of the sample size.	(c.ii) New concept - See (2)(c): stronger focus on data literacy to improve practicality.
(3) Mathematics data reasoning and probability: statistical inference using simulation content standards for high school are:	The following standards are proposed for adoption. Each item is being proposed with the following rationale and an indication regarding the origin of the concepts contained within the newly proposed standards has been given.
(a) distinguish between a statistic and a parameter and use statistical processes to make inferences about population parameters based on statistics from random samples from that population:	(a) Concept adapted from previous standards with revisions – Revised slightly to focus on the activity of making inferences.
(b) estimate a population parameter from a representative sample by:	(b) Concept adapted from previous standards with revisions – This standard and its sub-standards focus on the process of statistical estimation, which is a HUGE concept in modern data science. While statistical estimation was included in the previous standards, it tended to get lost because it was mentioned in just one small standard. In the proposed standards, this concept is elaborated to underscore its importance and clarify precisely what students should understand and be able to do.

(b.i) understanding why the sample statistic is the best estimate for the associated population parameter;	(b.i) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(b.ii) understanding that sampling variability introduces uncertainty in the estimate, and account for the uncertainty with a confidence interval by:	(b.ii) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(b.ii.A) using resampling with replacement from an observed sample to produce a sampling distribution;	(b.ii.a) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(b.ii.B) verifying that a sampling distribution is centered at the population mean and approximately normal if the sample size is large enough:	(b.ii.b) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(b.ii.C) verify that 95% of sample means are within two standard deviations of the sampling distribution from the population mean; and	(b.ii.c) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(b.ii.D) creating and interpreting a 95% confidence interval based on an observed mean from a sampling distribution;	(b.ii.d) Concept adapted from previous standards with revisions – See (3)(b): The standards related to statistical estimation are revised and expanded to underscore the importance of the concept and improve clarity.
(c) use data from a randomized experiment to test the hypothesis that two groups are equal by:	(c) Concept adapted from previous standards with revisions – Similar to (3)(b), the concept of hypothesis testing is important in modern data science. While hypothesis testing was included in the previous standards, it tended to get lost because it was mentioned in just one small standard. In the proposed standards, this concept is elaborated to underscore its importance and to clarify precisely what students should understand and be able to do.

(c.i) interpreting the difference or ratio between the group means as the observed effect between the groups; and	(c.i) New concept – See (3)(c): The standards related to hypothesis testing are revised and expanded to underscore the importance of the concept and improve clarity.
(c.ii) understanding that an observed effect may be due to randomization and using a randomization test (repeatedly reshuffling the observed data into new groups) to determine the probability that an observed effect is due to randomization alone.	(c.ii) Concept adapted from previous standards with revisions – See (3)(c): The standards related to hypothesis testing are revised and expanded to underscore the importance of the concept and improve clarity.

# **Appendices:**

# Appendix A: Math Standards Revision Task Force Members

Task Force Member Name	Location	Assigned Roles
Nicole Casper	Kalispell	K-2 Development
Shay Kidd	Dillon	K-2 Development, Vertical Alignment, Mathematical Practices
Andrea Meiers	Lockwood	K-2 Development
Thomas Redmon	Hamilton	K-2 Development, Mathematical Practices
Carla Swenson	Glasgow	K-2 Development
Lei-Anna Bertelsen	Bozeman	3-5 Development
Elizabeth Burroughs	Bozeman	3-5 Development
Kris Gardner	Missoula	3-5 Development
Melissa Shiffer	Lambert	3-5 Development
Tina Blair	Anaconda	6-8 Development, Vertical Alignment
Jennifer Brackney	Billings	6-8 Development
Jennifer Luebeck	Bozeman	6-8 Development, Mathematical Practices
Matt Roscoe	Missoula	6-8 Development
Cliff Bara	Troy	9-12 Development
Beth Cooney	Harlowton	9-12 Development
Deanne Gemmil	Billings	9-12 Development
Marisa Graybill	Helena	9-12 Development
Janice Novotny	Big Timber	9-12 Development
Frederick Peck	Missoula	9-12 Development

# **Appendix B: Math Standards Revision Tribal Panel Members**

Panel Member Name
Roger MadPlume
Jacie Jeffers
Karry Woodard

# **Appendix C: Math Standards Revision Review Team Members**

Review Team Member Name	Location	Assigned Role
Becky Berg	Billings	K-5 Review
Jenny Combs	Laurel	K-5 Review
Kayla Ryan	Helena	K-5 Review
Amy Jones	Forsyth	K-5 Review
Pat Baltzley	Gardiner	6-12 Review
Sharon Carroll		6-12 Review
Lisa Scott		6-12 Review





# Appendix D: Math Standards Revision Negotiated Rulemaking Committee

NRC Member Name	Location	Assigned Representation Role
Teri Dierenfield	Kalispell	K-12 Teacher, Taxpayer
June Ellestad	Lolo	Retired University Faculty, Taxpayer
Carrie Fisher	Belgrade	School District Business Official, Taxpayer
Robert Griffith	Great Falls	Retired K-12 Teacher, Taxpayer
Katie McCrea	Pryor	K-12 Teacher, Taxpayer
Kath Milodragovich	Butte	School District Trustee, K-12 Teacher, Parent, Taxpayer
Dr. Julie Murgel	Helena	Office of Public Instruction, Taxpayer
Dr. Chris Olszewski	Billings	K-12 School Administrator, Taxpayer
Dr. Lynne Rider	Kalispell	K-12 Teacher, Taxpayer
Brooke Taylor	Billings	K-12 Teachers, Parent, Taxpayer
Brooke Tuft	Whitefish	Grandparent, Taxpayer

# Appendix E: Montana Office of Public Instruction Project Leadership

Elsie Arntzen, Superintendent of Public Instruction Christy Mock-Stutz, Assistant Superintendent Julie Murgel, Chief Operating Officer Marie Judisch, Teaching and Learning Senior Manager Aimee Konzen, Professional Learning Manager Katrina Engeldrum, Mathematics Instructional Coordinator, Mathematics Standards Revision Project Lead Michelle McCarthy, Science Instructional Coordinator, Standards Revision Process Consultant and Project Support Stephanie Swigart, English Language Arts and Literacy Specialist, Standards Revision Process Consultant and Project Support Matthew Bell, American Indian Culture and Language Immersion Specialist, Consultant, and Project Development Support Sheri Harlow, Administrative Support



# Appendix F: High School Standards Crosswalk

The following table presents a crosswalk mapping between the 2024 proposed and 2011 standards.

10.53.518 - Core Numeric Reasoning Standards		
2024 Arm Item Code	2011 Arm Item Code	
10.53.518 - 1.a	NEW STANDARD	
10.53.518 - 1.b	NEW STANDARD	
10.53.518 - 1.c	Adapted from: 10.53.512 - 1.c	

10.53.519 - Core Algebraic and Functional Reasoning Standards				
2024 Arm Item Code	2011 Arm Item Code			
10.53.519 - 1.a	Adapted from: 10.53.513 - 1.a			
10.53.519 - 1.b	Adapted from: 10.53.514 - 1.a, 10.53.514 - 1.d			
10.53.519 - 1.c	Adapted from: 10.53.513 - 3.b			
10.53.519 - 1.c.i	NEW STANDARD			
10.53.519 - 1.c.ii	Adapted from: 10.53.514 - 1.i			
10.53.519 - 1.d	Adapted from: 10.53.514 - 1.a, 10.53.514 - 1.b, 10.53.514 - 1.e			
10.53.519 - 1.e	Adapted from: 10.53.513 - 3.c, 10.53.514 - 1.e			
10.53.519 - 1.f	Adapted from: 10.53.513 - 4.j			
10.53.519 - 1.g	Adapted from: 10.53.513 - 1.a , 10.53.513 - 1.b			
10.53.519 - 1.h	Adapted from: 10.53.513 - 3.d			
10.53.519 - 2.a	Adapted from: 10.53.514 - 1.f, 10.53.514 - 3.a			
10.53.519 - 2.b	Adapted from: 10.53.514 - 1.f, 10.53.517 - 1.g			
10.53.519 - 2.c	Adapted from: 10.53.514 - 3.b, 10.53.514 - 1.d 10.53.514 - 1.g			
10.53.519 - 2.c.i	Adapted from: 10.53.517 - 1.g			
10.53.519 - 2.c.ii	Adapted from: 10.53.514 - 1.i			
10.53.519 - 2.c.iii	Adapted from: 10.53.516 - 4.e			
10.53.519 - 2.d	Adapted from: 10.53.514 - 1.h			

10.53.519 - 2.d.i	NEW STANDARD	
10.53.519 - 2.d.ii	Adapted from: 10.53.513 - 1.b	
10.53.519 - 2.d.iii	NEW STANDARD	
10.53.519 - 2.d.iv	NEW STANDARD	
10.53.519 - 2.d.v	NEW STANDARD	
10.53.519 - 2.e	Adapted from: 10.53.513 - 4.k, 10.53.513 - 4.l	
10.53.519 - 2.f	Adapted from: 10.53.513 - 4.e, 10.53.513 - 4.f 10.53.513 - 4.k	
10.53.519 - 3.a	Adapted from: 10.53.514 - 3.a, 10.53.514 - 3.c	
10.53.519 - 3.b	Adapted from: 10.53.513 - 1.c, 10.53.514 - 1.g 10.53.514 - 1.h	
10.53.519 - 3.c	Adapted from: 10.53.513 - 1.c, 10.53.514 - 1.h	
10.53.519 - 3.c.i	Adapted from: 10.53.513 - 1.c	
10.53.519 - 3.c.ii	Adapted from: 10.53.513 - 1.b, 10.53.513 - 1.c	
10.53.519 - 3.c.iii	Adapted from: 10.53.513 - 1.c	
10.53.519 - 3.c.iv	Adapted from: 10.53.513 - 1.c	
10.53.519 - 3.d	Adapted from: 10.53.513 - 4.d	
10.53.519 - 4.a	Adapted from: 10.53.514 - 3.a, 10.53.514 - 3.b	
10.53.519 - 4.b	Adapted from: 10.53.514 - 1.h	
10.53.519 - 4.c	Adapted from: 10.53.514 - 1.h, 10.53.513 - 1.c	
10.53.519 - 4.d	Adapted from: 10.53.514 - 1.g, 10.53.514 - 1.h, 10.53.514 - 3.b	
10.53.519 - 4.e	Adapted from: 10.53.513 - 3.a	
10.53.519 - 5.a	Adapted from: 10.53.514 - 2.a, 10.53.514 - 3.e, ,	
10.53.519 - 5.a.i	Adapted from: 10.53.514 - 3.a	
10.53.519 - 5.a.ii	Adapted from: 10.53.513 - 4.I	
10.53.519 - 5.b	Adapted from: 10.53.513 - 1.a, 10.53.514 - 1.d	
10.53.519 - 5.c	Adapted from: 10.53.512 - 2.a	
10.53.519 - 5.d	Adapted from: 10.53.512 - 2.c	

10.53.520 - Core Data Reasoning and Probability Standards			
2024 Arm Item Code	2011 Arm Item Code		
10.53.520 - 1.a	Adapted from: 10.53.517 - 1.f		
10.53.520 - 1.b	Adapted from: 10.53.517 - 1.e		
10.53.520 - 1.c	Adapted from: 10.53.517 - 1.i		
10.53.520 - 2.a	NEW STANDARD		
10.53.520 - 2.b	Adapted from: 10.53.517 - 1.a		
10.53.520 - 2.c	Adapted from: 10.53.517 - 1.b		
10.53.520 - 2.d	Adapted from: 10.53.517 - 1.c		
10.53.520 - 2.e	Adapted from: 10.53.517 - 1.b		
10.53.520 - 2.f	Adapted from: 10.53.517 - 1.f, 10.53.517 - 1.g		
10.53.520 - 2.f.i	Adapted from: 10.53.517 - 1.f		
10.53.520 - 2.f.ii	Adapted from: 10.53.517 - 1.f		
10.53.520 - 2.f.iii	Adapted from: 10.53.517 - 1.h		
10.53.520 - 2.f.iv	Adapted from: 10.53.517 - 1.h		
10.53.520 - 2.f.v	Adapted from: 10.53.517 - 1.h		
10.53.520 - 2.g	Adapted from: 10.53.517 - 1.e		
10.53.520 - 2.g.i	Adapted from: 10.53.517 - 1.e, 10.53.517 - 3.d		
10.53.520 - 2.g.ii	Adapted from: 10.53.517 - 1.e		
10.53.520 - 2.g.ii	Adapted from: 10.53.517 - 1.e		
10.53.520 - 3.a	Adapted from: 10.53.517 - 3.a		
10.53.520 - 3.b	Adapted from: 10.53.517 - 3.b, 10.53.517 - 3.c, 10.53.517 - 3.e		
10.53.520 - 3.b.i	Adapted from: 10.53.517 - 3.b, 10.53.517 - 3.d		
10.53.520 - 3.b.ii	Adapted from: 10.53.517 - 3.c, 10.53.517 - 3.d, 10.53.517 - 3.f		



	10.53.521 - Core Geometric Reasoning Standards		
2024 Arm Item Code	2011 Arm Item Code		
10.53.521 - 1.a	Adapted from: 10.53.516 - 1.b, 10.53.516 - 1.e, 10.53.516 - 2.e		
10.53.521 - 1.b	Adapted from: 10.53.516 - 1.c, 10.53.516 - 1.f		
10.53.521 - 1.b.i	Adapted from: 10.53.516 - 1.f, 10.53.516 - 1.h		
10.53.521 - 1.b.ii	Adapted from: 10.53.516 - 1.h		
10.53.521 - 1.c	Adapted from: 10.53.516 - 1.b, 10.53.516 - 1.e, 10.53.516 - 2.b		
10.53.521 - 1.c.i	Adapted from: 10.53.516 - 2.b, 10.53.516 - 2.e		
10.53.521 - 1.c.ii	Adapted from: 10.53.516 - 2.c		
10.53.521 - 2.a	Adapted from: 10.53.516 - 1.i, 10.53.516 - 1.k, 10.53.516 - 1.l		
10.53.521 - 2.a.i	Adapted from: 10.53.516 - 1.i		
10.53.521 - 2.a.ii	Adapted from: 10.53.516 - 2.d, 10.53.516 - 1.j		
10.53.521 - 2.a.iii	Adapted from: 10.53.516 - 1.k		
10.53.521 - 2.a.iv	Adapted from: 10.53.516 - 3.b		
10.53.521 - 3.a	Adapted from: 10.53.516 - 4.g		
10.53.521 - 3.b	Adapted from: 10.53.516 - 4.a		
10.53.521 - 3.c	Adapted from: 10.53.516 - 2.f		
10.53.521 - 3.c.i	Adapted from: 10.53.515 - 4.c		
10.53.521 - 3.c.ii	Adapted from: 10.53.516 - 2.h		
10.53.521 - 3.d	Adapted from: 10.53.516 - 5.c, 10.53.516 - 6.c		
10.53.521 - 3.d.i	Adapted from: 10.53.516 - 6.c		
10.53.521 - 3.d.ii	Adapted from: 10.53.516 - 5.c, 10.53.516 - 6.a		
10.53.521 - 3.d.iii	NEW STANDARD		



10.53.522 - Core Plus Number and Quantity Standards			
2024 Arm Item Code	2011 Arm Item Code		
10.53.522 - 1.a	Adapted from: 10.53.512 - 1.a, 10.53.512 - 1.b, 10.53.512 - 3.b		
10.53.522 - 1.b	Adapted from: 10.53.512 - 3.a		
10.53.522 - 1.b.i	Adapted from: 10.53.512 - 3.a, 10.53.512 - 3.b		
10.53.522 - 1.b.ii	Adapted from: 10.53.512 - 3.c		

10.53.523 - Core Plus Algebraic and Functional Reasoning Standards			
2024 Arm Item Code	2011 Arm Item Code		
10.53.523 - 1.a	Adapted from: 10.53.514 - 2.c		
10.53.523 - 1.b	Adapted from: 10.53.514 - 2.d		
10.53.523 - 2.a	Adapted from: 10.53.513 - 1.a		
10.53.523 - 2.b	NEW STANDARD		
10.53.523 - 2.b.i	Adapted from: 10.53.514 - 1.h		
10.53.523 - 2.b.ii	Adapted from: 10.53.514 - 1.h, 10.53.513 - 1.b		
10.53.523 - 2.b.iii	Adapted from: 10.53.514 - 1.h		
10.53.523 - 2.c	Adapted from: 10.53.514 - 1.d, 10.53.514 - 1.g		
10.53.523 - 2.d	Adapted from: 10.53.512 - 3.g		
10.53.523 - 3.a	Adapted from: 10.53.514 - 2.e		
10.53.523 - 3.b	Adapted from: 10.53.514 - 3.d		
10.53.523 - 3.c	Adapted from: 10.53.514 - 3.d		
10.53.523 - 3.c.i	Adapted from: 10.53.514 - 3.d		
10.53.523 - 3.c.ii	Adapted from: 10.53.514 - 3.d		
10.53.523 - 3.d	Adapted from: 10.53.514 - 1.d, 10.53.514 - 1.g		
10.53.523 - 3.e	Adapted from: 10.53.515 - 2.e		
10.53.523 - 4.a	Adapted from: 10.53.515 - 4.b		
10.53.523 - 4.a.i	Adapted from: 10.53.515 - 4.b		
10.53.523 - 4.a.ii	Adapted from: 10.53.515 - 4.h, 10.53.515 - 4.i		

10.53.523 - 4.b	Adapted from: 10.53.515 - 4.a, 10.53.516 - 3.e	
10.53.523 - 4.c	Adapted from: 10.53.514 - 1.d	
10.53.523 - 4.c.i	Adapted from: 10.53.514 - 1.d	
10.53.523 - 4.c.ii	Adapted from: 10.53.514 - 1.d	
10.53.523 - 4.d	NEW STANDARD	
10.53.523 - 4.e	Adapted from: 10.53.516 - 2.j,10.53.516 - 2.k	
10.53.523 - 5.a	Adapted from: 10.53.514 - 2.a, 10.53.515 - 4.e	
10.53.523 - 5.a.i	Adapted from: 10.53.515 - 3.a, 10.53.515 - 3.e, 10.53.515 - 4.e	
10.53.523 - 5.a.ii	Adapted from: 10.53.513 - 3.c, 10.53.513 - 4.I	
10.53.523 - 5.b	Adapted from: 10.53.514 - 1.d, 10.53.514 - 4.e	
10.53.523 - 5.c	Adapted from: 10.53.512 - 2.a	
10.53.523 - 5.d	Adapted from: 10.53.512 - 2.b, 10.53.512 - 2.c	

10.53.524 - Core Plus Data Reasoning Standards			
2024 Arm Item Code	2011 Arm Item Code		
10.53.524 - 1.a	Adapted from: 10.53.517 - 1.d		
10.53.524 - 1.b	Adapted from: 10.53.517 - 1.d		
10.53.524 - 1.c	Adapted from: 10.53.517 - 1.d		
10.53.524 - 2.a	Adapted from: 10.53.517 - 2.c		
10.53.524 - 2.b	NEW STANDARD		
10.53.524 - 2.b.i	Adapted from: 10.53.517 - 2.f		
10.53.524 - 2.b.ii	Adapted from: 10.53.517 - 2.f		
10.53.524 - 2.c	NEW STANDARD		
10.53.524 - 2.c.i	NEW STANDARD		
10.53.524 - 2.c.ii	NEW STANDARD		
10.53.524 - 3.a	Adapted from: 10.53.517 - 2.a		
10.53.524 - 3.b	Adapted from: 10.53.517 - 2.a, 10.53.517 - 2.d		
10.53.524 - 3.b.i	Adapted from: 10.53.517 - 2.d		

10.53.524 - 3.b.ii	Adapted from: 10.53.517 - 2.d	
10.53.524 - 3.b.ii.A	Adapted from: 10.53.517 - 2.d	
10.53.524 - 3.b.ii.B	Adapted from: 10.53.517 - 2.d	
10.53.524 - 3.b.ii.C	Adapted from: 10.53.517 - 2.d	
10.53.524 - 3.b.ii.D	Adapted from: 10.53.517 - 2.d	
10.53.524 - 3.c	Adapted from: 10.53.517 - 2.e	
10.53.524 - 3.c.i	NEW STANDARD	
10.53.524 - 3.c.ii	Adapted from: 10.53.517 - 2.c	



# **Appendix G: Guidance Documents**

#### Summary:

Each party participating in the math standards revisions agree - guidance is necessary. Therefore, the work has begun to develop these documents and will continue to progress as needs arise. Many documents have been proposed, from guidance on IEFA integration to definitions and examples. It is the current intention to create documents that support every partner group in the instruction of Montana Mathematics Students including families, support staff, educators, and administrators. As documents are created, they will be added to the list below.

#### **Guidance Documents List:**

Please note that, as of **January 30th, 2024**, the revisions have not been approved by the Board of Public Education. Therefore, the types of documents that can be created at this time are limited. This list is **not representative** of the robust list that is in planning.

Navigating the Montana Math Standards - Terms and Definitions (In Progress Draft)

As the Board of Public Education considers the proposed standards, it may be helpful to know what types of guidance documents are being considered for creation. The list provided below gives some insight into the documents being discussed at this time. Each has been proposed at one point or another by the Task Force, NRC members, OPI Staff, or the Superintendent.

Examples of proposed guidance include:

- 1. Math Literacy Guide
- 2. Competency Matrix
- 3. Pathways for High School and Beyond
- 4. Understanding the Mathematical Practices
- 5. Math Standards Gudiance Documents
- 6. Cultural Connections Guidance IEFA and Community
- 7. Connecting Math to Home
- 8. Vertical Alignment Documents
- 9. Examples and Elaborations Standard by Standard
- 10. Grade-Appropriate Expectations
- 11. Utilizing Appropriate Data Sources without Perpetuating Harmful Stereotypes
- 12. Example Lessons
- 13. Financial Literacy in the Math Standards
- 14. And More!



# Economic Impact Statement Administrative Rule of Montana, Chapter 53: Math Content Standards

Prepared by the Office of Public Instruction - April 2024



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#### **Executive Summary**

In late 2022, the Superintendent of Public Instruction, with approval from the Montana Board of Public Education (BPE), initiated a review of the Montana Mathematics Standards outlined in Administrative Rules of Montana (ARM) <u>Title 10, Chapter 53, Subchapter 5</u>, the Mathematics Content Standards. This review aimed to ensure that Montana's public schools maintain rigorous academic standards for all students in the state. The overarching goal is to provide Montana students and educators with updated and comprehensive mathematics standards that effectively guide instruction and prepare students for life beyond the classroom.

The content standards, as part of the accreditation standards, must be adopted by the BPE upon the recommendation of the Superintendent developed through the negotiated rulemaking process, as is stated in <u>§20-7-101, MCA</u>. The agency has created this economic impact statement in consultation with the NRC under the provisions of § <u>2-4-405, MCA</u>.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed rule amendments for ARM 10.53.5. The survey was distributed through the monthly OPI Compass newsletter sent to 18,116 stakeholders in the OPI bulk email system, as well as in a press release posted on March 13, 2024. Upon receiving too few stakeholder responses by the first due date, it was also sent directly to superintendents and school board trustees through a listserve and was left open for an additional three weeks. The OPI partnered with School Administrators of Montana (SAM) for distribution; they also sent the survey out in their weekly message to school leaders. The agency ultimately received 20 submissions to the economic impact survey.

#### Introduction

The Superintendent and OPI staff initiated a Math Standards Revision Task Force, comprising Development and Review Teams, listed in <u>Appendix B</u> and <u>Appendix C</u>. The Development Team proposed revisions based on research and the Superintendent's vision, while the Review Team provided feedback. Members from the Development Team finalized proposed standards for submission to the Superintendent and the Negotiated Rulemaking Committee (NRC). The OPI facilitated virtual and in-person meetings, working collaboratively on digital documents.

The agency organized the work of the task force, presented its rationale to the NRC, and sought feedback from the Montana Advisory Council on Indian Education (MACIE) regarding the integration of Indian Education for All.

The NRC members, found in <u>Appendix D</u>, considered the adoptions from the task force both in virtual and in-person meetings. The committee worked diligently to ensure consistency of the format, vocabulary, and organization throughout the standards.

#### The rules proposals are listed below with a summary of changes:

- 10.53.1501- Mathematical Practices for Grades K-12 - Amend:

- Repeal all standards for revisions, update language to align with the National Assessment of Educational Progress (NAEP), and inclusion of Cultural Connections
- 10.53.1502- 10.53.1510 Mathematical Standards for Grades K-8 Amend:
  - Clarify language, move examples and elaborations to guidance documents, vertical alignment.
- 10.53.1511- High School Symbols Amend:
  - Update to align with the intent of the task force on the revisions of high school standards
- 10.53.512 10.53.517 High School Content Standards Repeal:
  - Due to the vast amount of reorganization of the high school standards, it was cleaner to repeal the current high school standards and adopt new standards
- 10.53.518-10.53.521 High School CORE Content Standards Adopt:
  - Foundational standards that all Montana students should know and be able to do upon graduation from High School
- 10.53.522-10.53.524 High School CORE PLUS Content Standards Adopt:
  - Additional standards that all Montana students can pursue to prepare for postsecondary education and careers.

### **Economic Impact Statement Required Elements**

As required by § 20-7-101(1), MCA, the Montana Superintendent of Public Instruction, has prepared this economic impact statement in consultation with the NRC under the provisions of § 2-4-405, MCA. Each of the elements required to be addressed in the economic impact statement is outlined below.

#### a) Affected Classes of Persons

Describe the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule. Refer to § 2-4- 405 (2)(a), MCA.

The classes of persons affected by the rule changes include individuals from the following groups: school district trustees, K-12 school administrators, K-12 teachers - particularly Math Educators, school counselors, school librarians, school clerks/business officials, parents, and taxpayers.

Costs associated with the rule changes are the responsibility of local school districts.

The beneficiaries of the rule changes are trustees, administrators, teachers, and students of local school districts, as well as Montana communities served by accredited schools.

#### b) Economic Impact

Describe the probable economic impact of the proposed rule upon affected classes of

persons, including but not limited to providers of services under contracts with the state and affected small businesses, and quantify, to the extent practicable, that impact. Refer to § 2-4405 (2)(b), MCA.

The OPI surveyed school personnel and stakeholders about the probable economic impact of the proposed amendments for the Math Content Standards with a single survey, sent in multiple manners as listed previously. The 20 individuals who responded comprised of teachers, superintendents, building principals, district curriculum directors, a parent, a taxpayer, and a technology integration specialist.

The summary results of the surveys are shown in Appendix A.

#### **Cost to State Agencies**

Describe and estimate the probable costs to the agency and any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue. Refer to 2-4- 405 (2)(c), MCA

The Office of Public Instruction (OPI), per <u>§ 20-7-101, MCA</u>, has incurred costs associated with the standards revision task force and the negotiated rulemaking process. Convening the task force for in-person writing days costs the agency approximately \$11,500. The negotiated rulemaking process costs approximately \$15,000, including contracting with a facilitator and convening the NRC. The OPI anticipates additional costs associated with implementing the proposed rule changes, including the creation of guidance documents with the expertise of task force members, estimated at \$10,000. This brings the total agency cost to about \$45,500, not including the time that is absorbed by the staff member's job responsibilities.

The BPE is responsible for filing fees of notices of public hearing of proposed rule changes and publication fees of notices of adoption and amendments with the Secretary of State at \$60 per page. The costs associated with board member attendance at public hearings will be paid within the existing budget of the BPE.

#### c) Costs and Benefits of the Proposed Rule

Analyze and compare the costs and benefits of the proposed rule to the costs and benefits of inaction. Refer to § 2-4-405 (2)(d), MCA.

The State Superintendent initiated the process of amending the accreditation and aligning content standards. The agency did not undertake an analysis of the costs and benefits of "inaction."

#### d) Less Costly or Less Intrusive Methods

Are there less costly or less intrusive methods for achieving the purpose of the proposed rule? Refer to § 2-4-405 (2)(e), MCA.

There is no less costly or less intrusive method for achieving the purpose of the proposed rule changes.

#### e) Selection of Proposed Rule

Analyze any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule. Refer to § 2-4-405 (2)(f), MCA.

After exploring alternative methods to achieve the proposed rule's purpose, it was determined that given the substantial influence of content standards on school quality and instruction, especially in the realm of Math Education, and the statutory requirement for negotiated rulemaking, no alternative method would sufficiently produce content standards based on learner outcomes conducive to educational excellence.

#### f) Efficient Allocation of Public and Private Resources

Does the proposed rule represent an efficient allocation of public and private resources? Refer to  $\$  2-4-405 (2)(g), MCA.

The proposed rule amendments do not involve any specific allocation of public and private resources.

### Conclusion

The NRC, through consensus, determined that the rule amendments should be surveyed for economic impact. <u>Appendix A</u> shows the responses and the demographics of those who submitted responses. No specific comments were made about the individual rule amendments, just overall impressions of the probable economic impact.

Survey respondents shared that there are various needs and costs for implementing the proposed math standards. These include aligning curriculum, providing professional development, and acquiring support materials. They shared that funding is needed for professional development focused on problem-solving, while uncertainties exist regarding updating existing curricula to meet proposed standards. There's a potential need to purchase all-new curricula if current ones don't align with standards. The estimated cost for materials adoption in math instruction ranges from minimal to exceeding \$100,000.

Every district has its own unique set of needs for math instructional staffing. Respondents expressed critical personnel needs in math education, including challenges with large class sizes and the absence of math intervention teachers. They highlighted the benefits of programs like the Math Innovation Zones grant but noted a lack of funding for intervention initiatives.

Implementing the proposed Math Content Standards in each district involves significant time considerations, such as professional development and resource review. Responses from the

survey vary. Some note the need for staff to realign standards and emphasize the importance of ongoing professional development, while others cite constraints like limited interventions and budgetary issues. Educating math teachers on the new standards and aligning them with the curriculum are highlighted priorities. Planning for instructional changes is slated for the upcoming school year, with varying estimates of required time investment ranging from 30 to 40 hours or more. Some express the desire for the new standards to be available in time for summer planning, emphasizing the importance of preparation for effective implementation by 2025.

The Superintendent's recommendations to the BPE will be evaluated by the BPE and then facilitated through the Montana Administrative Procedure Act (MAPA) process before any adoption of proposed standards changes are implemented.



#### Appendix A – Economic Impact Survey Responses

Please share your role in the district you serve or reside in:

20 responses

Please identify the size of the district you serve: 20 responses



Please indicate the grade band(s) you serve: 20 responses





Do you anticipate that your district will be able to meet the proposed math content standards with existing resources?

20 responses



Will your district have difficulty finding (locating) instructional materials to implement the proposed standards?

20 responses



Would the proposed standards impose a cost for instructional materials beyond that required to implement the current math content standards? 20 responses



Count of What increase in total dollars would be required to cover the cost associated with Instructional Materials? (best estimate)



#### If you answered "yes, please provide additional information:

- Purchase of materials, professional development, and additional staff time outside the contract may be required for realigning report cards, curriculum, and lesson plans.
- Professional Development is necessary for teachers to understand changes in vertical alignment and specific language in the new standards.
- Re-teaching of previous concepts due to lower math abilities in students, requiring support materials.
- Staff requiring professional development for standards-based instruction and assessment realignment; K-5 needing a new math instruction resource.
- Search for a new curriculum meeting standards and school requirements, incorporating technology.
- Current math curriculum costs \$13,000 annually.
- Funding is needed for updated professional development, focusing on real-world math problems.
- Existing curriculum meeting proposed standards needing updates, uncertain of costs.
- Need for a comprehensive K-8 curriculum with intervention implementation capability.
- Potential need to purchase all new curricula if standards don't align with the current curriculum.
- Professional development is required to ensure standards are fully met.
- Estimated cost of over \$100,000 for materials adoption in mathematics instruction.
- Professional development on "fluency" is required.

Would the proposed standards impose a cost for personnel beyond what is required to implement the current standards?

20 responses



If you answered "yes, please provide additional information:

- Realign standards, curriculum, and lessons
- Regular purchase of materials to support students
- Limited outside training for new curriculum preparation
- Potential increase in title needs for differentiated instruction due to rigorous proposed standards
- Provision of advanced courses if desired
- Professional Development time for staff to introduce and realign instructional pacing and frameworks in mathematics to revised standards

Does your district currently have staffing to support Math instruction?



Please share any relevant information about your district's personnel needs for Math.

- Large class sizes hinder individualized instruction
- Lack of math intervention and intervention teacher
- Current teachers are responsible for teaching both current and previous standards
- Lack of consistency in math instruction among teachers
- Teaching math in grades 6-8 with a teacher and a para is beneficial
- The desire for extra personnel for interventions
- Participation in the Math Innovation Zones (MIZ) grant enhances math instruction
- Funding for intervention math programs is lacking
- Shortage of two math teachers for the upcoming school year
- Gratitude for quality math teachers in high school
- One math teacher for grades 6-12, PreK-5 teachers handle elementary math instruction
- Beneficial professional development on the changes

Will your district have difficulty funding professional development opportunities for math educators to support implementation of the rule amendments? 20 responses



#### If yes, please explain:

- We are currently using ESSER funds to complete the mathematics alignment to teaching the standards and assessing using standards-based grading. It was 160 hours for 6 teachers to complete this work costing our small district \$24,000. We wouldn't have the funding to do this again.
- It's difficult to get people to our region in a timely fashion.
- Budgets are very tight and inflation has greatly increased costs, making it difficult to fund the basic requirements at the school much less providing professional development.
- Not sure what the funding looks like.
- We are trying to tighten up our budget as much as possible to meet budgetary cuts and this is something we do not have adequate funding for.
- We are experiencing a budget deficit that had us look at a 4-day week to keep all our staffing that is so vital to continued student growth. We need our budgets to be funded 100% by the state. The taxpayers are in the same bind our school is and aren't willing to dip into their pockets to help our school and it's not that they don't want to. They do, but everyone is experiencing tough financial times. State funding needs a hard revamp to give schools the funds they need to do what is needed. Having us do more with less isn't working! We are in crisis mode. That's no way to educate MT students!
- It will depend on current budget constraints in the district and whether we will be able to afford the needed PD to make this happen.
- Curriculum content changes require several days for all instructors who teach math and usually time with the vendor. Could be \$15,000 +/-.
- We are a small school and we do not budget much for professional development

# What professional development would be needed to support these rule amendments?

- Explanation and time for instructors to understand changes and purpose, impacting their instruction. Minor supplies may be needed.
- Implementing math intervention techniques while covering current standards.
- Request for a concise presentation/summary of standards instead of a lengthy document.
- Aligning standards to state assessments and implementing standards-based grading.
- Need for all-encompassing professional development.
- Updating scope and sequence for common assessments.
- Professional development to enhance teacher ability in standards-based grading.

- Understanding teaching requirements with new standards.
- General knowledge about amendments.
- Request for additional time to respond.
- Ensuring curriculum assessment meets new standards.
- Content-specific training and potential for new textbook material training.
- Periodic curriculum content instruction for math teachers, especially with changed standards.
- Professional development for staff training on updated content standards and realignment with curricula.
- Staff training is required to understand rule amendments and standards.
- Importance of memorizing math facts alongside understanding flexible and efficient methods.
- Information on changes and best practices for implementation.

# What are the time implications related to your district implementing the proposed Math Content Standards (professional development, reviewing resources, etc.)?

- Anytime there is a change it takes time for staff to look at what we currently teach and what's needed to realign standards. PD will be needed as well, especially for new staff coming on board
- No
- We are a very small district. It would take a lot of human resources to complete this change of standards and research a resource that would provide students and teachers support in teaching and learning
- Since we have recently updated our curriculums, last year required the most time and effort on behalf of our teachers
- The implications are great as we have just spent this year creating a standard-based report card with current standards and adopted a new curriculum aligned to current standards
- I am not sure
- 30 Hours
- Professional development needs to be ongoing
- Unsure
- We are trying our best to complete math standards in the current school year, but with limited interventions in place, it's making it difficult to be able to cover all standards in the allotted time
- No major issues are seen at this point, but more related to budget constraints to buy new curriculum resources
- We would need to educate the math teachers on the new standards, what that means to each grade level, and so on, and how it would pertain to our new curriculum.
- We will look at instructional changes that need to be made during the 2024-2025 school year, so we are ready to implement them when school begins in the fall of 2025.
- Within the next two years
- 40 hours or more
- Professional development opportunities provided over the summer would be most beneficial if this is to be implemented by 2025
- Lack of common prep times, lack of pay to do outside of school times
- Great question. There would be a decent time investment for all of the teachers to get on the same page with the standards
- I would like the new standards available at the end of this school year so I could spend time planning over the summer as I am responsible for teaching all high school courses

Task Force Member Name	Location	Assigned Roles
Nicole Casper	Kalispell	K-2 Development
Shay Kidd	Dillon	K-2 Development, Vertical Alignment, Mathematical Practices
Andrea Meiers	Lockwood	K-2 Development
Thomas Redmon	Hamilton	K-2 Development, Mathematical Practices
Carla Swenson	Glasgow	K-2 Development
Lei-Anna Bertelsen	Bozeman	3-5 Development
Elizabeth Burroughs	Bozeman	3-5 Development
Kris Gardner	Missoula	3-5 Development
Melissa Shiffer	Lambert	3-5 Development
Tina Blair	Anaconda	6-8 Development, Vertical Alignment
Jennifer Brackney	Billings	6-8 Development
Jennifer Luebeck	Bozeman	6-8 Development, Mathematical Practices
Matt Roscoe	Missoula	6-8 Development
Cliff Bara	Troy	9-12 Development
Beth Cooney	Harlowton	9-12 Development
Deanne Gemmil	Billings	9-12 Development
Marisa Graybill	Helena	9-12 Development
Janice Novotny	Big Timber	9-12 Development
Frederick Peck	Missoula	9-12 Development

## Appendix B: Math Standards Revision Task Force Members

# Appendix C: Math Standards Revision Review Team Members

Review Team	Location	Assigned Role
Becky Berg	Billings	K-5 Review
Jenny Combs	Laurel	K-5 Review
Kayla Ryan	Helena	K-5 Review
Amy Jones	Forsyth	K-5 Review
Pat Baltzley	Gardiner	6-12 Review
Sharon Carroll	Ekalaka	6-12 Review
Lisa Scott	Billings	6-12 Review
# Appendix D: Math Standards Revision Negotiated Rulemaking

Member	NRC Role	Location
Teri Dierenfield	Kalispell	K-12 Teacher, Taxpayer
June Ellestad	Lolo	Retired University Faculty, Taxpayer
Carrie Fisher	Belgrade	School District Business Official, Taxpayer
Robert Griffith	Great Falls	Retired K-12 Teacher, Taxpayer
Katie McCrea	Pryor	K-12 Teacher, Taxpayer
Kath Milodragovich	Butte	School District Trustee, K-12 Teacher, Parent, Taxpayer
Dr. Julie Murgel	Helena	Office of Public Instruction, Taxpayer
Dr. Chris Olszewski	Billings	K-12 School Administrator, Taxpayer
Dr. Lynne Rider	Kalispell	K-12 Teacher, Taxpayer
Brooke Taylor	Billings	K-12 Teachers, Parent, Taxpayer
Brooke Tuft	Whitefish	Grandparent, Taxpayer

# Committee

# Appendix E: Montana Office of Public Instruction Project Leadership

Elsie Arntzen, Superintendent of Public Instruction Christy Mock-Stutz, Assistant Superintendent Julie Murgel, Chief Program Officer Marie Judisch, Teaching and Learning Senior Manager Aimee Konzen, Professional Learning Manager Katrina Engeldrum, Mathematics Instructional Coordinator, Mathematics Standards Revision Project Lead **Michelle McCarthy,** Science Instructional Coordinator, Standards Revision Process Consultant and Project Support

**Stephanie Swigart,** English Language Arts and Literacy Specialist, Standards Revision Process Consultant and Project Support

Matthew Bell, American Indian Culture and Language Immersion Specialist,

Consultant, and Project Development Support

Sheri Harlow, Administrative Support

## BEFORE THE BOARD OF PUBLIC EDUCATION OF THE STATE OF MONTANA

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In the matter of the adoption of New Rules I-VII; amendment of 10.53.501, 10.53.502, 10.53.503, 10.53.504, 10.53.505, 10.53.506, 10.53.507, 10.53.508, 10.53.509, 10.53.510and 10.53.511, and repeal of rules 10.53.512, 10.53.513, 10.53.514, 10.53.515, 10.53.516 and 10.53.517 NOTICE OF PUBLIC HEARING ON PROPOSED ADOPTION, AMENDMENT, AND REPEAL

TO: All Concerned Persons

1. On [Month Day, 2024, at [Time]:00 [a.m./p.m.], the Board of Public Education will hold a public hearing in Room [###] of [Building], at Helena, Montana, to consider the proposed adoption, amendment, and repeal of the above-stated rules.

2. The Board of Public Education will make reasonable accommodations for persons with disabilities who wish to participate in this rulemaking process or need an alternative accessible format of this notice. If you require an accommodation, contact Board of Public Education no later than 5:00 p.m. on Month Day, 2024, to advise us of the nature of the accommodation that you need. Please contact McCall Flynn, Executive Director, Board of Public Education, 46 N Last Chance Gulch, Suite 2B, PO Box 200601, Helena, MT 59620-0601; telephone (406) 444-0300; fax (406) 444-0847; or e-mail bpe@mt.gov.

3. The rules as proposed to be adopted provide as follows:

<u>NEW RULE I CORE NUMERIC REASONING STANDARDS</u> (1) Mathematics numeric reasoning: understand and apply the real number system content standards for high school are:

(a) use reasoning to establish properties of integer exponents, including scientific notation;

(b) represent and perform operations within very large and very small numbers using scientific notation; and

(c) define, manipulate, interpret, and compare real numbers presented through different representations, including both rational and irrational numbers and apply comparisons in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

## NEW RULE II CORE ALGEBRAIC AND FUNCTIONAL REASONING

<u>STANDARDS</u> (1) Mathematics algebraic and functional reasoning: understand and express functions content standards for high school are:

(a) interpret parts of an expression, such as terms, factors, and coefficients;

(b) understand the definition of a function and distinguish between functions and relations;

(c) represent functions using tables, graphs with appropriate scales and labels, equations, and verbal situations; using technology strategically by:

(i) understanding that different representations highlight different aspects of functions, and choosing the representation that is appropriate for the context; and

(ii) comparing properties of two functions, including when each is represented in a different way;

(d) use function notation, evaluate functions, and interpret statements that use function notation in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(e) identify the domain and range of a function, including considering the constraints imposed by context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(f) understand that a graph of an equation in two variables is the set of all of its solutions plotted in a coordinate plane;

(g) understand that expressions can be rewritten in equivalent forms to make different characteristics or features visible; and

(h) rearrange literal equations to highlight quantities of interest.

(2) Mathematics algebraic and functional reasoning: linear functions content standards for high school are:

(a) understand that linear functions have a constant rate of change;

(b) understand slope as a rate of change and y-intercept as initial value;

(c) represent linear functions using tables, graphs, equations, and verbal situations; using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) identifying the rate of change and initial value in each representation;

(ii) converting between representations; and

(iii) writing equations for a line perpendicular or parallel to a given line that passes through a given point.

(d) understand that linear equations can be represented in multiple forms and the specific features of each form by:

(i) choosing the form strategically when writing an equation based on given information and intended use;

(ii) converting between slope-intercept, point-slope, and standard form symbolically;

(iii) understanding the relationship between slope-intercept form, the rate of change, and the initial value;

(iv) understanding the relationship between point-slope form, the rate of change, and a given point; and

(v) understanding the relationship between standard form and the x- and yintercepts. (e) understand that a solution to a system of equations is a coordinate pair that makes both equations true; and

(f) solve systems of linear equations by graphing, substitution, and elimination, including systems with zero, one, or infinite solutions; using technology and representations strategically.

(3) Mathematics algebraic and functional reasoning: quadratic functions and expressions content standards for high school are:

(a) understand that quadratic functions do not have a constant rate of change but have a constant second difference over equal intervals and identify the constant second difference in tables;

(b) represent quadratic functions using tables, graphs, equations, and verbal situations, using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(c) understand that quadratic expressions can be represented in multiple forms and the specific features of each form by:

(i) choosing the form strategically when writing an expression based on given information and intended use;

(ii) converting between factored, standard, and vertex form symbolically and using representations;

(iii) understanding the relationship between factored form and the zeros of the function; and

(iv) understanding the relationship between vertex form and the vertex of the function.

(4) Mathematics algebraic and functional reasoning: exponential functions and expressions content standards for high school are:

(a) understand that exponential functions have a constant common ratio over equal intervals, and identify the common ratio in tables and equations;

(b) understand a as the initial value and b as the growth/decay factor for an exponential function written in standard form,  $y=a*b^x$ ;

(c) understand the relationship between growth/decay factor and growth/decay rate;

(d) represent exponential functions using tables, graphs, equations, and verbal situations; using technology strategically; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and

(e) solve exponential equations graphically; using technology strategically.

(5) Mathematics algebraic and functional reasoning: modeling with functions content standards for high school are:

(a) model situations in context, with linear, quadratic, and exponential functions; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) determining if a set of data is best modeled by a linear function, quadratic function, exponential function, or none, and explaining why; and

(ii) understanding that there are contexts where solutions may not lie on the curve.

(b) interpret the coefficients in a linear, quadratic, and exponential model in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(c) choose and interpret measurement units in formulas, graphs, and data displays to understand problems and to guide problem-solving in modeling situations; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and

(d) choose a level of accuracy appropriate to limitations on measurement when reporting quantities in modeling situations; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

### NEW RULE III CORE DATA REASONING AND PROBABILITY STANDARDS

(1) Mathematics data reasoning and probability: quantitative literacy content standards for high school are:

(a) distinguish between quantitative and categorical data and use representations and analysis techniques that are appropriate for each type;

(b) ask a statistical question to determine whether there appears to be an association between two variables, design and carry out an investigation, and write a persuasive argument based on the results of the investigation; and

(c) distinguish between association and causation.

(2) Mathematics data reasoning and probability: visualizing, summarizing, and interpreting data content standards for high school are:

(a) use technology to organize data, including very large data sets, into a useful and manageable structure;

(b) represent the distribution of univariate quantitative data with plots on the real number line, choosing a format most appropriate to the data set, and representing the distribution of bivariate quantitative data with a scatter plot;

(c) understand that standard deviation measures the variability of a data distribution, and calculate standard deviation using technology;

(d) interpret differences in the shape, center, and spread of quantitative data distributions, in context, accounting for possible effects of outliers on measures of central tendency and variability;

(e) compare and contrast two or more quantitative data distributions, using shape, center, and spread in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(f) analyze the relationship between two quantitative data distributions in context that have a linear association; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) using technology strategically, represent two quantitative data distributions on scatter plots;

(ii) describing verbally how the variables are related;

(iii) using technology to find the least-squares regression line (line of best) fit for two quantitative variables;

(iv) understanding that the line of best fit minimizes the square of the residuals; and

(v) understanding correlation as a measure of linear association and using technology, compute the correlation coefficient of a linear relationship.

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(g) analyze the relationship between two categorical variables in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) summarizing categorical data for two categories in two-way frequency tables and visual representations;

(ii) interpreting relative frequencies for categorical data in context; and

(iii) identifying possible associations and trends in categorical data.

(3) Mathematics data reasoning and probability: probability content standards for high school are:

(a) understand the concept of a sample space and describe events as subsets of a sample space; and

(b) understand the concepts of conditional probability and independence in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) determining whether two events, A and B, are independent by using twoway tables, tree diagrams, and/or Venn diagrams, and interpreting the answer in context; and

(ii) computing the conditional probability of event A given event B by using two-way tables, tree diagrams, and/or Venn diagrams, and interpreting the answer in context.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

## NEW RULE IV CORE GEOMETRIC REASONING STANDARDS

(1) Mathematics geometric reasoning: transformations content standards for high school are:

(a) represent transformations in the plane using a variety of methods;

(b) define the congruence of two and show that two figures are congruent by finding a sequence of rigid motions that maps one figure to the other by:

(i) using the definition of congruence in terms of rigid motions to show that two triangles are congruent if, and only if, corresponding pairs of sides and corresponding pairs of angles are congruent; and

(ii) verifying that two triangles are congruent if, but not only if, the following groups of corresponding parts are congruent: angle-side-angle (ASA), side-angle-side (SAS), side-side (SSS).

(c) define the similarity of two figures in terms of similarity transformations by:

(i) verifying that two triangles are similar if, and only if, corresponding pairs of sides are proportional and corresponding pairs of angles are congruent; and

(ii) using the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.

(2) Mathematics geometric reasoning: geometric arguments, reasoning, and proof content standards for high school are:

(a) investigate, conjecture, prove theorems, and communicate the proofs in a variety of ways by:

(i) proving theorems about lines and angles; theorems include: vertical angles are congruent; when a transversal crosses parallel lines alternate interior angles are

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congruent and corresponding angles are congruent; and the points on the perpendicular bisector of a line segment are those equidistant from the segment's endpoints;

(ii) proving theorems about triangles; theorems include: the sum of the measures of the interior angles of a triangle is 180°; the Pythagorean Theorem; the base angles of isosceles triangles are congruent; and a line parallel to one side of a triangle divides the other two sides proportionally;

(iii) proving theorems about parallelograms and other quadrilaterals; theorems include: necessary and sufficient conditions for rectangles, parallelograms, rhombi, and kites; and

(iv) proving theorems about circles; theorems include: the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; and the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

(3) Mathematics geometric reasoning: measurement, problem solving, and geometric modeling content standards for high school are:

(a) use the Pythagorean Theorem to calculate distance in the coordinate plane;

(b) derive the equation of a circle of a given center and radius using the Pythagorean Theorem;

(c) use similarity to explore and define the sine ratio, cosine ratio, and tangent ratio in terms of right triangles by:

(i) deriving and applying the trigonometric ratios in special right triangles; and

(ii) using trigonometric ratios and the Pythagorean Theorem to solve right triangles.

(d) use geometric shapes, their measures, and their properties to model objects and use those models to solve problems in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) modeling and solving problems with 2D shapes by using the perimeter and area of polygons, circles, and composite shapes with portions removed;

(ii) modeling and solving problems with 3D solids by using surface area and volume of solids, including composite solids and solids with portions removed; and

(iii) deriving and applying the relationships between the lengths, perimeters, areas, and volumes of similar figures in relation to their scale factor.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

NEW RULE V CORE PLUS NUMBER AND QUANTITY STANDARDS

(1) Mathematics number and quantity: numeric reasoning content standards for high school are:

(a) extend the properties of exponents to rational exponents, including converting between exponential and radical form; and

(b) understand there is a complex number i such that  $i^2 = -1$ , and every complex number has the form a + bi with a and b as real numbers by:

(i) adding, subtracting, multiplying, and dividing complex numbers; and

(ii) finding the conjugate of a complex number.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

#### <u>NEW RULE VI CORE PLUS ALGEBRAIC AND FUNCTIONAL REASONING</u> STANDARDS (1) Mathematics algebraic and functional reasoning: functions,

expressions, and inequalities content standards for high school are:

(a) identify the effect on the graph of replacing f(x) by f(x) + k,  $k \cdot f(x)$ ,  $f(k \cdot x)$ , and f(x + k) for specific values of k (both positive and negative); and

(b) understand the relationship between a function and its inverse.

(2) Mathematics algebraic and functional reasoning: polynomial functions content standards for high school are:

(a) understand polynomials are created by multiplying linear factors;

(b) understand that polynomial expressions can be represented in both factored and standard form, and the specific features of each form by:

(i) choosing the form strategically based on given information and intended use when writing an expression;

(ii) converting between factored and standard form symbolically and using representations (e.g., area model); and

(iii) interpreting the relationship between the factored form of the expression and the zeros of the function.

(c) graph polynomial functions with and without the use of technology, by identifying zeros, relative maxima and minima, and end behavior; and

(d) solve quadratic equations that have complex solutions, and understand why the solutions form a conjugate pair.

(3) Mathematics algebraic and functional reasoning: exponential and logarithmic functions content standards for high school are:

(a) understand logarithmic functions as the inverse of exponential functions;

(b) understand why e is defined as the natural base;

(c) understand that exponential and logarithmic functions can be represented using multiple forms by:

(i) expressing exponential functions in the form  $f(x)=ab^x$  and  $f(x)=Pe^{(rt)}$ ; and

(ii) expressing logarithmic functions in base 10 and base e.

(d) graph logarithmic and exponential functions with and without the use of technology by identifying intercepts, asymptotes, and end behavior; and

(e) solve exponential and logarithmic equations using inverse operations with and without the use of technology.

(4) Mathematics algebraic and functional reasoning: trigonometric functions content standards for high school are:

(a) understand how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers by:

(i) defining the sine and cosine functions in terms of the unit circle; and

(ii) defining the tangent, cotangent, secant, and cosecant functions in terms of sin and cosine.

(b) understand and use the radian measure of an angle, and convert between degree and radian measures;

(c) graph trigonometric functions with and without the use of technology by:

(i) graphing sine and cosine functions, identifying period, midline, and amplitude; and

(ii) graphing tangent functions, identifying period and asymptotes.

(d) solve trigonometric equations with and without the use of technology; and

(e) apply the Law of Sines and the Law of Cosines to find unknown measurements in non-right triangles.

(5) Mathematics algebraic and functional reasoning: modeling content standards for high school are:

(a) model situations in context with polynomial, exponential, logarithmic, and trigonometric functions; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) determining if a set of data is best modeled by a polynomial, exponential, logarithmic, or trigonometric function or none, and explaining why; and

(ii) understanding that there are contexts where solutions may not lie on the curve.

(b) interpret the coefficients in a polynomial, exponential, logarithmic, and trigonometric model in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(c) use and interpret units correctly in modeling situations; and

(d) choose a level of accuracy appropriate to limitations on measurement when reporting quantities in modeling situations.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

# NEW RULE VII CORE PLUS DATA AND REASONING STANDARDS

(1) Mathematics data reasoning and probability: normal distribution content standards for high school are:

(a) Mathematics data reasoning and probability: normal distribution content standards for high school are:

(b) use technology to find the mean and standard deviation of a normally distributed data set and apply the empirical rule to estimate population percentages; and

(c) estimate areas under a normal curve to solve problems in context, using calculators, spreadsheets, and tables as appropriate.

(2) Mathematics data reasoning and probability: experimental design content standards for high school are:

(a) describe the purposes of and differences among sample surveys, experiments, and observational studies and explain how randomization relates to each;

(b) describe differences between randomly selecting samples and randomly assigning subjects to experimental treatment groups in terms of inferences drawn regarding a population versus regarding cause and effect by:

(i) explaining the consequences, due to uncontrolled variables, of nonrandomized assignment of subjects to groups in experiments; and

(ii) evaluating where bias, including sampling, response, or nonresponse bias, may occur in surveys, and whether results are representative of the population of interest;

(c) evaluate the effect of sample size on the expected variability in the sampling distribution of a sample statistic by:

(i) simulating a sampling distribution of sample means from a population with a known distribution, observing the effect of the sample size on the variability; and

(ii) demonstrating that the standard deviation of each simulated sampling distribution is the known standard deviation of the population divided by the square root of the sample size.

(3) Mathematics data reasoning and probability: statistical inference using simulation content standards for high school are:

(a) distinguish between a statistic and a parameter and use statistical processes to make inferences about population parameters based on statistics from random samples from that population;

(b) estimate a population parameter from a representative sample by:

(i) understanding why the sample statistic is the best estimate for the associated population parameter;

(ii) understanding that sampling variability introduces uncertainty in the estimate, and account for the uncertainty with a confidence interval by:

(A) using resampling with replacement from an observed sample to produce a sampling distribution;

(B) verifying that a sampling distribution is centered at the population mean and approximately normal if the sample size is large enough;

(C) verify that 95% of sample means are within two standard deviations of the sampling distribution from the population mean; and

(D) creating and interpreting a 95% confidence interval based on an observed mean from a sampling distribution.

(c) use data from a randomized experiment to test the hypothesis that two groups are equal by:

(i) interpreting the difference or ratio between the group means as the observed effect between the groups; and

(ii) understanding that an observed effect may be due to randomization and using a randomization test (repeatedly reshuffling the observed data into new groups) to determine the probability that an observed effect is due to randomization alone.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101 MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

4. The rules as proposed to be amended provide as follows, new matter underlined, deleted matter interlined:

<u>10.53.501</u> STANDARDS FOR MATHEMATICAL PRACTICE FOR GRADES <u>K-12</u> (1) Mathematical practice standard 1 is to make sense of problems problem solve and persevere in solving them. Mathematically proficient students:

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(a) explain the meaning of a problem and restate it in their words make conjectures, plan, and follow solution strategies;

(b) analyze given information to develop possible strategies for solving the problem evaluate their progress and accuracy;

(c) identify and execute appropriate strategies to solve the problem engage in sense-making and self-monitoring; and;

(d) evaluate progress toward the solution and make revisions if necessary; and persevere in seeking solutions, and value alternative approaches.

(e) check their answers using a different method and continually ask "Does this make sense?".

(2) Mathematical practice standard 2 is to reason abstractly and quantitatively generalize. Mathematically proficient students: <u>are able to decontextualize and</u> <u>symbolically represent both mathematical and non-mathematical situations to search</u> for and analyze regularities, patterns, and structures.

(a) make sense of quantities and their relationships in problem situations;

(b) use varied representations and approaches when solving problems;

(c) know and flexibly use different properties of operations and objects; and

(d) change perspectives, generate alternatives, and consider different options.

(3) Mathematical practice standard 3 is to construct viable arguments and critique the reasoning of others justify and prove. Mathematically proficient students: create, evaluate, justify, and refute mathematical claims in developmentally and mathematically appropriate ways.

(a) understand and use prior learning in constructing arguments;

(b) habitually ask "why" and seek an answer to that question;

(c) question and problem-pose;

(d) develop questioning strategies to generate information;

(e) seek to understand alternative approaches suggested by others and as a result, adopt better approaches;

(f) justify their conclusions, communicate them to others, and respond to the arguments of others; and

(g) compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and if there is a flaw in an argument, explain what it is.

(4) Mathematical practice standard 4 is to model with mathematics. Mathematically proficient students:

(a) apply the mathematics they know to solve problems arising in everyday life, society, and the workplace make sense of a scenario;

(b) make assumptions and approximations to simplify a complicated situation, realizing that these may need revision later identify a problem to be solved, and mathematize it; and;

(c) identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas; and apply a mathematical model to reach a solution and verify its viability.

(d) analyze mathematical relationships to draw conclusions.

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(5) Mathematical practice standard 5 is to use appropriate tools strategically represent. Mathematically proficient students:

(a) use tools when solving a mathematical problem and to deepen their understanding of concepts (e.g., pencil and paper, physical models, geometric construction and measurement devices, graph paper, calculators, computer-based algebra, or geometry systems) recognize, use, create, interpret, and translate representations using appropriate methods and tools; and

(b) make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations and detect possible errors by strategically using estimation and other mathematical knowledge understand multiple ways of representing mathematical ideas and how they are related.

(6) Mathematical practice standard 6 is to attend to precision <u>collaborate</u> <u>mathematically</u>. Mathematically proficient students: <u>engage in mathematics as a</u> <u>social enterprise through discussion and collaborative inquiry where ideas are</u> <u>offered, debated, connected, and built upon toward solutions, shared understanding,</u> <u>and appreciation of other perspectives.</u>

(a) communicate their understanding of mathematics to others;

(b) use clear definitions and state the meaning of the symbols they choose, including using the equal sign consistently and appropriately;

(c) specify units of measure and use label parts of graphs and charts; and (d) strive for accuracy.

(7) Mathematical practice standard 7 is to look for and make use of structure <u>culturally connect</u>. Mathematically proficient students:

(a) look for, develop, generalize, and describe a pattern orally, symbolically, graphically, and in written form recognize cultural connections and contributions to mathematics; and

(b) apply and discuss properties appreciate the role of mathematics in various cultural contexts, including those of tribally-specific Montana Indigenous Peoples.

(8) Mathematical practice standard 8 is to look for and express regularity in repeated reasoning. Mathematically proficient students:

(a) look for mathematically sound shortcuts; and

(b) use repeated applications to generalize properties.

AUTH: <u>Mont. Const. Art. X, sec. 9,</u> 20-2-114, <u>20-7-101,</u> MCA IMP: <u>Mont. Const. Art. X, sec. 9,</u> 20-2-121, 20-3-106, 20-7-101, MCA

<u>10.53.502</u> MONTANA KINDERGARTEN MATHEMATICS CONTENT STANDARDS (1) Mathematics counting and cardinality standards for kindergarten are:

(a) flexibly count to 100 by ones and by tens;

(b) count forward beginning from a given number within the known sequence (instead of having to begin at 1);

(c) write numbers from 0-20 and represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects);

(d) understand the relationship between numbers and quantities and connect counting to cardinality by recognizing that each successive number name refers to a quantity that is one larger within a normal counting sequence;

(i) when counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object from a variety of cultural contexts, including those of Montana American Indians;

(ii) understand that the last number name said tells the number of objects counted and the number of objects is the same regardless of their arrangement or the order in which they were counted;

(iii) understand that each successive number name refers to a quantity that is one larger;

(e) count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration and given a number from 1-20, count out that many objects from a variety of cultural contexts, including those of Montana American Indians including those of Montana American Indians in a variety of arrangements and, given a number, produce a set within 20;

(f) identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies; and

(g) compare two numbers between 1 and 10 presented as written numerals.

(2) Mathematics operations and algebraic thinking content standards for kindergarten are:

(a) represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations in multiple ways;

(b) solve addition and subtraction word problems from a variety of cultural contexts, including those of Montana American Indians, and add and subtract within 10, e.g., by using objects or drawings to represent the problem problems in context within 10; this standard should incorporate cultural context relating to Montana Indigenous People and local communities;

(c) decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1) multiple ways;

(d) for any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation; and

(e) fluently-flexibly, accurately add and subtract within 5-; and

(f) recognize the characteristics of the commutative property in addition.

(3) Mathematics number and operations in base ten content standard for kindergarten is:

(a) compose and decompose numbers from 11-19 into ten ones and some further ones, e.g., by using objects or drawings; in multiple ways and record each composition or decomposition by a drawing or an equation (such as 18 = 10 + 8); and understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

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(4) Mathematics measurement and data content standards for kindergarten are:

(a) describe <u>several</u> measurable attributes of <del>objects, such as length or weight</del> and describe several measurable attributes of a single object;

(b) directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute and describe the difference; for example, directly compare the heights of two children and describe one child as taller/shorter; and using comparative language;

(c) classify, <u>count</u>, and <u>sort</u> objects from a variety of cultural contexts, including those of Montana American Indians, into given categories, <u>count the numbers of objects in each category</u>, and sort the categories by <u>count</u>.; <u>this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities</u>;

(d) describe attributes and identify the names of coins; and

(e) explain time in days, months, years, and seasons.

(5) Mathematics geometry content standards for kindergarten are:

(a) describe the relative positions of objects, including those of Montana American Indians, in the their environment using names of shapes and describe the relative positions of these objects using terms such as: above, below, beside, in front of, behind, and next to; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(b) correctly name shapes regardless of their orientations or overall size;

(c) identify shapes as two-dimensional (lying in a plane, "flat") or threedimensional ("solid");

(d) analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners"), and other attributes (e.g., having sides of equal length);

(e) model shapes in the world from a variety of cultural contexts, including those of Montana American Indians, by building shapes from components (e.g., sticks and clay balls) and drawing shapes environment; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and

(f) compose simple shapes to form larger shapes; for example, "Can you join these two triangles with full sides touching to make a rectangle?".

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

### 10.53.503 MONTANA GRADE 1 MATHEMATICS CONTENT STANDARDS

(1) Mathematics operations and algebraic thinking content standards for Grade 1 are:

(a) use addition and subtraction within 20 to solve word problems within a cultural context, including those of Montana American Indians, involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem of all types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(b) solve word problems within a cultural in context, including those of Montana American Indians, that call for addition of three whole numbers whose with a sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem in context of all types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(c) apply properties of operations as strategies <u>flexibly compose and decompose</u> <u>numbers</u> to add and subtract; for example: if 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (commutative property of addition); to add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (associative property of addition);

(d) understand subtraction as an unknown-addend problem; for example, subtract 10 - 8 by finding the number that makes 10 when added to 8;

(e) relate counting to addition and subtraction (e.g., by counting on 2 to add 2);

(f) <u>flexibly, accurately, and efficiently</u> add and subtract within <del>20 demonstrating</del> fluency for addition and subtraction within 10; use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13);

(i) use multiple strategies to add and subtract within 20;

(g) understand the meaning of the equal sign and determine if equations involving addition and subtraction are true or false; for example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2; and

(h) determine the unknown whole number in an addition or subtraction equation relating to three whole numbers; for example, determine the unknown number that makes the equation true in each of the equations: 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?.

(2) Mathematics number and operations in base ten content standards for Grade 1 are:

(a) count to 120, starting at any number less than 120 and read and write numerals and represent a number of objects with a written numeral in this range; flexibly count, read, write, and represent numbers to 120;

(b) understand that the two digits of a two-digit number represent amounts of tens and ones and understand the following as special cases ten is a unit composed of ten ones and that a two-digit number represents tens and ones;

(i) 10 can be thought of as a bundle of ten ones called a "ten";

(ii) the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones;

(iii) the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones);

(c) compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the <u>using comparison</u> symbols >, =, and <;

(d) add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used; understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten; build a foundation for addition within 100 by:

(i) adding two-digit to one-digit numbers; and

(ii) adding multiples of 10 to two-digit numbers;

(e) <u>using place value</u>, given a two-digit number, <del>mentally</del> find 10 more or 10 less than the number, without having to count; explain the reasoning used; and

(f) subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences) using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, relate the strategy to a written method, and explain the reasoning used. from a two-digit number.

(3) Mathematics measurement and data content standards for Grade 1 are:

(a) order three objects from a variety of cultural contexts, including those of Montana American Indians, by length and compare the lengths of two objects indirectly by using a third object; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(b) express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps and limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps;

(c) tell and write time in hours and half-hours using analog and digital clocks; and (d) identify the value of coins; and

(d) (e) organize, represent, and interpret data with up to three categories and ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. by:
(i) asking and answering questions about the total number of data points;

(ii) identifying how many are in each category; and

(iii) analyzing differences between categories.

(4) Mathematics geometry content standards for Grade 1 are:

(a) distinguish between defining attributes (e.g., triangles are closed and threesided) versus nondefining attributes (e.g., color, orientation, overall size) and build and draw shapes to possess defining attributes;

(b) build and draw shapes to possess defining attributes;

(b) (c) compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape <u>new shapes</u> using two- and three-dimensional shapes; and

(c) (d) partition circles and rectangles into two and four equal shares; describe the shares using the words: halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of; describe the whole as two of, or four of the shares; and

understand for these examples that decomposing into more equal shares creates smaller shares.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

#### 10.53.504 MONTANA GRADE 2 MATHEMATICS CONTENT STANDARDS

(1) Mathematics operations and algebraic thinking content standards for Grade 2 are:

(a) use addition and subtraction within 100 to solve one- and two-step-word problems involving situations within a cultural in context, including those of Montana American Indians, of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem involving all problem types; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(b) fluently flexibly, accurately, and efficiently add and subtract within 20 using mental strategies and by the end of Grade 2, know from memory all sums of two one-digit numbers;

(c) determine whether a group of objects. (up to 20), has an odd or even number of members, e.g., by pairing objects or counting them by 2s and write an equation to express an even number as a sum of two equal addends; and

(d) use addition to find the total number of objects arranged in rectangular arrays with up to five rows and up to five columns and write an equation to express the total as a sum of equal addends.

(2) Mathematics number and operations in base ten content standards for Grade 2 are:

(a) understand <u>one hundred is a unit composed of ten tens and</u> that the three digits of a three-digit <u>number numbers</u> represent amounts of hundreds, tens, and ones, e.g., 706 equals 7 hundreds, 0 tens, and 6 ones and understand the following special cases:;

(i) 100 can be thought of a s a bundle of ten tens - called a "hundred;" and

(ii) the numbers 100, 200, 300, 400, 500, 600, 700, 800, and 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones);

(b) count within 1000; skip-count by 5s, 10s, and 100s;

(c) read and write <u>flexibly count, read, write, and represent</u> numbers to 1000 using base-ten numerals, number names, and expanded form;

(d) compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons;

(e) fluently <u>flexibly</u>, <u>accurately</u>, <u>and efficiently</u> add and subtract within 100 using <u>multiple</u> strategies <del>based on place value</del>, properties of operations, and/or the relationship between addition and subtraction</del>;

(f) add up to four two-digit numbers using <u>multiple</u> strategies <del>based on place</del> <del>value and properties of operations</del>;

(g) add and subtract within 1000 using concrete models or drawings and <u>multiple</u> strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method;

understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds;

(h) mentally add 10 or 100 to a given number 100-900 and mentally subtract 10 or 100 from a given number 100-900 using place value, add or subtract 10 or 100 from a given number; and

(i) explain why addition and subtraction strategies work using place value and the properties of operations. <u>understand and make connections between different</u> strategies for addition and subtraction.

(3) Mathematics measurement and data content standards for Grade 2 are:

(a) measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes;

(b) measure the length of an object twice, using length units of different lengths for the two measurements and describe how the two measurements relate to the size of the unit chosen; understand the relationship between unit sizes and number of units by measuring a single object using two different units of common measurement;

(c) estimate lengths using units of inches, feet, centimeters, and meters common measurement;

(d) measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit;

(e) use addition and subtraction within 100 to solve word problems within a cultural in context, including those of Montana American Indians, involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem ; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(f) represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ... and represent wholenumber sums and differences within 100 on a number line diagram;

(g) tell and write time from analog and digital clocks to the nearest five minutes using a.m. and p.m.;

(h) solve word problems in context involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately; for example: if you have two dimes and three pennies, how many cents do you have?;

(i) generate measurement data by measuring lengths of several objects to the nearest whole unit or by making repeated measurements of the same object and show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units; and present the data in multiple ways; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(j) draw a picture graph and a bar graph (with single unit scale) to represent a data set from a variety of cultural contexts, including those of Montana American Indians, with up to four categories and solve simple put together, take apart and compare problems using information presented in a bar graph. <u>organize, represent, and interpret data with up to four categories; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and</u>

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(k) solve addition and subtraction problems of all types using data presented.

(4) Mathematics geometry content standards for Grade 2 are:

(a) recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces and identify triangles, quadrilaterals, pentagons, hexagons, and cubes;

(b) partition a rectangle into rows and columns of same size squares and <del>count</del> to find the total number of them; and

(c) partition circles and rectangles into two, three, or four equal shares; describe the shares using the words halves, thirds, half of, a third of, etc.; describe the whole as two halves, three thirds, four fourths; and, recognize that equal shares of identical wholes need not have the same shape, and express the shares in two-halves, threethirds, and four fourths.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

### 10.53.505 MONTANA GRADE 3 MATHEMATICS CONTENT STANDARDS

(1) Mathematics operations and algebraic thinking content standards for Grade 3 are:

(a) interpret <u>understand</u> products of whole numbers, e.g., interpret  $5 \times 7$  as the total number of objects in 5 groups of 7 objects each; for example, describe a context in which a total number of objects can be expressed as  $5 \times 7$ ; as the total number found by multiplying a number of groups by the number of objects per group;

(b) interpret <u>understand</u> whole-number quotients of whole numbers:, e.g., interpret 56 : 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each; for example, describe a context in which a number of shares or a number of groups can be expressed as 56 : 8;

(i) as the number of objects in each group with the total quantity divided equally into a number of shares; and

(ii) as the number of shares when a total number of objects is partitioned into equal-sized groups;

(c) use multiplication and division within 100 to solve word problems in context in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem;

(d) determine the unknown whole number in a multiplication or division equation relating three whole numbers; for example, determine the unknown number that makes the equation true in each of the equations  $8 \times ? = 48$ ,  $5 = ? \div 3$ ,  $6 \times 6 = ?$ ;

(e) apply properties of operations as strategies to multiply and divide; for example: if  $6 \times 4 = 24$  is known, then  $4 \times 6 = 24$  is also known (commutative property of multiplication);  $3 \times 5 \times 2$  can be found by  $3 \times 5 = 15$ , then  $15 \times 2 = 30$ , or by  $5 \times 2 = 10$ , then  $3 \times 10 = 30$  (associative property of multiplication); knowing that  $8 \times 5 = 40$  and  $8 \times 2 = 16$ , one can find  $8 \times 7$  as  $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$  (distributive property) the commutative property of multiplication, associative property of multiplication, and distributive property of multiplication over addition on whole numbers as strategies to multiply;

(f) understand <u>use</u> division as an unknown factor problem; for example, find 32 : 8 by finding the number that makes 32 when multiplied by 8;

(g) fluently flexibly, accurately, and efficiently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations and by the end of Grade 3, know from memory all products of two one-digit numbers;

(h) solve two step word problems in context using the four operations within cultural contexts, including those of Montana American Indians; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies including rounding-; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and

(i) identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations; for example, observe that four times a number is always even, and explain why four times a number can be decomposed into two equal addends.

(2) Mathematics number and operations in base ten content standards for Grade 3 are:

(a) use place value understanding to round whole numbers to the nearest 10 or 100;

(b) <u>fluently flexibly, accurately, and efficiently</u> add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction; and

(c) multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9  $\times$  80, 5  $\times$  60) using strategies based on place value and properties of operations.

(3) Mathematics number and operations fractions content standards for Grade 3 are:

(a) understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts and understand a fraction a/b as the quantity formed by a parts of size 1/b;

(b) understand a fraction as a number on the number line and represent fractions on a number line diagram; by:

(i) representing a <u>unit</u> fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts, recognize that each part has size 1/b, and that the endpoint of the part based at 0 locates the number 1/b on the number line; and

(ii) representing a fraction a/b on a number line diagram by marking off a lengths 1/b from 0 and recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line as multiple copies of a unit fraction on a number line; and

(iii) representing fractions on a number line.

(c) explain <u>understand the</u> equivalence of fractions in special cases and compare fractions by reasoning about their size; by:

(i) <u>understand understanding</u> two fractions as equivalent (equal) if they are the same size or the same point on a number line;

(ii) recognize recognizing and generate generating simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3 and explain why the fractions are equivalent, e.g., by using a visual fraction model; and by demonstrating or justifying why the fractions are equivalent;

(iii) express <u>writing</u> whole numbers as fractions, and recognize recognizing fractions that are equivalent to whole numbers; for example: express 3 in the form 3 = 3/1; recognize that 6/1 = 6; , and locate 4/4 and 1 at the same point of a locating them on the number line diagram; and

(iv) compare <u>comparing</u> two fractions with the same numerator or the same denominator by reasoning about their size; recognize and <u>recognizing</u> that comparisons are valid only when the two fractions refer to the same whole; record the results of comparisons with the symbols >, =, or <; and justify the conclusions, e.g., by using a visual fraction model.; and

(v) recording the results of fraction comparisons with the symbols >, =, or < and justifying the conclusions.

(4) Mathematics measurement and data content standards for Grade 3 are:

(a) tell and write time <u>on an analog and digital clock</u> to the nearest minute and measure time intervals in minutes and solve <del>word</del> problems <u>in context</u> involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram;

(b) measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l) and customary and metric units by adding, subtracting, multiplying, or divide and dividing to solve one step word problems in context involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem;

(c) draw a scaled picture graph and a scaled bar graph to represent a data set with several categories, within cultural contexts including those of Montana American Indians; solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs; for example, draw a bar graph in which each square in the bar graph might represent five pets this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(d) generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch and show the data by making a line plot where the horizontal scale is marked off in appropriate units, i.e. whole numbers, halves, or quarters;

(e) recognize area as an attribute of plane figures and understand concepts of area measurement; by:

(i) <u>understanding that</u> a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area; and

(ii) <u>understanding that</u> a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units;

(f) measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units);

(g) relate area to the operations of multiplication and addition; by:

(i) find<u>ing</u> the area of a rectangle with whole-number side lengths by tiling it, and show<u>ing</u> that the area is the same as would be found by multiplying the side lengths;

(ii) multiplying side lengths to find areas of rectangles with whole-number side lengths in the context of while solving real-world and mathematical problems in context and represent representing whole-number products as rectangular areas in mathematical reasoning;

(iii) use using tiling to show in a concrete case that the and area models to represent the distributive property in finding area of a rectangle with whole-number side lengths a and b + c is the sum of a  $\times b$  and a  $\times c$  and use area models to represent the distributive property in mathematical reasoning;

(iv) recognize-recognizing area as additive; finding areas of rectilinear straightline figures by decomposing them into nonoverlapping rectangles and adding the areas of the nonoverlapping parts; and apply this technique to solve real-world problems, including those of Montana American Indians this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities; and

(h) solve real-world and mathematical problems in context involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

(5) Mathematics geometry content standards for Grade 3 are:

(a) understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides) and that the shared attributes can define a larger category (e.g., quadrilaterals); recognize rhombuses, rectangles, and squares as examples of quadrilaterals; and draw examples of quadrilaterals that do not belong to any of these subcategories; and

(b) partition shapes into parts with equal areas; express the area of each part as a unit fraction of the whole; for example, partition a shape into four parts with equal area, and describe the area of each part as 1/4 of the area of the shape.

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#### 10.53.506 MONTANA GRADE 4 MATHEMATICS CONTENT STANDARDS

(1) Mathematics operations and algebraic thinking content standards for Grade 4 are:

(a) interpret a multiplication equation as a <u>multiplicative</u> comparison, <del>e.g.,</del> interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5 and represent verbal statements of multiplicative comparisons as multiplication equations;

(b) multiply or divide to solve word problems in context involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, and distinguishing multiplicative comparison from additive comparison;

(c) solve multistep word problems in context within cultural contexts, including those of Montana American Indians, with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be

interpreted; represent these problems using equations with a letter standing for the unknown quantity; and assess the reasonableness of answers using mental computation and estimation strategies including rounding; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(d) find all factor pairs for a whole number in the range 1-100; recognize that a whole number is a multiple of each of its factors; determine whether a given whole number in the range 1-1000 is a multiple of a given one-digit number; and determine whether a given whole number in the range 1-100 is prime or composite; and

(e) generate analyze a number or shape patterns that follows a given rule; identify apparent and explain informally, features of the pattern that were not explicit in the rule itself; for example, given the rule "add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers; explain informally why the numbers will continue to alternate in this way the pattern.

(2) Mathematics number and operations in base ten content standards for Grade 4 are:

(a) recognize that in a multi-digit whole number, a digit in one each place represents ten times what it represents in than the the place to its right; for example, recognize that  $700 \div 70 = 10$  by applying concepts of place value and division;

(b) read and write multi-digit whole numbers using base ten numerals, number names, standard form, word form, and expanded form and compare two multi-digit numbers based on meanings-the value of the digits in each place, using >, =, and < symbols to record the results of comparisons;

(c) use place value understanding to round multidigit whole numbers to any place;

(d) fluently accurately and efficiently add and subtract multi-digit whole numbers using the standard algorithm;

(e) multiply a whole number of up to four digits by a one-digit whole number; multiply two two-digit numbers, <u>flexibly</u> using strategies based on place value and the properties of operations; and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and

(f) find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, <u>flexibly</u> using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

(3) Mathematics number and operations - fractions content standards for Grade 4 are:

(a) explain why a fraction a/b is equivalent to a fraction  $(n \times a)/(n \times b)$  by using visual fraction models with attention to how the number and size of the parts differ even though the two fractions themselves are the same size and use this principle to recognize and generate equivalent fractions;

(b) compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2; recognize that comparisons are valid only when the two fractions refer to the same whole; record the results of comparisons with symbols >, =, or <; and justify the conclusions<del>, e.g., by using a visual fraction model</del>;

(c) understand a fraction a/b with a > 1 as a sum of fractions 1/b; by:

(i) understanding addition and subtraction of fractions as joining and separating parts referring to the same whole;

(ii) decompose decomposing a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation; justify decompositions, e.g., by using a visual fraction model; for example: 3/8 = 1/8 + 1/8 + 1/8 + 3/8 = 1/8 + 2/8 + 2/8 + 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8;

(iii) add adding and subtract subtracting mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent improper fraction, and/or by using properties of operations and the relationship between addition and subtraction or other efficient strategies; and

(iv) solve-solving word problems within cultural contexts, including those of Montana American Indians, in context involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(d) apply and extend previous understandings of multiplication to multiply a fraction by a whole number; by:

(i) <u>understand understanding</u> a fraction a/b as a multiple of 1/b; for example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), and-recording the conclusion by the equation  $\frac{5}{4} = 5 \times (1/4) \cdot \frac{a}{b} = a^*(1/b)$ ;

(ii) <u>understand understanding</u> a multiple of a/b as a multiple of 1/b, <u>and use using</u> this <u>understanding</u> to multiply a fraction by a whole number; for example, use a visual fraction model to express  $3 \times (2/5)$  as  $6 \times (1/5)$ , <u>and</u> recognizing this product as 6/5 (in general,  $n \times (a/b) = (n \times a)/b$ ; and

(iii) solve word solving problems within cultural contexts, including those of Montana American Indians, in context involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem; for example, if each person at a party will eat 3/8 of a pound of roast beef and there will be five people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? As a contemporary American Indian example, for family/cultural gatherings, the Canadian and Montana Cree bake bannock made from flour, salt, grease, and baking soda, in addition to 3/4 cup water per pan. When making four pans, how much water will be needed?; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(e) express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100; for example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100;

(f) use decimal notation for fractions with denominators 10 or 100; for example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; and locate 0.62 on a number line diagram; and

(g) compare two decimals to hundredths by reasoning about their size; recognize that comparisons are valid only when the two decimals refer to the same whole; record the results of comparisons with the symbols >, =, or <; and justify the conclusions, e.g., by using a visual model.

(4) Mathematics measurement and data content standards for Grade 4 are:

(a) know relative sizes of measurement units within one system of units including km, m, cm, kg, g, lb., oz., l, ml, hr, min., and sec.; within a single system of measurement, and within the system, express measurements in of a larger unit in terms of a smaller unit; record measurement equivalents in a two-column table; for example know that 1 ft is 12 times as long as 1 in.; express the length of a four ft snake as 48 in.; generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...;

(b) use the four operations to solve word problems within cultural contexts, including those of Montana American Indians, involving in context of distances, intervals of time, liquid volumes, masses of objects, and money; including problems involving with simple fractions or decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit, represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(c) apply the area and perimeter formulas for rectangles in real-world and mathematical problems; for example, find the width of a rectangular room given the area of the flooring and the length by viewing the area formula as a multiplication equation with an unknown factor including problems in context;

(d) make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8); and solve problems involving addition and subtraction of fractions by using information presented in line plots; for example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect or arrow/spearhead collection;

(e) recognize angles as geometric shapes that are formed wherever two rays share a common endpoint and understand concepts of angle measurement <u>by</u>:

(i) an angle is measured with reference to a circle with its center at the common endpoint of the rays; by considering the fraction of the circular arc between the points where the two rays intersect the circle, an angle that turns through 1/360 of a circle is called a "one-degree angle" and can be used to measure angles understanding that an angle is formed by two rays with a common endpoint at the center of a circle that measures a total of 360 degrees, and a single-degree unit measure is equal to 1/360<sup>th</sup> of the circle; and

(ii) <u>understanding that</u> an angle that turns through n one-degree angles is said to have an angle measure of n degrees;

(f) measure angles in whole-number degrees using a protractor and sketch angles of specified measure; <u>and</u>

(g) recognize angle measure as additive; when an angle is decomposed into nonoverlapping parts, the angle measure of the whole is the sum of the angle measurers of the parts; solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical including problems in context; e.g., by using an equation with a symbol for the unknown angle measure.

(5) Mathematics geometry content standards for Grade 4 are:

(a) draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures;

(b) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size; recognize right triangles as a category; and identify right triangles; and

(c) recognize a line of symmetry for a two-dimensional figure, including those found in Montana American Indian designs, as a line across the figure such that the figure can be folded along the line into matching parts; identify line-symmetric figures; and draw lines of symmetry; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

## 10.53.507 MONTANA GRADE 5 MATHEMATICS CONTENT STANDARDS

(1) Mathematics operations and algebraic thinking content standards for Grade 5 are:

(a) use parentheses, brackets, or braces in numerical expressions and evaluate expressions with these symbols <u>using the order of operations;</u>

(b) write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them; for example, express the calculation "add 8 and 7, then multiply by 2" as  $2 \times (8 + 7)$ ; recognize that  $3 \times (18932 + 921)$  is three times as large as 18932 + 921, without having to calculate the indicated sum or product; and

(c) generate two numerical patterns using-two given rules and complete an inputoutput table for the data; identify apparent relationships between corresponding terms; form ordered pairs consisting of corresponding terms from the two patterns and graph the ordered pairs from the values in the input-output table and graph them on a coordinate plane; for example, given the rule "add 3" and the starting number 0, and given the rule "add 6" and the starting number 0, generate terms in the resulting sequences and observe that the terms in one sequence are twice the corresponding terms in the other sequence; and explain informally why this is so.

(2) Mathematics number and operations in base ten content standards for Grade 5 are:

(a) recognize that in a multidigit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left;

(b) explain patterns in the number of zeros of the product when multiplying a number by powers of 10; explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; and use whole-number exponents to denote powers of 10;

(c) read, write, and compare decimals to thousandths; by:

(i) read-reading and write writing decimals to thousandths using base ten numerals, number names, standard form, word form, and expanded form, e.g.  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ ; and

(ii) <u>compare comparing</u> two decimals to thousandths based on meanings of the digits in each place using >, =, and < symbols to record the results of comparisons;

(d) use place value understandings to round decimals to any place;

(e) fluently accurately and efficiently multiply multi-digit whole numbers using the standard algorithm;

(f) <u>flexibly, accurately, and efficiently</u> find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division and illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; and

(g) add, subtract, multiply, and divide decimals to hundredths using concrete models or drawings within cultural contexts, including those of Montana American Indians, and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method; and explain the reasoning used ; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities.

(3) Mathematics number and operations – fractions content standards for Grade 5 are:

(a) add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators; for example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12 (in general, a/b + c/d = (ad + bc)/bd);

(b) solve word problems in context involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem; and use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers; for example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2;

(c) interpret a fraction as division of the numerator by the denominator  $(a/b = a \div b)$ ; and solve word problems in context involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem; for example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3 and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4; if 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?;

(d) apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction; by:

(i) interpret expressing the product  $(a/b) \times q$  as <u>"a"</u> parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a  $\times q \div b$ ; for example, use a visual fraction model to show  $(2/3) \times 4 = 8/3$ , and create a story context for this equation within cultural contexts, including those of Montana American Indians; and do the same with  $(2/3) \times (4/5) = 8/15$  (in general,  $(a/b) \times (c/d) = ac/bd$ ); and

(ii) find<u>ing</u> the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths; show that the area is the same

as would be found by multiplying the side lengths; multiply fractional side lengths to find areas of rectangles; and represent fraction products as rectangular areas;

(e) interpret multiplication as scaling (resizing), by:

(i) comparing the size of a product to the size of one factor on the basis of the size of the other factor without performing the indicated multiplication; and

(ii) explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence  $a/b = (n \times a)/(n \times b)$  to the effect of multiplying a/b by 1;

(f) solve real-world problems in context involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem within cultural contexts, including those of Montana American Indians; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(g) apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions; by

(i) interpret <u>expressing</u> division of a unit fraction by a nonzero whole number and compute such quotients; for example, create a story context within cultural contexts, including those of Montana American Indians, for  $(1/3) \div 4$ , and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that  $(1/3) \div 4 = 1/12$  because  $(1/12) \times 4 = 1/3$ ;

(ii) interpret expressing division of a whole number by a unit fraction and compute such quotients; for example, create a story context within cultural contexts, including those of Montana American Indians, for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient; and use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ ; and

(iii) solve solving real-world problems in context involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem; for example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?.; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.

(4) Mathematics measurement and data content standards for Grade 5 are:

(a) convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m) and use these conversions in solving multi-step, real-world problems within a cultural context, including those of Montana American Indians; in context; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(b) make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8); and use operations on fractions for this grade to solve problems involving information presented in line plots; for example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally;

(c) recognize volume as an attribute of solid figures and understand concepts of volume measurement;  $\underline{by}$ 

(i) <u>understanding that</u> a cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume and can be used to measure volume; and

(ii) <u>understanding that</u> a solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units;

(d) measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised non-standard units;

(e) relate volume to the operations of multiplication and addition and solve realworld and mathematical problems involving volume within cultural contexts, including those of Montana American Indians; volume problems including problems in context by:

(i) find<u>ing</u> the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and show<u>ing</u> that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base; and represent representing threefold whole-number products as volumes, e.g., to represent the product of three whole numbers using the associative property of multiplication;

(ii) applying the formulas  $V = I \times w \times h$  and  $V = b\underline{B} \times h$  for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems including problems in context; and

(iii) <u>recognize recognizing</u> volume as additive and <u>find finding</u> volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve <u>real-world</u> problems <u>in context</u>; this standard should incorporate cultural context relating to <u>Montana Indigenous Peoples and local communities</u>.

(5) Mathematics geometry content standards for Grade 5 are:

(a) use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines (at the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates; understand that the <u>x-coordinate</u>, the first number, indicates how far to travel from the origin in the direction of <u>one the x-axis</u> and the <u>y-coordinate</u>, the second number, indicates how far to travel from that the names of the two axes and the <u>second y-axis</u>, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate);

(b) represent real-world and mathematical problems including problems in context by graphing points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation, including those found in Montana American Indian designs; this standard should incorporate designs and cultural context relating to Montana Indigenous Peoples and local communities;

(c) understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category; for example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles; and

(d) classify two-dimensional figures in a hierarchy based on properties.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

10.53.508 MONTANA GRADE 6 MATHEMATICS CONTENT STANDARDS

(1) Mathematics ratios and proportional relationship content standards for Grade 6 are:

(a) understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities; for example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."

(b) understand the concept of a unit rate a/b associated with a ratio a:b with b Б≠ 0, and use rate language in the context of a ratio relationship; for example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."

(c) use ratio and rate reasoning to solve real-world and mathematical proportional problems from a variety of cultural contexts, including those of Montana American Indians, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations in context about unit rates, percentages (as a rate per 100), and/or measurement units using tables or equations; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.

(i) make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, plot the pairs of values on the coordinate plane, and use tables to compare ratios;

(ii) solve unit rate problems including those involving unit pricing and constant speed; for example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? As a contemporary American Indian example, it takes at least 16 hours to bead a Crow floral design on moccasins for two children. How many pairs of moccasins can be completed in 72 hours?;

(iii) find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity) and solve problems involving finding the whole, given a part and the percent;

(iv) use ratio reasoning to convert measurement units and manipulate and transform units appropriately when multiplying or dividing quantities.

(2) Mathematics number system content standards for Grade 6 are:

(a) <u>represent</u>, interpret, and compute quotients of fractions and solve <del>word</del> problems <u>in context</u> involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem; for example, create a story context for (2/3) : (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) : (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) : (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?;

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(b) fluently accurately and efficiently divide multi-digit numbers using the standard algorithm;

(c) fluently <u>accurately and efficiently</u> add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation;

(d) find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12; use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor; for example, express 36 + 8 as 4 (9 + 2);

(e) understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge) and use positive and negative numbers to represent quantities in real-world problems in contexts, explaining the meaning of 0 in each situation;

(f) understand a rational number as a point on the number line and extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates; by:

(i) recognize recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize recognizing that the opposite of the opposite of a number is the number itself, e.g., - (-3) = 3; and that 0 is its own opposite;

(ii) <u>understand-understanding</u> signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane and <u>recognize-recognizing</u> that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes; and

(iii) find<u>ing</u> and position<u>ing</u> integers and other rational numbers on a horizontal or vertical number line diagram and find<u>ing</u> and position<u>ing</u> pairs of integers and other rational numbers on a coordinate plane;

(g) understand ordering and absolute value of rational numbers; by:

(i) interpreting statements of inequality as statements about the relative position of two numbers on a number line diagram; for example, interpret -3 > -7 as a statement that -3 is located to the right of -7 on a number line oriented from left to right;

(ii) write writing, interpret interpreting, and explain explaining statements of order for rational numbers in real-world contexts; for example, write  $-3^{\circ}C > -7^{\circ}C$  to express the fact that  $-3^{\circ}C$  is warmer than  $-7^{\circ}C$  problems in context;

(iii) understand <u>understanding</u> the absolute value of a rational number as its distance from 0 on the number line; and interpret interpreting, absolute value as magnitude for a positive or negative quantity in a real-world situation; for example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars problems in context; and

(iv) distinguishing comparisons of absolute value from statements about order; for example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars;

(h) solve real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, by graphing graph points in all four quadrants of the coordinate plane and include the use of coordinates and

absolute value to find distances between points with the same first coordinate or the same second coordinate; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

(3) Mathematics expressions and equations content standards for Grade 6 are:

(a) write and evaluate numerical expressions involving whole-number <u>bases and</u> exponents;

(b) write, read, and evaluate expressions in which letters stand for numbers; with variables by:

(i) write <u>writing</u> expressions that record operations with numbers and with letters standing for numbers; for example, express the calculation "subtract y from 5" as 5 - y variables;

(ii) identify identifying parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity; for example, describe the expression 2 (8 + 7) as a product of two factors; and view (8 + 7) as both a single entity and a sum of two terms; and (sum, product, difference, quotient, term, factor, coefficient, variable) and writing expressions that represent verbal descriptions of problems in context; and

(iii) evaluate <u>evaluating</u> expressions at specific values of their variables; <u>include</u> <u>including</u> expressions that arise from formulas <u>used in real-world problems</u>; <u>perform</u> <u>performing</u> arithmetic operations, including those involving whole-number exponents in the conventional order when there are no parentheses to specify a particular order (<u>, and using the</u> order of operations); for example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2;

(c) apply the properties of operations including the distributive property, to generate equivalent expressions; for example, apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y); and apply properties of operations to y + y + y to produce the equivalent expression 3y; and determine when two expressions are equivalent;

(d) identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them); for example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for;

(e) (d) understand solving how to solve an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use by using substitution to determine whether a given number in a specified set makes an equation or inequality true;

(f) (e) use variables to represent numbers and write expressions when solving a real-world or mathematical problem problems in context and understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set;

(g) (f) solve real-world and mathematical problems including problems in context by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers;

(h) (g) write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem; recognize that inequalities of the form x > c or x < c have infinitely many solutions; and represent problems including

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problems in context; graph and describe solutions of such inequalities on number line diagrams; and

(i) (h) use variables to represent two quantities in a real-world problem from a variety of cultural contexts, including those of Montana American Indians, that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable; analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation; for example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times and write the equation d = 65t to represent the relationship between distance and time. and write an equation to express one quantity in terms of the other; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.

(4) Mathematics geometry content standards for Grade 6 are:

(a) find the area of right triangles, other triangles, special quadrilaterals, and <u>other</u> polygons by composing <u>them</u> into rectangles or decomposing <u>them</u> into triangles and other shapes; apply these techniques in the context of solving realworld and mathematical problems within cultural contexts, including those of Montana American Indians; for example, use Montana American Indian designs to decompose shapes and find the area; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(b) find the volume of a right rectangular prism with fractional edge lengths by packing filling it with unit cubes of the appropriate unit fraction edge lengths and show that the volume is the same as would be found by multiplying the edge lengths of the prism and connect and apply the formulas  $V = I w h and V = b-\underline{B} h$  to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems to solve problems in context;

(c) draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to, find the length of a side joining points with the same first coordinate or the same second coordinate; horizontal or vertical side and apply these techniques in the context of solving real-world and mathematical problems in context; and

(d) represent three-dimensional figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures and apply these techniques in the context of solving real-world and mathematical problems within cultural contexts, including those of Montana American Indians. in problems including problems in context; this standard should incorporate cultural context relating to Montana Indigenous Peoples and local communities.

(5) Mathematics statistics and probability content standards for Grade 6 are:

(a) recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers; for example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages;

(b) understand that a set of data collected (including Montana American Indian demographic data) to answer a statistical question has a distribution which that can be described by its center, spread, and overall shape; this standard should

incorporate cultural context relating to Montana Indigenous Peoples and local communities;

(c) recognize that a measures <u>measures</u> of <u>center central tendency</u> for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number;

(d) display numerical data in plots on a number line, including dot plots, histograms, and box plots and describe any overall pattern and any striking deviations from the overall pattern with reference to the context which the data were gathered; and

(e) summarize characterize numerical data sets from a sample in relation to their context, such as by:

(i) reporting the number of observations;

(ii) describing the nature of the attribute under investigation, including how it was measured and its units of measurement; <u>and</u>

(iii) <u>giving finding</u> quantitative measures of <u>center central tendency</u> (mode, median and/or mean) and variability (interquartile range and/or mean absolute deviation), <del>as well as describing any overall pattern and any striking deviations from</del> the overall pattern with reference to <u>for numerical data sets and relating the choice</u> of measures of central tendency and variability to the shape of the data distribution and the context in which the data were gathered. ; and

(iv) relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

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### 10.53.509 MONTANA GRADE 7 MATHEMATICS CONTENT STANDARDS

(1) Mathematics ratios and proportional relationship content standards for Grade 7 are:

(a) compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units; for example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2 / 1/4 miles per hour, equivalently 2 miles per hour;

(b) recognize and represent proportional relationships between quantities, including those represented in Montana American Indian cultural contexts; using tables, graphs, and equations by:

(i) <u>decide deciding</u> whether <u>two a table represents</u> quantities <u>are</u> in a proportional relationship, <u>e.g.</u>, by testing for equivalent ratios <u>in a table or graphing on a</u> <u>coordinate plane and observing and deciding</u> whether <u>a graph represents quantities</u> <u>in a proportional relationship if</u> the graph is a straight line through the origin; <u>and</u>

(ii) identifying the constant of proportionality (unit rate) in tables, graphs, and equations, diagrams, and verbal descriptions of proportional relationships;

(iii) represent proportional relationships by equations; for example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn; as a contemporary American Indian example, analyze cost of beading materials; cost of cooking ingredients for family gatherings, community celebrations, etc.; and

(iv) explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate;

(c) use proportional relationships to solve multistep ratio and percent problems within cultural contexts, including those of Montana American Indians (e.g., percent of increase and decrease of tribal land); for example:-including problems in context involving simple interest, tax, markups and markdowns, gratuities and commissions, fees, and percent increase and decrease, percent error-; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

(2) Mathematics number system content standards for Grade 7 are:

(a) apply and extend previous understandings of addition and subtraction to add and subtract rational numbers, and represent addition and subtraction on a horizontal or vertical number line diagram, and understand subtraction as adding the additive inverse p - q = p + (-q);

(i) describe situations in which opposite quantities combine to make 0; for example, a hydrogen atom has 0 charge because its two constituents are oppositely charged;

(ii) understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative; show that a number and its opposite have a sum of 0 (are additive inverses); and interpret sums of rational numbers by describing real-world contexts;

(iii) understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q); show that the distance between two rational numbers on the number line is the absolute value of their difference; and apply this principle in real-world contexts; and

(iv) apply properties of operations as strategies to add and subtract rational numbers;

(b) apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers; and use operations of rational numbers to solve problems in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities; and

(i) understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers; and interpret products of rational numbers by describing real-world contexts;

(ii) understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with nonzero divisor) is a rational number, i.e. if p and q are integers, then -(p/q) = (-p)/q = p/(-q); and interpret quotients of rational numbers by describing real-world contexts;

(iii) apply properties of operations as strategies to multiply and divide rational numbers; and

(iv) (c) convert a write any rational number to as a fraction, decimal, and percent using long division; and know that the decimal form of a rational number terminates in 0s or eventually repeats;
(c) solve real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, involving the four operations with rational numbers.

(3) Mathematics expressions and equations content standards for Grade 7 are:

(a) apply use properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients and generate equivalent expressions;

(b) understand that rewriting an expression in different forms in a problem in context can shed light on the problem and show how the quantities in it are related; for example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05;"

(c) <u>write and solve multistep real-life and mathematical one- and two-step</u> <u>equations including</u> problems <u>posed with positive and negative in context with</u> rational numbers, in any form (whole numbers, fractions, and decimals), using tools strategically; apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies; for example: if a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50 and if you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation; and

(d) use variables to represent quantities in a real-world or mathematical problems, including those represented in Montana American Indian cultural contexts, and construct simple equations and inequalities to solve problems by reasoning about the quantities in context; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities by:

(i) solve word solving, accurately and efficiently, problems in context leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers; solve equations of these forms fluently;, compare comparing an algebraic solution to an arithmetic solution, and identifying the sequence of the operations used in each approach; for example, the perimeter of a rectangle is 54 cm. and its length is 6 cm. What is its width?; and

(ii) solve word solving problems in context leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers; graph, graphing the solution set of the inequality, and interpret interpreting it in the context of the problem; the solution in context. for example: as a salesperson, you are paid \$50 per week plus \$3 per sale; this week you want your pay to be at least \$100; write an inequality for the number of sales you need to make and describe the solutions.

(4) Mathematics geometry content standards for Grade 7 are:

(a) solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale;

(b) draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions; focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle;

(c) describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids;

(d) (c) know and use the formulas for the area and circumference of a circle and use them to solve problems from a variety of cultural contexts, including those of Montana American Indians and give an informal derivation of the relationship between the circumference and area of a circle; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(e) (d) use facts about supplementary, complementary, vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure; and

(f) (e) solve-real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, geometrical problems including problems in context involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

(5) Mathematics statistics and probability content standards for Grade 7 are:

(a) understand that statistics can be used to gain information about a population by examining a <u>representative</u> sample of the population; <del>generalizations about a</del> <del>population from a sample are valid only if the sample is representative of that</del> <del>population; and understand that random sampling tends to produce representative samples and support valid inferences;</del>

(b) use data, including Montana American Indian demographics data, from a random sample to draw inferences about a population with an unknown characteristic of interest; and generate or simulate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions; for example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data; predict how many text messages your classmates receive in a day and gauge how far off the estimate or prediction might be; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(c) informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability; for example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable; visually analyze two data distributions to compare measures of central tendency and variability;

(d) use measures of center central tendency and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations; for example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book;

(e) understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring; larger numbers indicate greater likelihood; a probability near 0 indicates an unlikely event; a probability around 1/2 indicates an event that is neither unlikely nor likely; and a probability near 1 indicates a likely event;

(f) approximate the find the experimental probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency and predict the approximate relative frequency given the probability; for example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times and when playing Montana American Indian hand/stick games, you can predict the approximate number of accurate guesses; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(g) develop a <u>theoretical probability model</u> and use it to find probabilities of events;, compare <u>theoretical and experimental</u> probabilities, from a model to observed frequencies; and if the agreement is not good, and explain possible sources of the discrepancy, if any exist; and

(i) develop a uniform probability model by assigning equal probability to all outcomes and use the model to determine probabilities of events; for example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected; and

(ii) develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process; for example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down; do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?;

(h) <u>represent sample spaces for compound events, identify the desired outcomes</u> <u>in the sample spaces, and find probabilities of <del>compound</del> events using organized lists, tables, tree diagrams, and simulation;<u>s.</u></u>

(i) understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs;

(ii) represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams; for an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event; and

(iii) design and use a simulation to generate frequencies for compound events; for example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

<u>10.53.510</u> MONTANA GRADE 8 MATHEMATICS CONTENT STANDARDS (1) Mathematics number system content standards for Grade 8 are:

(a) <u>know real numbers are made up of rational and irrational numbers</u>, understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually; and convert a decimal expansion which repeats eventually into a rational number; and

(b) use rational approximations of irrational numbers to compare the size value of irrational numbers;, locate them approximately on a number line diagram;, and estimate the value of expressions (e.g.,  $\pi 2$ ); for example, by truncating the decimal expansion of  $\sqrt{2}$ , show that  $\sqrt{2}$  is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.

(2) Mathematics expressions and equations content standards for Grade 8 are:

(a) know and apply the properties of integer exponents to generate equivalent numerical expressions; for example,  $3^2 + \frac{1}{3} + \frac{3^2}{5} = 3^{-C3} = \frac{1}{3} + \frac{3^2}{5} = \frac{1}{3} + \frac{1}{3} +$ 

(b) use square root and cube root symbols to represent solutions to equations of the form  $x^2 = p$  and  $x^3 = p$ , where p is a positive rational number; evaluate square roots of small perfect squares and cube roots of small perfect cubes; and know that <u>il2 is irrational</u>;

(c) use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate represent very large or very small quantities and to express how many times as much one is than the other; for example, estimate the population of the United States as 3 times 108 and the population of the world as 7 times 109 and determine that the world population is more than 20 times larger;, using scientific notation, limited to a single digit times an integer power of ten;

(d) perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used; use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading); and interpret scientific notation that has been generated by technology;

(e) graph proportional relationships, interpreting the unit rate as the slope of the graph; and compare two different proportional relationships represented in different ways; for example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed as tables, graphs, and equations;

(f) use similar triangles to explain why the slope m is the same between any two distinct points on a nonvertical line in the coordinate plane; and derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b;

(g) solve linear equations in one variable; by:

(i) <u>give giving</u> examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions and <u>show showing</u> which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers); and

(ii) <u>solve solving</u> linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms; and

(h) analyze and solve pairs of simultaneous linear equations; by:

(i) understanding that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously;

(ii) <u>solve solving</u> systems of two linear equations in two variables algebraically and <u>estimate, estimating</u> solutions by graphing the equations; <u>solve, and solving</u> simple cases by inspection; for example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6; and

(iii) solve real-world and mathematical problems from a variety of cultural contexts, including those of Montana American Indians, leading solving problems in <u>context that lead</u> to two linear equations in two variables; for example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

(3) Mathematics functions content standards for Grade 8 are:

(a) understand that a function is a rule that assigns to each input exactly one output and the graph of a function is the set of ordered pairs (x,y) each consisting of an input, x, and the corresponding output, y;

(b) compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions); for example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change using tables, graphs, and equations;

(c) interpret the equation y = mx + b as defining a linear function whose graph is a straight line; give examples of functions that are not linear; for example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4), and (3,9), which are not on a straight line with slope m passing through the point (0, b);

(d) <u>given linear data relating two quantities</u>, construct a <u>linear</u> function to model a linear relationship between two quantities; determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph; that models the data and interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values; and

(e) given the graph of a function, describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear) and given a verbal description of a functional relationship, sketch a graph that exhibits the qualitative features of a function that has been described verbally.

(4) Mathematics geometry content standards for Grade 8 are:

(a) verify experimentally the properties of rotations, reflections, and translations from a variety of cultural contexts, including those of Montana American Indians: and understand that these are rigid transformations, lines are taken to lines, line segments to line segments of the same length, angles are taken to angles of the same measure, and parallel lines are taken to parallel lines; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(i) lines are taken to lines and line segments to line segments of the same length;

(ii) angles are taken to angles of the same measure; and

(iii) parallel lines are taken to parallel lines;

(b) understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations by a sequence of rigid transformations and given two congruent figures, describe a sequence that exhibits the congruence between them;

(c) describe the effect of dilations, translations, rotations, and reflections on twodimensional figures from a variety of cultural contexts, including those of Montana American Indians, using coordinates; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(d) understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations and given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them;

(e) use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles; for example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line and give an argument in terms of transversals why this is so;

(f) explain a proof of the Pythagorean Theorem and its converse;

(g) apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems including problems in context in two and three dimensions; for example, determine the unknown height of a Plains Indian tipi when given the side length and radius; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities;

(h) apply the Pythagorean Theorem to find the distance between two points in a coordinate system; and

(i) know, use, and apply the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems, including problems in context.

(5) Mathematics statistics and probability content standards for Grade 8 are:

(a) construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities and describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association;

(b) know that straight lines are widely used to model relationships between two quantitative variables and for scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit by judging the closeness of the data points to the line;

(c) use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting and interpret the slope and intercept; for example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height;

(d) understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table; construct and interpret a two-way table summarizing data including data from

Montana American Indian sources on two categorical variables collected from the same subjects; use relative frequencies calculated for rows or columns to describe possible association between the two variables; for example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores? construct and interpret frequencies and relative frequencies for bivariate categorical data in a two-way table to investigate patterns of association; this standard should incorporate a cultural context relating to Montana Indigenous Peoples and local communities.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

10.53.511 SYMBOLS

(1) The symbol "+" denotes science, technology, engineering, mathematics (STEM) standards that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics. <u>The Montana High</u> School Math Standards are broken into two groups, Core and Core Plus. Together these standards cover all Essential Concepts for high school. These terms are defined in the following manner:

(2) (a) The symbol "\*" denotes specific modeling standards appearing throughout the high school mathematics standards. (a) Core standards: foundational standards that all Montana students should know and be able to do upon graduation of High School; and

(b) Core Plus: Additional standards that all Montana students can pursue to prepare for postsecondary education and careers.

AUTH: Mont. Const. Art. X, sec. 9, 20-2-114, 20-7-101, MCA IMP: Mont. Const. Art. X, sec. 9, 20-2-121, 20-3-106, 20-7-101, MCA

5. The Board of Public Education proposes to repeal the following rules:

10.53.512 MONTANA HIGH SCHOOL MATHEMATICS NUMBER AND QUANTITY STANDARDS

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.53.513 MONTANA HIGH SCHOOL MATHEMATICS ALGEBRA CONTENT STANDARDS

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.53.514 MONTANA HIGH SCHOOL MATHEMATICS FUNCTIONS STANDARDS

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.53.515 MONTANA HIGH SCHOOL MATHEMATICS MODELING CONTENT STANDARDS

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### 10.53.516 MONTANA HIGH SCHOOL MATHEMATICS GEOMETRY CONTENT STANDARDS

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

#### <u>10.53.517 MONTANA HIGH SCHOOL MATHEMATICS STATISTICS AND</u> <u>PROBABILITY STANDARDS</u>

AUTH: 20-2-114, MCA IMP: 20-2-121, MCA

REASON: By authority of 20-7-101, MCA, Standards of Accreditation for all schools are adopted by the Board of Public Education upon the recommendation of the Superintendent of Public Instruction. The board considers recommendations for revision of the policies at any time it deems necessary and conducts a comprehensive review of standards of accreditation policies on a regular cycle to ensure that such policies are meeting the needs of the state. There have been numerous revisions over the last decade, but the last comprehensive review was in 2013.

The Office of Public Instruction facilitated the comprehensive review process to amend ARM Title 10, chapter 53, Standards of Accreditation, with input from a task force and negotiated rulemaking committee comprised of education stakeholders appointed by the superintendent.

Based on recommendations from the task force and the negotiated rulemaking committee, the superintendent has proposed new rules specific to charter school applications, family and community engagement, mentorship and induction, evaluation, and English learners. The superintendent has proposed comprehensive amendments to existing rules to clarify language and process; clarify and add necessary definitions; clarify and amend school district policy requirements; add and define student performance and provide transparency to the accreditation process; address the process for application for variance to accreditation standards; clarify the categories of accreditation and the consequences for deficiencies; delineate the procedures used by the Office of Public Instruction when reviewing accreditation status, program, and assurance standards; and update program

foundation standards. Other amendments are made for consistency with other Board of Public Education rules.

6. Concerned persons may submit their data, views, or arguments either orally or in writing at the hearing. Written data, views, or arguments may also be submitted to: McCall Flynn, Executive Director, Board of Public Education, 46 N Last Chance Gulch, Suite 2B; PO Box 200601, Helena, MT 59620-0601; telephone (406) 444-0300; fax (406) 444-0847; or e-mail bpe@mt.gov, and must be received no later than 5:00 p.m., Month Day, 2022.

7. McCall Flynn, Executive Director, Board of Public Education, has been designated to preside over and conduct this hearing.

8. The Board of Public Education maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, e-mail, and mailing address of the person to receive notices and specifies for which program the person wishes to receive notices. Notices will be sent by e-mail unless a mailing preference is noted in the request. Such written request may be mailed or delivered to the contact person in #6 above or may be made by completing a request form at any rules hearing held by the Board of Public Education.

9. An electronic copy of this proposal notice is available through the Secretary of State's web site at http://sos.mt.gov/ARM/Register. The Secretary of State strives to make the electronic copy of the notice conform to the official version of the notice, as printed in the Montana Administrative Register, but advises all concerned persons that in the event of a discrepancy between the official printed text of the notice and the electronic version of the notice, only the official printed text will be considered. In addition, although the Secretary of State works to keep its web site accessible at all times, concerned persons should be aware that the web site may be unavailable during some periods, due to system maintenance or technical problems.

10. The bill sponsor contact requirements of 2-4-302, MCA, do not apply.

11. With regard to the requirements of 2-4-111, MCA, the Board of Public Education has determined that the amendment of the above-referenced rules will not significantly and directly impact small businesses.

<u>/s/ McCall Flynn</u> McCall Flynn Rule Reviewer

<u>/s/</u> Tim Tharp Chair Board of Public Education

Certified to the Secretary of State [Month Day, 20##].

## ✤ <u>CHARTER COMMITTEE – (Items 20-22)</u>

## Jane Hamman

## **ITEM 20**

## UPDATE ON COMMUNITY CHOICE SCHOOLS COMMISSION

**Trish Schreiber** 

## **ITEM 21**

## REVIEW OF REVISED PUBLIC CHARTER SCHOOL APPLICATION AND EVALUATION <u>CRITERIA</u>

Jane Hamman



#### Montana Board of Public Education Public Charter School Timeline

2024-2025

#### June

- The Board shall issue and broadly publicize a request for proposal by June 1 of each year.
- Include the criteria that will guide the Board's decision to approve or deny a charter proposal.

#### November

- If a public charter school proposal does not contain all of the required elements, the Board shall consider the proposal incomplete and return the proposal to the applicant without taking action.
- In reviewing and evaluating public charter proposals, the Board shall use procedures, practices, and criteria consistent with nationally recognized best practices, principles, and standards. The proposal review process must include:
  - $\circ$  a thorough evaluation of each charter proposal;
  - o an in-person interview with the applicant; and
  - o an opportunity in a public forum for local residents to learn about and provide input on each proposal.

#### January

- In deciding whether to approve public charter proposals, the Board shall:
  - o grant charters only to applicants that have met the requirements and are likely to open and operate successfully;
  - o base decisions on documented evidence;
  - o follow charter-granting policies and practices; and
  - o heavily weigh the evidence of community support, projected student enrollment, and input received.
- The Board shall approve or deny public charter proposals within 90 days after the filing. When approval is granted to a governing board other than a local school board, the approval constitutes corresponding approval of the creation of a separate public charter school district and its boundaries.
- The Board shall adopt by resolution all public charter approval or denial decisions in an open meeting. An approval decision may include reasonable conditions before a charter contract may be executed. For a charter denial, the Board must clearly state the reasons for denial.

#### March

- Within 45 days of approval, the Board and the governing board of the approved public charter school district shall execute a charter contract that clearly sets forth the academic and operational performance expectations and measures.
- A charter must be granted for a term of 5 operating years, commencing on July 1 of the first school year. An approved charter may delay their opening for one school year to plan and prepare. If the school is delayed in opening, the school shall request an extension from the Board, which may grant or deny the extension.
- The charter contract must be signed by the presiding officer of the Board and the public charter school's governing board.
- A public charter school may not operate without a charter contract approved in an open meeting by the Board.
- The Board may establish reasonable preopening requirements or conditions to monitor the startup progress to ensure the school is prepared to open smoothly and meets all building, health, safety, insurance, and other legal requirements.



# Montana Board of Public Education

**Public Charter School Application** 

June 2024

PO Box 200601 • Helena, MT 59620-0601 • (406) 444-6576 • <u>www.bpe.mt.gov</u>

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Public Charter Application   Academic Program   School Governance   Business Operations   Community Support and Need	

## **INTRODUCTION**

<u>HB 549</u> (2023), now codified in Title 20, Chapter 6, Part 8 of Montana Code Annotated, authorized the establishment of public charter schools in Montana and tasked the Montana Board of Public Education as the sole entity authorized to enter into public charter contracts with a governing board. There are two types of public charter schools – those operating under an existing local school board and those operating as a new school district under a separate governing board. This Public Charter School Application is for both options.

A public charter school means a public school that has autonomy over decisions including, but not limited to, matters concerning finance, personnel, scheduling, curriculum, and instruction as defined in a public charter contract. Public charter schools are governed by a local school board, or in the case of a governing board other than a local school board, by the governing board of the public charter school district of which the public charter school is a part. Public charter schools are established and operated under the terms of a public charter contract and allow parents to choose to enroll their children. Public charter schools must admit students based on a lottery if more students apply for admission than can be accommodated.

Public charter schools provide a program of education that may include any or all grades from kindergarten through grade 12 and vocational education programs and operate in pursuit of a specific set of educational objectives as defined in its public charter contract.

The evaluation of your application will focus on whether implementing the proposals in your application will lead to the academic, organizational, and financial performance you are promising in exchange for potential broad flexibility from Montana's education standards. The evaluation will also determine whether:

- There is an established need for the proposed public charter school;
- The proposed public charter school meets the needs of all its students;
- The proposed public charter school is of the highest academic quality;
- The proposed public charter school will provide a healthy learning environment and positive school climate;
- The proposed governing board demonstrates the capacity to implement the plan outlined in the application with fidelity; and
- The proposed public charter school will provide an educational opportunity to students that they would not otherwise receive at the traditional school they are zoned to attend.

## **SUBMISSION PROCEDURES**

To facilitate the Montana Board of Public Education's review of public charter school applications, applicants must submit the application to <u>bpe@mt.gov</u> between the dates of October 28 and November 1, 2024 by 5PM. All submission materials must be submitted in a single electronic submission. Multiple attachments will not be accepted. The Board will review the public charter school application, and if determined complete, will facilitate an interview, and take public comment on the application in November. Final approval of the application will take place at the January 2025 Board meeting. Please note the timeline on the Board's webpage under the Public Charter School tab.

We recognize that this application may not provide the space to fully respond to each of the questions in the application. Please provide a brief, direct response to each question, with reference to attachments appendices, and with weblinks to lengthier handbooks, policies, and additional information. Please make sure to clearly state where any corresponding responses are located within the application and limit application pages to 26, plus any attachments and letters of support.

Please note that submitting a public charter school application does not guarantee approval and that a public charter school contract will be granted. Failure to adhere to any requirements may lead to an incomplete application that is rejected before consideration. In addition, complete applications that are not strong enough to guarantee a successful public charter school implementation will be recommended for denial.

PUBI	LIC CHARTER APPLIC	CATION COVE	ER PAGE
Check One:	New Public Charter under existing local sch	nool board New I	Public Charter District
Name of Publi	c Charter School		
Local school d	istrict in which the public charter school wi	ll be physically located:	
Contact Inf	formation for the Governing Board	<u>d Chair</u>	
Contact Perso	n:		
	Name	Title	
Contact Addro	ess:		
Telephone Nu	mber:		
E-mail Addres	SS:		
Contact Inf	formation for the Person Completi	ng this Application	
Contact Perso	n:		
	Name	litle	
Contact Addre	ess:		
Telephone Nu	mber:		
E-mail Addres	58:		
Local Boar	<u>d of Trustee Evidence</u>		
Check One:	_ Approved by existing local school board	Refused approval by exist	ing local school board
Provide copy of	of local school board minutes as evidence.		
	Montana Board of Publ Page 4 of 8	ic Education	

## **PUBLIC CHARTER APPLICATION**

Name of Public Charter School: \_\_\_\_

Provide an executive summary with the general purpose and rationale for the creation of the public charter school, and explain how the proposed public charter school is different from a program that you could operate without the public charter designation.

Opening Date:	Public Charter Term Length:
Grades to be served:	
Minimum Enrollment Per Year:	
Planned Enrollment Per Year:	
Maximum Enrollment Per Year:	

During the proposed public charter 5-year term, indicate the specific grade-level programs that you plan to serve:

Check all that apply: \_\_\_\_ Elementary Program \_\_\_\_ Middle Grades Program \_\_\_\_ High School Program

For each year of the public charter term, indicate the number of students the public charter school plans to serve in each grade:

	Elementary						Mic	ldle		High S	School			
	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
Year														
1														
Year														
2														
Year														
3														
Year														
4														
Year														
5														

### **ACADEMIC PROGRAM**

See Submission Procedures

- 1. State the public charter school's mission and vision and describe why this initiative is important to the community it will serve.
- 2. Identify the targeted student population and the community the public charter school proposes to serve.
- 3. Describe plans and timelines for student recruitment and enrollment, including lottery procedures.

- 4. Describe the public charter school's academic program, specifically focusing on why it is innovative in your school district. Include plans to formally assess student achievement on an annual basis.
- 5. Describe any variances to existing standards that the public charter school requires to enhance educational opportunities.
- 6. Describe the instructional design, including the type of learning environment, class size and structure, curriculum overview, and teaching methods.
- 7. Describe plans for identifying and successfully serving students with disabilities, students who are English Language Learners, students who are academically challenged, and gifted students, including compliance with applicable laws and regulations.
- 8. Describe student discipline policies, including those for special education students.

### SCHOOL GOVERNANCE

#### See Submission Procedures

- 9. Describe the public charter school's organizational chart that clearly presents the proposed organizational structure, including lines of authority and reporting between the governing board, staff, related bodies such as advisory bodies or parent and teacher councils, and external organizations that will play a role in managing the public charter school.
- 10. Describe the roles and responsibilities of the governing board, the proposed leadership management team, and other entities shown in the organizational chart.
- 11. Provide a staffing chart for the public charter school's first year and a staffing plan for the term of the public charter school.
- 12. Detail the public charter school startup plan, identifying tasks, timelines, and responsible individuals.
- 13. Describe the plans for recruiting and developing school leadership and staff.

- 14. Describe the proposed leadership and teacher employment policies, including performance evaluation plans.
- 15. State the proposed governing bylaws.
- 16. Explain any partnerships or contractual relationships central to the operations and mission of the public charter school.
- 17. Provide the proposed calendar and sample daily schedule.

#### **BUSINESS OPERATIONS**

#### See Submission Procedures

- 18. Describe plans for providing transportation, food service, and all other significant operational or ancillary services.
- 19. Describe cocurricular and extracurricular programs and how the programs will be funded and delivered.
- 20. Describe the proposed financial plan and policies, including financial controls and audit requirements.
- 21. Describe the insurance coverage that will be obtained.
- 22. Describe the startup and five-year budgets with clearly stated assumptions.
- 23. Describe the startup and first year cash flow projections with clearly stated assumptions.
- 24. Describe anticipated fundraising contributions and evidence, if applicable.

25. Describe the facilities plan, including backup or contingency plans.

### **COMMUNITY SUPPORT AND NEED**

See Submission Procedures

26. Describe the specific evidence of significant community support.

27. Describe the opportunities and expectations for parent involvement.

## NOT AN EXISTING LOCAL SCHOOL BOARD? COMPLETE THE FOLLOWING INFORMATION

#### See Submission Procedures

- 1. Provide specific evidence that the applicant has sought from the local school board the creation of a school or program of the located school district serving the mission and vision of the proposed public charter school.
- 2. Provide specific evidence that the local school board declined to create the school or program and declined to submit a proposal for the creation of a public charter school to the Board of Public Education.
- 3. Provide a legal description of the property of the existing school district from which the boundaries of the public charter school district are proposed to be formed.
- 4. Share background information on the initial governing board members and, if identified, the proposed school leadership and management team.

Questions? Contact <a href="mailto:bpe@mt.gov">bpe@mt.gov</a>

Montana Board of Public Education Page 8 of 8



#### Montana Board of Public Education Public Charter School Application Evaluation Criteria

<u>HB 549</u> (2023), now codified in Title 20, Chapter 6, Part 8 of Montana Code Annotated, authorized the establishment of public charter schools in Montana and tasked the Montana Board of Public Education as the sole entity authorized to enter into public charter contracts with a governing board. 20-6-805, MCA, requires the Board to issue the criteria that will guide the Board's decision to approve or deny a charter proposal. This document is designed to fulfill that obligation, yet not intended to limit review or feedback on the Board's application review and evaluation process.

#### APPLICATION No. & NAME \_\_\_\_\_

**GENERAL ASSURANCES** 

Does the proposal include:					
The school district in which the public charter school is proposed to be located and operate;	Y	Ν			
The grades to be served each year for the full term of the charter contract;					
The minimum, planned, and maximum enrollment per year for the term of the charter contract;	Y	Ν			
An executive summary;	Y	Ν			
Is the applicant a group of residents of the located school district or county of the located school district?	Y	Ν			
Is the applicant a school board of the located school district?	Y	N			
Is there an overall intent to create INNOVATIVE public charter schools?					
Is the application innovative?	Y	Ν			
How is that demonstrated?					
Is there an overall intent to create HIGH-PERFORMING public charter schools?	• •				
How is that demonstrated?	Ŷ	Ν			
Additional Comments:					
ACADEMIC PROGRAM					
Mission & vision of proposed public charter school:	Y	Ν			
Identification of targeted student nonulation & community the school proposes to serve:	Y	N			
Plans and timelines for student recruitment and enrollment including lottery procedures:	Y	N			
Description of the academic program including.	1	11			
(i) plans to formally assess student achievement on an annual basis: and	Y	Ν			
(ii) variances to existing standards that the proposed public charter school requires:	Ŷ	N			
Description of proposed public charter school's instructional design, including the type of learning environment.	-				
class size & structure, curriculum overview, teaching methods;	Y	N			

Proposed public charter school's plans for identifying and successfully serving students with disabilities,		
students who are English language learners, students who are academically challenged, and gifted students,		
including but not limited to compliance with applicable laws and regulations; and	Y	Ν
Proposed public charter school's student discipline policies, including those for special education students.	Y	Ν

#### **Additional Comments:**

## **SCHOOL GOVERNANCE** *Does the proposal include:*

An organizational chart that clearly presents the proposed public charter school's organizational structure,		
including lines of authority and reporting between the governing board, staff, related bodies such as advisory		
bodies or parent and teacher councils, and external organizations that will play a role in managing the school;	Y	Ν
Clear description of the roles/responsibilities for the governing board, the proposed public charter school's		
leadership & management team, and other entities shown in the organizational chart;	Y	Ν
A staffing chart for the proposed public charter school's first year and a staffing plan for the term of the charter;	Y	Ν
A detailed school startup plan, identifying tasks, timelines, and responsible individuals;	Y	Ν
Plans for recruiting and developing school leadership and staff;	Y	Ν
Proposed public charter school's leadership and teacher employment policies, including performance evaluation		
plans;	Y	Ν
Proposed governing bylaws;	Y	Ν
Explanations of partnerships/contractual relationships central to the proposed public charter school operations/		
mission; and	Y	Ν
Specific evidence of the proposed public charter school's proposed calendar and sample daily schedule.	Y	N

#### **Additional Comments:**

#### **BUSINESS OPERATIONS**

#### Does the proposal include:

Proposed public charter school's plans for providing transportation, food service, all other significant ancillary		
services;	Y	N
Description of cocurricular or extracurricular programs, if any, and how the programs will be funded and		
delivered;	Y	Ν
Description of proposed public charter school's financial plan & policies, including financial controls/audit		
requirements;	Y	Ν
A description of the insurance coverage the proposed public charter school will obtain;	Y	Ν
Startup and 5-year budgets with clearly stated assumptions;	Y	Ν
Startup and first-year cash flow projections with clearly stated assumptions;	Y	Ν
Evidence of anticipated fundraising contributions, if claimed in the proposal; and	Y	Ν
A sound facilities plan, including backup or contingency plans, if appropriate.	Y	Ν

#### **Additional Comments:**

#### COMMUNITY SUPPORT AND NEED

Does the proposal include: Specific evidence of significant community support for the proposed public charter school; and Opportunities and expectations for parent involvement. Y N Y N

#### **Additional Comments:**

#### **BOARD ROLES AND RESPONSIBILITIES**

Does the proposal meet identified education needs AND promote a diversity of education choices, including:		
Increasing standards for student achievement;	Y	Ν
Closing achievement gaps between high-performing and low performing groups of public school students;	Y	Ν
Increasing educational opportunities within the public education system;	Y	Ν
Providing alternative learning environments for students who are not thriving in traditional school settings;	Y	Ν
Lowering the dropout rate;	Y	Ν
Creating new professional opportunities for teachers/school personnel;	Y	Ν
Encouraging the use of different models of teaching and learning; and	Y	Ν
Providing students, parents, community members, local entities with expanded opportunities for involvement.	Y	N

\*\*The Board is tasked with denying charter proposals that fail to provide clear and convincing proof of likelihood of success. Has the applicant demonstrated clear and convincing proof of the likelihood of success? Y N

\*\*In reviewing and evaluating charter proposals, the Board shall employ procedures, practices, and criteria consistent with nationally recognized best practices, principles, and standards for the authorization of public charter schools. The proposal review process must include thorough evaluation of each written charter proposal, an in-person interview with the applicant, and an opportunity in a public forum for local residents to learn about and provide input on each proposal. Has the Board fulfilled its statutory obligation to thoroughly evaluate each charter proposal?

\*\*The Board shall grant charters only to applicants that have demonstrated competence in each element of the board's published approval criteria and are likely to open/operate a successful public charter school; base decisions on documented evidence collected through the proposal review process; follow charter-granting policies and practices that are transparent and are based on merit and avoid conflicts of interest or any appearance of conflict; and weigh heavily evidence of community support, projected student enrollment, input received under subsection; (6)(c) only approve charters whose promise of improved educational outcomes outweighs potential increased costs to state & local taxpayers. Has the applicant demonstrated that they are likely to open/operate a successful public charter? Y N

#### Based on your marks above, would you recommend the Board approve this public charter application? Y N Additional Comments:

### **ITEM 22**

## REVIEW PUBLIC CHARTER SCHOOL PERFORMANCE FRAMEWORK METRICS AND EVALUATION AND RENEWAL CRITERIA

Jane Hamman



#### Montana Board of Public Education Public Charter School Performance Framework Evaluation Criteria

#### **OVERVIEW**

Public charter schools must adhere to the provisions in Title 20 of the Montana Code Annotated and Title 10 of the Administrative Rules of Montana and any state or local rule, regulation, policy, or procedure relating to noncharter public schools within the located school district, unless a variance to standard was awarded.

Public charter schools shall identify a performance framework as prescribed in 20-6-809, MCA, that clearly sets forth the academic and operational performance indicators, measures, and metrics which include:

- School achievement goals
- Student academic proficiency
- Student academic growth
- Achievement gaps in both proficiency and growth between major student subgroups
- Attendance
- Dropout rate
- Recurrent enrollment from year to year
- Postsecondary readiness
- Financial performance and sustainability
- Charter Governing Board performance and stewardship, including compliance with all applicable laws, regulations, and terms of the charter contract

These performance framework indicators, measures, and metrics must align to mission-specific goals, and when possible, exceed provisions in Title 20 of the Montana Code Annotated and Title 10 of the Administrative Rules of Montana. The performance framework indicators, measures, and metrics must be reported to the Board of Public Education no later than October 30 of the first year of operation.

Public charter schools shall produce a report no later than March 30 of each year documenting adherence to the performance framework to support the Board of Public Education's evaluation and annual reporting process.

The Board shall publish an annual report that includes a comparison of the performance of public charter school students with the performance of academically, ethnically, and economically comparable groups of students in noncharter public schools.

#### PERFORMANCE TARGETS AND RATINGS

Authorizers establish performance targets that honor their unique contexts. These targets establish the levels of performance corresponding to the ratings for a given measure. Authorizers begin by setting targets for the Meets Standard rating category, which establish expectations and definitions of a quality performance on a

#### given measure. Potential ratings include:

Exceeds Standard	This rating is reserved for performance that far exceeds expectations, demonstrating exceptional performance on a particular measure. This rating may be used in the academic framework, but it is not typically used in the financial or organizational framework.
Meets Standard	The target for this rating category sets the expectation for charter school performance in all measures in all frameworks—academic, financial, and organizational. Schools earning this rating on a particular measure are performing well in that area.
Approaches Standard	Schools with this rating are approaching but have not fully met expectations for performance on a given measure. While these schools have achieved some of the minimum expectations on the measure in question, these schools may be subject to further analysis and potentially closer monitoring. This rating may be used for academic measures and qualitative measures in the organizational and financial frameworks.
Does Not Meet Standard	Schools with this rating on a measure are performing below the authorizer's expectations, and the school is subject to further analysis, closer monitoring, and possibly intervention. This rating is used on all measures in all frameworks.
Falls Far Below Standard	Schools with this rating on a measure are performing far below the authorizer's expectations, and the school is subject to further analysis, closer monitoring, and likely intervention. This rating is typically used for academic measures and quantitative financial measures. Schools performing at this level on an academic measure demonstrate unacceptable performance. A Falls Far Below Standard rating on a financial framework measure may demonstrate that the school is at financial risk.

#### **PERFORMANCE FRAMEWORK – ACADEMIC**

#### Is the public charter school academically successful?

The Board of Public Education places emphasis on multiple measures of student success. Strong literacy and numeracy skills are critical for success in life. There are also additional ways schools impact student learning, wellness, and other life outcomes consistent with their mission. The Board of Public Education encourages charter schools to think more broadly about excellence by setting expectations for, and evaluating progress against, other aspects of students' learning and achievement unique to each school and its particular mission.

- Student Achievement Goals Is the school meeting mission- or school-specific student achievement goals? (goals are set by public charter)
- Student Academic Proficiency Are students in grades 3-8 achieving proficiency as measured by statewide assessments?
- Student Academic Growth Are students in grades 3-8 making sufficient annual academic growth on statewide assessments?
- Achievement gaps in both proficiency and growth between major student subgroups

Are students in grades 3-8 in identified subgroups achieving high rates of proficiency and growth on statewide assessments in comparison to students at schools they would otherwise attend or schools serving similar populations?

- Attendance Are students meeting attendance policies?
- Dropout Rate At what rate are students dropping out of school?
- Postsecondary Readiness Does student performance on ACT reflect readiness for postsecondary education?

#### **PERFORMANCE FRAMEWORK – FINANCIAL**

#### Is the public charter school financially healthy?

Public charter schools have the autonomy to manage their finances, consistent with state and federal law. The Board of Public Education's role is to define clear, measurable, and attainable financial standards and targets that a school must meet as a condition of renewal. The Board of Public Education has developed and utilized a good set of tools to assess and monitor a school's financial health while respecting a school's rightful autonomy.

• Financial Performance and Sustainability

Does the school have sufficient resources to meet basic financial management, controls, and oversight expectations?

Formula: This is a standard that is either met or not based on criteria established by individual authorizers and it may include all or some of the dot-point items above or be locally tailored.

#### Meets Standard

The school materially complies with applicable laws, rules, regulations, and provisions of the charter contract relating to financial reporting requirements including timely and complete submission of required documents, such as:

- *Reporting to the state;*
- *Reporting to the authorizer;*
- Making payroll and related IRS submissions and payments on time, to include timely filing of IRS Form 990s; and
- Making full and timely teacher and other retirement fund payments.

#### Does Not Meet Standard

The school does not materially comply with applicable laws, rules, regulations, and provisions of the charter contract relating to financial reporting requirements due to failure to make timely and complete submission of required documents, including failure or unwillingness to provide additional information requested by the authorizer.

• Recurrent enrollment from year to year Is the school meeting its enrollment projections?

Formula: Enrollment Variance = Actual Enrollment\*  $\div$  Enrollment Projection from the Original Board-Approved Budget \*Actual enrollment refers to the enrollment level that determines funding, whether based on one count date or the average of multiple count dates. *Meets Standard Enrollment Variance equals or exceeds 95%.* 

#### Does Not Meet Standard

Enrollment Variance is less than 95%.

#### **PERFORMANCE FRAMEWORK – ORGANIZATIONAL**

#### Is the public charter school organizationally sound?

The Board of Public Education is responsible for holding public charter schools accountable for sound and wellfunctioning organizational practices to protect the public interest. The Organizational Framework provides a comprehensive lens to the extent to which public charter schools are meeting operational expectations and protecting student and public interests while simultaneously honoring public charter schools' rightful autonomy to design and deliver school models that meet students' needs.

• Charter Governing Board performance and stewardship, including compliance with all applicable laws, regulations, and terms of the charter contract Does the board of trustees comply with basic governance requirements?

#### Meets Standard

The board materially complies with applicable laws and the charter contract regarding governance, such as:

- Board composition and/or membership rules (e.g., community representation, requisite number of qualified teachers, ban on employees or contractors serving on the board);
- Board policies;
- Board bylaws, including election of officers;
- State open meetings law;
- State public records law;
- Code of ethics;
- Background checks;
- Conflicts of interest; and
- Board member training.

#### Does Not Meet Standard

The school fails to materially comply with applicable laws and the charter contract as outlined above.

## **♦** EXECUTIVE COMMITTEE – (Items 23-25)

## **ITEM 23**

## **UPDATE ON 250TH COMMISSION**

**Chris Averill** 



## DID YOU KNOW?

In 2026, the United States will commemorate the 250th anniversary of the signing of the Declaration of Independence. Montana has a commission to help commemorate and celebrate this historic milestone.

The 250th commemoration provides all Montanans with an inflection point to explore the history that has occurred within our state's boundaries, spanning thousands of years. **Our history as Montanans—and Americans—is rich and varied, and we have the opportunity with this commemoration to help every Montanan see themselves in our shared history.** 

Photo Credit: Helena Independent Record

## LEARN MOREI

A successful 250th anniversary in Montana will be defined by its reach and impact; specifically, the number of opportunities created for civic engagement, recognizing the vibrant Indigenous cultures of our state, providing opportunities to explore Montana's history, acknowledging the service of our many veterans, and helping guide the commemoration of the 250th anniversary of the Declaration of Independence

throughout Montana.

## GET INVOLVED!

This milestone provides all Montanans the opportunity to reflect on the importance of 1776, celebrate the contributions Montanans have made to our shared history, and promote a renewed participation in civics education among Montana students.

## GET IN TOUCH!



406-444-4767

instagram.com/montana\_250th

mths.mt.gov/about/Montana250thCommission

### MT 250 Commission Member Bios

#### **Emily Arendt**

Dr. Emily Arendt is Chair of the Department of History at Montana State University Billings, where she teaches and researches the history of the early American republic, including the American Revolution. Her award-winning scholarship has been supported by grants from the New York Public Library, Culinary Historians of New York and the Julia Child Foundation for Gastronomy and the Culinary Arts, and Montana Historical Society. She has articles appearing in journals such as *Journal of the Early Republic* and *Food & Foodways*, with new pieces forthcoming in *Montana The Magazine of Western History* and *Early American Studies*. She is currently editor of *The Panorama*, the digital companion to *Journal of the Early Republic* that brings scholarship to a wider audience by publishing shorter-form, accessible pieces on the American past and engaging with current events in historical context. She lives in Billings with her three children and two Great Pyrenees.

#### **Christopher Averill**

#### Chair

Chris's interest in history was nourished at a very early age. Born in Boston, Mass., Chris had easy access to structures and places of importance to the American experiment throughout his formative years. This interest progressed into a B.A. in History from Bowdoin College in Brunswick, Maine, an institution full of history in its own right. With that also came a minor in Government and Legal Studies, and the start of a two decades-long career in and around politics and government. Following work on a U.S. Senate campaign, Chris moved to the halls of Congress, spending the better part of seven years working in administrative, policy, research, and communications positions in both the House of Representatives and Senate. After a stint in the private sector, Chris returned to government service, joining the U.S. General Services Administrator for New England. Chris moved to Montana in 2021, and resides in Helena with his wife and son. He is the Vice President of Communications and Government Affairs at Strategies 360. He currently serves as Chair of the Lewis and Clark County Heritage Preservation and Tourism Development Council, and was appointed by Governor Greg Gianforte to the Montana State Historic Preservation Review Board in 2022.

#### **Marietta Croft**

Marietta Croft is a 6th year social science teacher at Colstrip High School in Colstrip, Montana. The two core classes she teaches are US History and Government. She graduated with a Bachelor of Science in Education from Chadron State in 2017 and received her Master of Education in Curriculum and Instruction from the American College of Education in 2020. She began a Master of Arts with a Specialization in Teaching American History and Government through Ashland University in 2022 and will complete this degree by December 2024. In June 2023 she accepted the James Madison Memorial Fellowship.

#### Jane Lee Hamman

Jane Hamman received a Bachelor's degree in sociology and history magna cum laude from Carroll University, a Master's degree in organization and public policy from Columbia University and Syracuse University. Earlier employment was at Cook County Welfare Department, as planning-allocations director of the United Way of Central New York and executive director of the Council on Child Abuse and Neglect in Columbia, SC. Always active in numerous church, civic and community volunteer services, in 2019 Jane was honored to receive the Montana Library Association Jane Lopp Trustee of the Year award and the National Society Sons of the American Revolution Lydia Darragh Award and to be elected Honorary State Regent of the Montana Society Daughters of the American Revolution for her 2016-2019 regency service and project providing patriotic education boxes to 240 one-room and other small schools in Montana. She lives to advance freedom, knowledge, and justice. Participating with other commissioners in planning and implementing ways to Celebrate America and our 250th Anniversary across Montana advances all three. She is honored and excited to be serving.

#### **Mike Jetty**

Mike Jetty is an enrolled member of the Spirit Lake Dakota Nation and a Turtle Mountain Chippewa descendant. Mike is currently working at the Montana Office of Public Instruction as an Indian Education Specialist. Mike works to provide teachers with culturally relevant knowledge, skills, and resources so they can effectively incorporate instruction about American Indian cultures and histories in their classrooms. He has been working with Indian Education issues for the past 32 years and has teaching experience at both the K-12 and University level (Go Cats!). He has a B.S. in History Education, a Master's in School Administration and an Education Specialist Degree. In addition to his work with K-12 education, he is an active member of the American Indian and Minority Achievement Council for the Montana University System.

#### **Molly Kruckenberg**

#### Secretary

Molly Kruckenberg is the Director of the Montana Historical Society. She studied history as an undergraduate and completed a graduate degree in library science. She began work with the MTHS in 1999 and came to the role of Director after spending six years as an archivist and fifteen years as manager of the library and archives.

#### **Deena Mansour**

Deena Mansour is Executive Director of the Maureen and Mike Mansfield Center of the University of Montana. Since 2010, she has secured more than \$40 million in funding to foster globally minded leaders of integrity through Mansfield programs in democracy and international exchange. Her current focus is on bolstering democracy at home and abroad in support of high school, higher education, and community audiences. Deena has previously served as a diplomat, with a focus on supporting the U.S. National Security Strategy and democracy at the U.S. Embassy in Indonesia. She has also worked for a Dow Jones community newspaper in Michigan and at an international education non-profit in Washington, DC. She earned her master's degree in public administration at UM, and a bachelor's degree in international relations and economics at American University in Washington, DC. Deena and her husband Brian raised two children in Missoula.

#### Shannon O'Brien

Sen. Shannon O'Brien is a current member of the Montana State Senate, representing District 46. She was born in Portland, Oregon. O'Brien obtained a bachelor's degree in political science from the University of Washington in 1991, a master's degree from Gonzaga University, and an Ed.D. from the University of Montana. Her career experience includes working as a high school teacher, high school coach, college access specialist, governor education policy advisor, and dean of Missoula College.

#### Linda Reksten

Rep. Linda Reksten is currently a member of the Montana House of Representatives, representing District 12. She was born in Polson, Montana. Reksten earned a degree in biology from Eastern Montana College, a master's degree from Point Loma Nazarene University, and a doctorate from the University of California at Los Angeles. Her career experience includes working as a middle school and high school teacher, an elementary school principal, and an author.

#### **Hal Stearns**

Hal Stearns is a teacher, historian, outdoorsman and storyteller who has been a lifelong scholar of the American West. One of his loves is to retrace the Lewis and Clark Expedition from the Rocky Mountains to the Pacific Ocean. Hal has led Lewis and Clark tours across the expanse of the entire trail. In 2012, Hal was recognized as one of Montana's "Humanities Heroes" for his unique and expressive interpretation of the exploration and settlement of the American West. Among the boards on which he has served are the Nebraska and Montana Lewis and Clark commissions and the National Lewis and Clark Trail Heritage Foundation Board, the Montana Historical Society, and the Montana Coal Board. Achieving the rank of General, Dr. Stearns spent 35 years in the Montana National Guard and retired as a brigadier general. He is a graduate of Officer Candidate School and attended the Command and General Staff College, National Defense University and the Army War College.

#### **Molly Stockdale**

#### Vice Chair

Molly Stockdale has worked in nonprofit management, primarily in museums, for 30 years. She is currently the Executive Director of Travelers' Rest Connection, a significant historic site of the Lewis & Clark Expedition and the Selis Qlispe people. Molly has worked with Mister Rogers on a children's museum exhibit, raised funds to support individuals with developmental disabilities, been a stay-at-home mom and PTO president, and is a survivor of ovarian cancer. Molly received her Bachelor's degree from the University of Pennsylvania and her Masters of Public Management from Carnegie Mellon University. She is President-Elect of the Destination Missoula Board of Directors and has been a member of the Women's Giving Circle of Missoula County since its inception. She is Montana's Advocate Leader for the Ovarian Cancer Research Alliance. Molly lives in Missoula with her husband, two young adult sons, and one very large dog.

Division

1		HOUSE BILL NO. 377
2	INTR	ODUCED BY L. REKSTEN, S. VINTON, T. MOORE, M. BERTOGLIO, C. SPRUNGER
3		
4	A BILL FOR AN	NACT ENTITLED: "AN ACT ESTABLISHING THE MONTANA 250TH COMMISSION TO
5	COORDINATE	STATEWIDE EFFORTS TO CELEBRATE THE UNITED STATES SEMIQUINCENTENNIAL;
6	ESTABLISHIN	G MEMBERSHIP AND DUTIES OF THE COMMISSION; PROVIDING AN APPROPRIATION;
7	AND PROVIDI	NG AN IMMEDIATE EFFECTIVE DATE AND A TERMINATION DATE."
8		
9	BE IT ENACTE	D BY THE LEGISLATURE OF THE STATE OF MONTANA:
10		
11	NEW S	ECTION. Section 1. Montana 250th commission. (1) There is a Montana 250th commission
12	formed to prom	ote civic engagement and increase public awareness of United States and Montana government
13	and history, inc	luding the history of tribal nations, leading up to the United States semiquincentennial. The
14	commission is	allocated to the Montana historical society for administrative purposes only, as provided in 2-15-
15	121.	
16	(2)	The commission consists of the following 11 members:
17	(a)	the Montana historical society director or the director's designee;
18	(b)	two members of the legislature, one from the minority party and one from the majority party
19	appointed as fo	llows:
20	(i)	first, a member of the senate appointed by the president of the senate; and
21	(ii)	second, a member of the house of representatives appointed by the speaker of the house of
22	representatives	s;
23	(c)	a high school social studies teacher who teaches a course in United States government
24	appointed by th	e superintendent of public instruction;
25	(d)	a college-level United States history or political science professor appointed by the
26	commissioner o	of higher education;
27	(e)	a tribal representative appointed by the state director of Indian affairs; and
28	(f)	five members appointed by the governor representing various civic, veteran, military, tourism,
	Legislative Services	e - 1 - Authorized Print Version – HB 377

1 history, museum, library, arts, or local and tribal government organizations. 2 (3)The commission shall: 3 work with partners, including but not limited to educational institutions, historical preservation (a) 4 entities, civic engagement organizations, tourism, arts, and heritage entities, veteran and military organizations, 5 and local, state, national, and tribal partners; 6 (b) collaborate with the board of public education, office of public instruction, local schools, and 7 commission partners to: 8 (i) increase participation in the United States civics test as referenced in 20-7-119; 9 (ii) increase youth proficiency in United States and Montana government and history and in the 10 distinct and unique heritage of American Indians pursuant to Article X, section 1(2), of the Montana constitution 11 and Title 20, chapter 1, part 5; and 12 (iii) recognize schools for outstanding achievement in subsections (3)(b)(i) and (3)(b)(ii); 13 plan, coordinate, and implement an overall program to build public awareness of and foster (c) 14 public participation in celebrating and commemorating the 250th anniversary of the independence and founding 15 of the United States: 16 (d) draw attention to the achievements, honors, innovations, and significance of the people in this 17 state and recommend ways for this state to commemorate the 250th anniversary of the independence and 18 founding of the United States; 19 recognize the vibrant indigenous cultures living in this place in 1776; (e) (f) 20 emphasize the service and sacrifices of veterans who have secured and preserved American 21 independence and freedom; and 22 (g) celebrate and commemorate events and activities throughout this state. 23 (4)The commission may and is expected to seek gifts, donations, grants, and other sources of 24 funding to support its activities. 25 (5) Commission members may not receive compensation but are entitled to reimbursement for 26 travel expenses as provided for in 2-18-501 through 2-18-503. 27 (6) The education interim committee established in 5-5-224 shall include monitoring of the 28 commission and the commission's efforts in its duties for the 2023 and 2024 interim and may request updates


1 and reports from the commission.

2	
3	NEW SECTION. Section 2. Appropriation. There is appropriated \$177,557 from the state general
4	fund to the Montana historical society for the biennium beginning July 1, 2023, for the purpose of [section 1].
5	THE APPROPRIATION IS AUTHORIZED TO CONTINUE INTO THE BIENNIUM BEGINNING JULY 1, 2025.
6	
7	NEW SECTION. Section 3. Notification to tribal governments. The secretary of state shall send a
8	copy of [this act] to each federally recognized tribal government in Montana.
9	
10	NEW SECTION. Section 4. Codification instruction. [Section 1] is intended to be codified as an
11	integral part of Title 22, chapter 3, part 1, and the provisions of Title 22, chapter 3, part 1, apply to [section 1].
12	
13	NEW SECTION. Section 5. Effective date. [This act] is effective on passage and approval.
14	
15	NEW SECTION. Section 6. Termination. [This act] terminates December 31, 2026.
16	- END -



### **ITEM 24**

# ACTION ON K-12 PAYMENT SCHEDULE FOR FISCAL YEAR 2025

**Barb Quinn** 

# Montana Board of Public Education Executive Summary

Date: May 9-10, 2024

Presentation	K-12 Schools Payment Schedule for Fiscal Year 2025
Presenter	Barbara Quinn
Position Title	School Finance Senior Manager
Overview	As required by 20-9-344, MCA, the Board of Public Education approves the distribution of K-12 BASE aid for public education. This notice is to provide information to the BPE of proposed K-12 payment dates for FY2025 including the Significant Enrollment Increase (SEI) payment and to change the timing of the Indian Language Immersion Program (ILIP) payment from November to January. The OPI School Payment Schedule has been updated appropriately and is attached for your viewing.
Requested Decision(s)	Notice of change
Related Issue(s)	None.
Recommendation(s)	Notice provided to the BPE





#### **Proposed PAYMENT SCHEDULE - FISCAL YEAR 2025**

The following distribution dates for FY 2025 BASE aid payments to K-12 schools are proposed to the Montana Board of Public Education and scheduled according to 20-9-344, MCA.

**August 27** Direct State Aid, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, Special Education, Technology, and Transportation Prepayment

**September 25** Direct State Aid, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, and Special Education

**October 28** Direct State Aid, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, and Special Education

**November 22** Direct State Aid, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, and Special Education

**December 20** Guaranteed Tax Base Aid for General Fund, State Coal Mitigation Block Grant, and County Retirement

**January 28** Direct State Aid, Significant Enrollment Increase, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, Special Education, and Indian Language Immersion Payment

**February 25** Direct State Aid, Significant Enrollment Increase, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, and Special Education

**March 26** Direct State Aid, Significant Enrollment Increase, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, Special Education, and Transportation

**April 25** Direct State Aid, Significant Enrollment Increase, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, and Special Education

**May 27** Guaranteed Tax Base Aid, State Coal Mitigation Block Grant, State Major Maintenance Aid, Debt Service Assistance and County Retirement

**June 25** Direct State Aid, Significant Enrollment Increase, Quality Educator Component, At Risk Component, Indian Education for All, Student Achievement Gap, Data for Achievement, Special Education, and Transportation

### **ITEM 25**

# DISCUSSION ON BOARD PRIORITY BUDGET ITEMS FOR EXECUTIVE PLANNING PROCESS

**McCall Flynn** 

### FUTURE AGENDA ITEMS July 17-19, 2024

Strategic Planning Meeting MACIE Update Approve MSDB/Golden Triangle Co-op Assessment Update Federal Update OPI Staffing Report Accreditation Report Content Standards Revision Update