
Economic Impact Statement

Administrative Rule of Montana,

Chapter 53: Math Content Standards

Montana Office of Public Instruction
October 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 Montana's Mathematics Content Standards, as outlined in ARM [Title 10, Chapter 53, Subchapter 5](#). This review aims to ensure that public schools maintain rigorous and relevant math standards that effectively support student learning and preparedness for life beyond school.

As required by [§ 20-7-101, MCA](#), these standards, part of the accreditation process, must be adopted by the BPE with the Superintendent's recommendation, and developed through negotiated rulemaking. In compliance with [§ 2-4-405, MCA](#), the Office of Public Instruction (OPI) has prepared this economic impact statement in consultation with the Negotiated Rulemaking Committee (NRC).

To assess potential economic impacts of the proposed rule amendments to ARM 10.53.5, OPI surveyed school personnel and stakeholders. The survey was distributed via the OPI Compass newsletter to over 18,000 recipients, and a press release was posted on March 13, 2024. With an initial low response rate, the survey was re-sent directly to superintendents and school board trustees, extended by three weeks, and distributed through a partnership with the School Administrators of Montana (SAM). Additional outreach in October 2024 to district and county superintendents resulted in 81 submissions, informing this report.

Introduction

The Superintendent and OPI staff established a Math Standards Revision Task Force, which included Development and Review Teams (see [Appendix B](#) and [Appendix C](#)). The Development Team proposed revisions based on research from the Regional Education Laboratory Northwest, a U.S. Department of Education-funded organization, and aligned with the Superintendent's vision. The Review Team provided feedback, and final revisions were submitted to the Superintendent and the Negotiated Rulemaking Committee (NRC).

OPI staff ([Appendix E](#)) facilitated virtual and in-person meetings, supporting collaborative work on digital documents. The agency coordinated the task force's activities, presented its rationale to the NRC, and consulted the Montana Advisory Council on Indian Education (MACIE) for integrating Indian Education for All.

The NRC (members listed in [Appendix D](#)) reviewed the proposed standards, meeting both virtually and in person from October 2023 to January 2024, and ensured consistency in content, 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:
 - *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, update clarity around fluency standards, and 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.*

A detailed summary of the math standards proposed revisions and the process can be found [here](#).

Economic Impact Statement Required Elements

Pursuant to § 20-7-101(1), MCA, the Montana Superintendent of Public Instruction prepared this economic impact statement in consultation with the NRC, in accordance with §2-4-405, MCA. Each required element of 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 proposed rule changes will impact the following groups: school district trustees, K-12 administrators, math teachers, school counselors, librarians, clerks/business officials, parents, and K-12 public school students.

The costs associated with implementing the rule changes will be borne by local school districts.

Beneficiaries of the rule changes include trustees, administrators, teachers, students, and the communities served by Montana's 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 regarding the probable economic impact of the proposed amendments to the Math Content Standards. The survey was distributed as described previously and received responses from 81 individuals, including teachers, superintendents, principals, district curriculum directors, a parent, a taxpayer, and a technology integration specialist. The summary results of the surveys are shown in [Appendix A](#).

Estimated Curricular Costs:

Grade Band	Estimated Number of Students	Estimated Cost per Student	Total Cost by Grade Band
K-5	66,000	\$175	\$11,550,000
6-8	33,000	\$175	\$5,775,000
9-12	44,000	\$250	\$11,000,000

**Estimated Total Costs for Curricular Resources for all Montana Schools:
=\$28,325,000**

Estimated Costs for Professional Learning:

Metric	Value
<i>Number of Districts in Montana</i>	403
<i>Estimated Cost of Professional Development per Day</i>	\$1,800 - \$3,000 per day
<i>Total Cost of Professional Development for 2 Days</i>	\$725,000 - \$1,209,000
<i>Total Cost of Professional Development for 4 Days</i>	\$1,450,000 - \$2,418,000

**Estimated Range of Total Costs for Professional Development for all Montana Schools:
=\$725,000 - \$2,418,000**

**Estimated total cost range of Curricular Resources & Professional Development:
=\$29,050,000 - \$30,743,000**

These estimates do not include the implication of quantifiable time allocated to the revisions in terms of professional learning, planning, and implementation. Note, these costs are also just intended to reflect the initial implementation year for the content standards, not ongoing costs, should all districts replace their curriculum materials due to the revisions.

(b) 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), as required by [§ 20-7-101, MCA](#), has incurred costs for the standards revision task force and the negotiated rulemaking process. Convening the task force for in-person writing sessions costs approximately \$11,500. The negotiated rulemaking process, including a contracted facilitator, NRC meetings, and NRC travel costs around \$25,000. Additional expenses for implementing the proposed rule changes, such as creating guidance documents with task force experts and providing professional learning are estimated at \$20,000, bringing the total projected cost to about \$56,500, excluding staff time absorbed through regular duties.

<i>Metric</i>	<i>Estimated Costs</i>
<i>Task Force Revisions Costs</i>	\$11,500
<i>Negotiated Rulemaking Costs</i>	\$25,000
<i>Agency Costs for Professional Learning</i>	\$20,000

Estimated total cost for the Office of Public Instruction: = \$56,500

The Board of Public Education (BPE) will incur filing fees for public hearing notices and publication fees for adoption and amendment notices with the Secretary of State, estimated at \$60 per page. Costs for board member attendance at public hearings will be covered within the BPE’s existing budget.

(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 per the established schedule by the BPE.

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 thoroughly exploring alternative methods to achieve the proposed rule's objectives, it was determined that, due to the significant impact of content standards on school quality and instruction—particularly in Math Education—combined with the statutory requirement for negotiated rulemaking, no alternative approach would adequately produce content standards that are centered on learner outcomes and 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 and supported the creation of the survey questions. [Appendix A](#) shows the responses and the demographics of the 81 respondents of the survey.

The economic and logistical impact of implementing Montana's revised K-12 math standards spans several critical areas, including curriculum resources, staffing, and professional development, all of which pose significant cost implications for districts across the state. Many districts anticipate that effective implementation will require substantial updates to instructional strategies, including course redesign and assessment realignment. This may involve integrating math into other subjects, which will demand considerable planning and collaboration across departments. To support these changes, districts will need content-specific coaching to guide teachers through the transition and help align instructional practices with the new standards. Initial costs for curriculum adoption are estimated between \$175 and \$250 per student, depending on the grade level, with ongoing expenses such as digital access fees, consumable materials,

and routine updates further stretching district budgets over time. Professional development is also a major cost driver, with daily training sessions estimated at around \$1,800 - \$3,000 per day.. This highlights the necessity of sustained funding to meet training requirements as teachers learn new instructional approaches and implementing new curriculum.

While districts identified a greater need for updated K-8 curricular materials, the standards for those grades have undergone less significant changes compared to the 9-12 standards. The agency anticipates that most elementary materials from the previous standards will remain usable, unlike the 9-12 materials, which may require more substantial updates. The most significant change for K-12 is the update of the Mathematical Practices. Although these updates are mostly aligned with the previously adopted mathematical practices, large curriculum companies will likely not make adaptations to their curriculum to include these practices, as evidenced by the lack of including Indian Education for All as required in Montana's Content Standards.

Staffing and resource allocation are impacted heavily by the revised standards, particularly for districts in remote or rural areas. Many districts are already contending with teacher shortages, low pay, and limited local applicant pools, making it challenging to recruit qualified personnel for the necessary instructional and paraprofessional roles. To facilitate the ongoing coaching required for the standards, some districts anticipate hiring additional full-time coaches, which will place further strain on limited staffing budgets. Administrators, in particular, will see their responsibilities grow, as they must coordinate comprehensive professional development, manage curriculum rollouts, and support teachers as they integrate the new standards into daily practice. Community engagement is also a significant component, with administrators dedicating time to meetings with parents and school boards to communicate the standards' changes, gather feedback, and address community concerns. Finally, the logistics of professional development, including organizing travel for remote districts, arranging substitute teachers, and scheduling sessions outside of instructional hours, represent considerable time and resource commitments for both teachers and administrators. Overall, while the revised standards aim to elevate math proficiency, they require comprehensive planning, investment, and support to address the fiscal, staffing, and logistical demands necessary for successful implementation across Montana.

The anticipated costs for initial implementation for districts, should they need to update curricular materials, ranges from \$29,050,000 - \$30,743,000, including curricular costs and professional development.

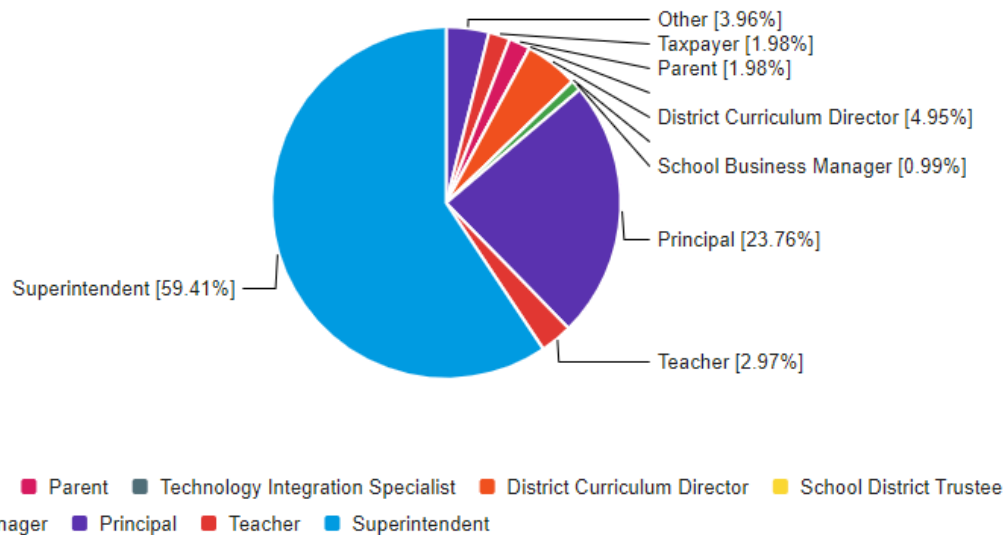
The Superintendent's recommendations to the BPE will be evaluated by the BPE and then facilitated through the Montana Administrative Procedure Act (MAPA) process before any adoption of proposed standards changes are implemented.

Appendix A – Economic Impact Survey Responses

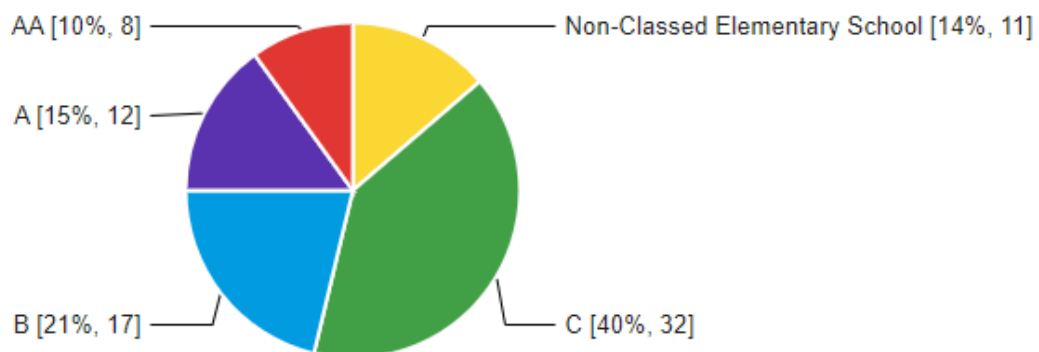
The following information is a summation of the different questions asked in alignment with the requirements of the Economic Impact Statement.

Demographics of Survey Respondents:

Question 1: Please share your role in the district you serve or reside in:



Question 2: Please identify the size of the district you serve:



Question 3: Please indicate the grade band(s) you serve:

District Size:	K-3rd	4th-6th	7th-8th	9th-12th
AA	7	8	8	6
A	11	10	10	10
B	12	14	14	13
C	30	30	31	28
Non-Classed Elementary School	10	11	8	0

Implications of Revised K-12 Math Content Standards on Curricular Resources:

Question 1: Will there be costs for curricular materials at the different grade level bands, due to the K-12 MathContent Standards Revisions?:

Question:	Unsure	Yes	No
Will there will be costs for the update of curriculum at the K-2 grade levels in regards to the revised content standards?	15	52	9
Will there will be costs for the update of curriculum at the 3-5 grade levels in regards to the revised content standards?	16	53	8
Will there will be costs for the update of curriculum at the 6-8 grade levels in regards to the revised content standards?	11	58	8
Will there will be costs for the update of curriculum at the 9-12 grade levels in regards to the revised content standards?	11	49	16

Question 2: Estimated costs by grade band:

Question:	There will not be a cost for this grade band	Yes	No - too low	No - too high
Is a projected cost of \$150/student for updated K-5 math curriculum accurate?	8	45	21	2
Is a projected cost of \$150/student for updated 6-8 math curriculum accurate?	8	45	21	2
Is a projected cost a cost of \$200/student for updated 9-12 math curriculum accurate?	17	33	22	3

These numbers are estimated by recent curricular adoptions from a variety of districts to project a potential cost for curricular materials. Variances from these numbers would be due to different curriculum costs, added resources, included professional development, and more.

Summary of District-Reported Costs Associated with Updated Standards, by School Class:

AA Districts Details:

- *Content-specific coaching and math support are needed to help teachers implement new standards and align with the new curriculum.*
- *Additional costs of approximately \$8,000 to \$10,000 are required to pay staff for extra hours or hire substitutes.*
- *There is a lack of staffing for intensive interventions, creating a need for further professional development.*
- *Instructional coaching is essential to support both content and instructional shifts, which require time, expertise, and financial resources.*
- *Districts estimate a need for eight instructional coaches per school to assist teachers with the transition.*
- *Despite the costs, superintendents view these changes as beneficial.*

A Districts Details:

- *Districts are generally fully staffed but require additional professional development for teachers to implement the new K-12 Math Standards effectively.*
- *Most implementation efforts will focus on professional development rather than increasing staff numbers.*
- *Costs in time and money are anticipated for standards review and effective implementation.*
- *Finding certified and confident math teachers, especially in K-8, remains a challenge.*

- *Filling 5-12 math instructional positions with qualified personnel has historically been difficult, leading some districts to rely on under-qualified staff in certain middle and high school classrooms.*
- *Additional paraprofessionals may be needed to support teachers with math interventions.*
- *Updated standards will require changes to year-long curriculum maps.*

B Districts Details:

- *While staffing is currently adequate, attracting qualified teachers is challenging due to Montana's low teacher pay and limited applicant pool.*
- *Increasing teacher pay is necessary to attract and retain qualified candidates.*
- *Costs for staffing have been budgeted, but the district still struggles to fill specific roles, such as math teachers.*
- *A middle school math position is currently filled by an emergency hire due to the shortage.*
- *Low pay and 9-month contracts make it hard to recruit paraprofessionals needed for additional support.*
- *Staffing shortages indicate a need for alternative math pathways, like offering "Math: Science Data" taught by science teachers if math capacity is limited.*
- *Recruiting paraprofessionals for math support and before- or after-school tutoring remains difficult.*
- *Providing smooth transitions and support for all involved is crucial for effective implementation of new initiatives.*

C Districts Details:

- *The need for intervention support would depend on the level of support required to bring students up to standard.*
- *Small rural schools face challenges finding and retaining qualified teachers, especially in remote areas with low pay.*
- *Some districts have adequate staffing for their small student population, but others already struggle to find certified math teachers, and low pay exacerbates this issue.*
- *Additional factors, like Title I service needs and potential increases in supplemental curriculum, may impact staffing and resources.*
- *Teacher training needs for a new curriculum are unclear, but professional development for both curriculum and standards will likely be essential.*
- *High turnover rates mean rural schools invest heavily in new teacher training and professional development.*
- *Some schools report having no math teacher applicants for years, reflecting a persistent shortage of qualified instructors.*
- *Staffing is generally adequate for students without additional needs, but not sufficient for those requiring individualized support, and any staff departure could worsen this situation.*

Non-Classed Elementary School Districts Details:

- *Dwindling Title funding creates additional staffing costs associated with changing standards.*
- *The district has some experienced staff with over 15 years of service, who are considered excellent educators.*
- *There is difficulty filling positions, with one teacher on a provisional license, another on emergency authorization, and an unfilled full-time SPED teacher role.*
- *Although no additional personnel costs are expected from new standards, finding qualified staff to implement them effectively remains a challenge.*
- *Staffing shortages already exist across the district.*

Question 3: If a different cost is expected, please estimate potential costs for updating curriculum materials: Summary of Submissions by theme

- **Initial Costs Per Student**
 - *Estimates for initial adoption range from \$150 to \$400 per student, depending on grade level.*
 - *Some respondents suggested \$200-\$225 per student for K-6 and \$275 for grades 7-12.*
 - *Higher estimates include \$1000 per student, particularly for math programs due to hands-on materials.*
 - *Variability in costs is noted based on the resources chosen.*
- **Ongoing and Hidden Costs**
 - *Ongoing costs include consumable materials like workbooks and hidden costs for digital access.*
 - *Curriculum costs can vary significantly and often include recurring expenses.*
 - *Initial cost estimates may not account for additional long-term expenditures.*
 - *Hidden costs can impact overall budgeting significantly.*
- **Professional Development and Training Costs**
 - *Professional development for educators is a crucial ongoing expense.*
 - *Training costs are estimated at \$1400 per day for ten staff members.*
 - *Additional staffing may be necessary to cover new high school standards.*
 - *Districts need to budget for training alongside curriculum updates.*
- **Budget Constraints and Existing Resources**
 - *Recent curriculum purchases limit the capacity for additional spending.*
 - *Small districts may face higher per-student costs due to minimum purchase requirements.*
 - *Some districts had already budgeted for potential renewal costs, anticipating the new standards.*
- **Uncertainty and Lack of Specific Estimates**
 - *Many respondents expressed uncertainty regarding specific cost projections.*
 - *Overall, there is a general hesitance to commit to specific numbers at this stage.*

Estimated costs per student per grade band, given average of 11,000 students per grade level per Growth and Enhancement of Montana Students (GEMS), given feedback from districts.

Grade Band	Estimated Number of Students	Estimated Cost per Student	Total Cost by Band
K-5	66,000	\$175	\$11,550,000
6-8	33,000	\$175	\$5,775,000
9-12	44,000	\$250	\$11,000,000

Question 4: Do you have any other relevant information in regards to curriculum and resources in regards to the revised K-12 Math Content Standards?:

Summary of Submissions by theme:

- **Financial Implications and Budget Constraints**
 - **Technology Costs:** Transitioning to online curricula will incur additional technology and licensing expenses, with potential yearly costs.
 - **Professional Development:** Extensive training is necessary for effective curriculum implementation, which may surpass supplemental material costs.
 - **Consultant Expenses:** Hiring consultants for explicit instruction support could further strain district budgets. If new curricula cannot be immediately purchased, teachers may need to supplement existing materials, increasing workload and costs.
 - **High Adoption Costs:** Recent adoptions have averaged around \$175,000 for K-8, posing significant challenges for budget-conscious districts.
- **Alignment and Resource Gaps**
 - **Crosswalking Standards:** A critical need exists to align new standards with current resources, identifying gaps and necessary supplementary materials.
 - **Misalignment with National Standards:** The differences between Montana Mathematical Practices and Common Core Math Practices may necessitate additional resource creation.
 - **Limited Resource Availability:** Access to affordable and suitable resources, especially for integrating IEFA components, is essential.
- **Professional Development and Support**
 - **Comprehensive Training Needed:** Teachers require extensive professional development to adapt to revised standards effectively. Guidance on suitable curriculum providers and training resources is also needed.
- **Challenges of Online Learning**
 - **Effectiveness of Online Courses:** Concerns persist about the effectiveness of online math instruction, particularly for high school students, complicating engagement and learning outcomes.
- **Recruitment and Retention of Staff**

- **Teacher Shortages:** Ongoing difficulties in hiring qualified secondary math teachers highlight the need for improved recruitment and retention strategies.
- **Implementation and Future Planning**
 - **Need for Guidance:** Schools require practical implementation guidance from the Office of Public Instruction (OPI) for the new standards.
 - **Future Curriculum Planning:** Updated standards will change high school course offerings, necessitating proactive planning, especially in districts with outdated resources.
- **Impact on Student Populations**
 - **Considerations for Students:** New curricula should address the needs of students in need of intervention to ensure they receive appropriate support for their learning challenges.

Implications of Revised K-12 Math Content Standards on Staffing:

Question 1: Please share details on staffing K-12 Math Educators:

Question:	Unknown/Not Relevant	No	Yes
Does your district currently have adequate staffing to support grades K-5?	2	15	61
Does your district currently have adequate staffing to support grades 6-8?	2	16	60
Does your district currently have adequate staffing to support grades 9-12?	18	14	45

Staffing and Support Overview Across Montana School Districts, by Class Size:

Class AA School Districts: Staffing and Support Summary

- **Staffing Levels:**
 - *K-5: 3/6 districts have appropriate staffing, 5/6 report new standards would impose a personnel cost*
 - *6-8: 2/6 districts report adequate staffing, 6/6 report new standards would impose a personnel cost*
 - *9-12: 3/6 districts have adequate staffing, 6/6 report new standard would impose a personnel cost*
- **Coaching and Support Needs:**
 - *Content-specific coaching is necessary for teacher training and curriculum implementation; 8 instructional coaches are needed at each school.*
- **Financial Implications:**

- Standards review costs an additional \$8,000-\$10,000 for staff pay or substitute coverage.
- **Intervention and Development:**
 - Intensive intervention staffing is lacking; professional development is essential for new curricula and instructional shifts.

Class A School Districts: Staffing and Support Summary

- **Staffing Levels:**
 - K-5: 8/9 districts report adequate staffing; 1/9 share new standards would impose a personnel cost
 - 6-8: 8/9 districts have adequate staffing; 1/9 share new standards would impose a personnel cost
 - 9-12: 6/9 districts have adequate staffing; 1/9 share new standards would impose a personnel cost
- **Professional Development Needs:**
 - Additional staffing is required to better meet Core+ Standards; professional development training is essential for all staff on new K-12 Math Standards.
 - Most efforts will focus on ongoing, relevant professional development related to the updated standards.
- **Challenges in Math Staffing:**
 - Difficulty in hiring certified math teachers leads to under qualified personnel in 6-12 classrooms.
 - There is a struggle to find certified, confident, and willing individuals to teach math, despite being fully staffed for the past two years.
- **Future Considerations:**
 - Education preparation programs and K-12 stakeholders should collaborate to develop educators who feel confident teaching math.
 - The district plans to review math resources and standards next year.

Class B Schools: Staffing and Support Summary

- **Staffing Levels:**
 - K-5: 7/9 districts report adequate staffing; 3/9 indicate new standards would impose a personnel cost.
 - 6-8: 7/9 districts have adequate staffing; 3/9 indicate new standards would impose a personnel cost.
 - 9-12: 6/9 districts report adequate staffing; 4/9 indicate new standards would impose a personnel cost.
- **Challenges in Teacher Recruitment:**
 - Difficulty in finding teachers due to low pay; Montana ranks last nationally in teacher compensation.
 - There is a struggle to recruit math teachers, with a middle school position currently filled by an emergency hire.
 - Low pay and short 9-month contracts hinder filling paraprofessional positions.
- **Financial Considerations:**

- Costs related to staffing have been budgeted, but recruitment remains a significant issue.
- Increasing teacher pay is necessary to attract qualified applicants to address staffing shortages.
- **Curriculum and Capacity Concerns:**
 - Staffing issues make it challenging to add new math pathways; options like Math: Science Data need careful consideration regarding course credit.
 - The math department currently lacks the capacity to expand course offerings without additional staffing.

Class C Schools: Staffing and Support Summary

- **Staffing Levels:**
 - K-5: 21/26 districts report adequate staffing; 2/26 indicate new standards would impose a personnel cost.
 - 6-8: 1/21 district has adequate staffing; 3/21 indicate new standards would impose a personnel cost.
 - 9-12: 17/21 districts report adequate staffing; 4/21 indicate new standards would impose a personnel cost.
- **Challenges in Teacher Recruitment:**
 - Difficulty in hiring certified and qualified math instructors persists, with past experiences of prolonged hiring processes (over 2 years for previous openings).
 - Low compensation continues to be a barrier to attracting quality candidates for teaching positions.
- **Professional Development Needs:**
 - Uncertainty exists regarding the types of training required for teachers to implement a new curriculum.
 - Ongoing professional development will be necessary to train staff on new standards and curriculum updates.
- **Intervention Considerations:**
 - The need for additional staff to provide appropriate interventions is contingent upon the specific needs of students to meet standards.
 - Staffing levels and training needs may change based on turnover; adequate personnel is currently in place, but future vacancies could impact this.

Non-Classed Elementary Schools: Staffing and Support Summary

- **Staffing Levels:**
 - K-5: 3/3 districts report adequate staffing; 1/3 indicates new standards would impose a personnel cost.
 - 6-8: 3/3 districts report adequate staffing; 1/3 indicates new standards would impose a personnel cost.
- **Funding and Costs:**
 - Dwindling Title funding leads to additional staff costs associated with changing standards.

- **Staff Experience:**
 - The district has experienced staff members who have been in place for over 15 years, providing excellent education.
- **Stability of Staffing:**
 - Current staffing levels and quality should remain stable despite funding changes and new standards.

Implications of Revised K-12 Math Content Standards on Professional Development Related Costs:

Question 1: Will the proposed standards revisions have an economic impact when it comes to providing professional development for K-12 Educators?:

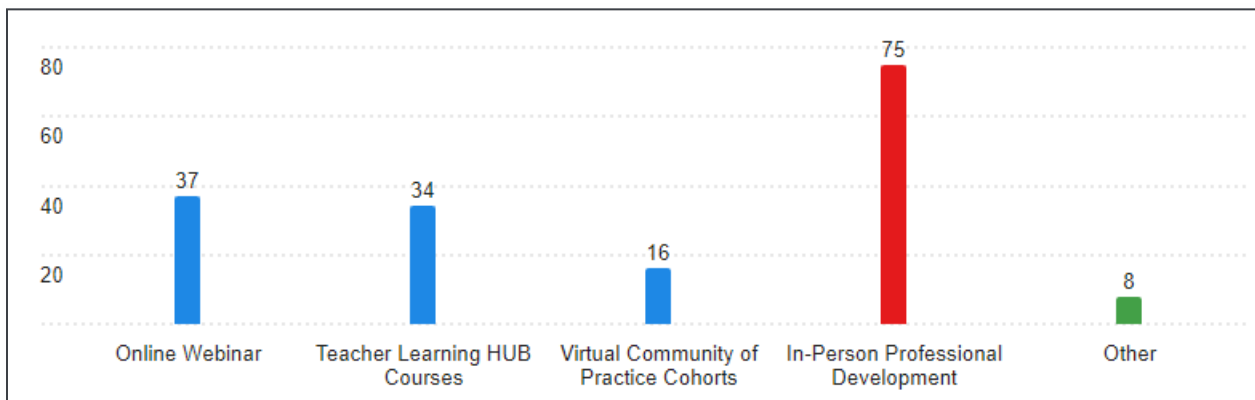
Question:	Unsure	Yes	No
Will the proposed standards revisions have an economic impact when it comes to providing professional development for your K-12 educators?	8	64	6
Will funding the professional development for the K-12 Math standards be difficult for your district?	8	62	9
Will locating professional development for K-12 math standards revisions be difficult for your district?	14	49	17

Summary on Professional Development Implications by Theme:

- **Financial Considerations**
 - Professional development (PD) costs range from \$3,000 to \$12,000 annually, depending on the provider.
 - Funding challenges include dwindling Title funding and a lack of budget for professional development related to new standards.
 - Estimated costs for the first year of PD, including trainers and substitutes, could reach \$80,000.
- **Staffing and Resource Needs**
 - There is a need for multiple instructional coaches (at least three) to support K-12 implementation across various school levels.
 - Additional staffing may be required for successful curriculum redesign and alignment with new standards.
 - Difficulty finding quality professional trainers, especially outside Montana, adds to the challenge.

- **Training and Implementation Challenges**
 - Teachers require dedicated time for PD to effectively implement new curriculum and standards; many express the need for ongoing coaching and support.
 - The rural location complicates logistics for PD, including high travel costs and limited access to tailored training.
 - Finding opportunities for professional learning that align with new standards is a challenge; many vendors do not include PD in material costs.
- **Curriculum Alignment and Adaptation**
 - New curriculum adoption necessitates specific training for teachers to ensure proper implementation and fidelity.
 - As current materials become unavailable, districts will need to budget for both new curriculum purchases and accompanying professional development.
- **Impact of Teacher Shortages**
 - Teacher shortages complicate the addition of new curriculum and training, stressing existing staff and resources.
 - Hiring difficulties hinder the ability to implement robust PD, as districts struggle to replace or find qualified math instructors.
- **Collaboration and Support Needs**
 - Districts express the need for collaboration with companies or education co-ops for professional learning resources and support.
 - Some districts plan to set aside funds for a robust professional development schedule, emphasizing the importance of benefiting the entire staff, not just a few individuals.

Question 2: What is your district's desired format of Professional Development?:



- **Details from 'Other'**
 - In-class coaching and instructional strategy workshops are vital for teacher development.
 - Pre-made assessments and lesson plans help reduce teacher workload.
 - Time is needed for vertical articulation and updating instructional maps within the district.
 - Coaches and on-site consultants should provide support outside of student-serving hours to minimize costs.
 - Recent teacher feedback highlights the effectiveness of in-person training for professional development.

Summary of Professional Development Needs by Theme:

- **Professional Development Structure**
 - Team time with guided professionals is essential, along with compensation for pay and substitute time.
 - Professional development should include follow-up training to identify strengths and weaknesses.
 - In-person training is preferred over online options, despite being more costly, as it enhances understanding and execution.
- **Funding and Resource Constraints**
 - Financial limitations hinder the ability to provide comprehensive professional development, such as paying for BetterLessons at \$2.50 per teacher.
 - Summer training opportunities are recommended to maximize teacher participation without affecting school hours.
- **Curriculum Development and Alignment**
 - There is a need to create a scope and sequence, align new standards to grade levels, and develop curriculum maps and assessments.
 - Active engagement best practices should be prioritized alongside curriculum understanding.
- **Community and Regional Support**
 - Local math specialists can enhance professional development, particularly in rural areas.
 - Regional meetings with in-person training can facilitate better learning and collaboration.
- **Ongoing Support and Implementation**
 - Continuous support through cohorts for progress check-ins is vital for effective implementation of new curriculum.
 - Multiple professional development sessions throughout the year are necessary, including follow-up for successful standards execution.

Estimated Costs for Professional Learning:

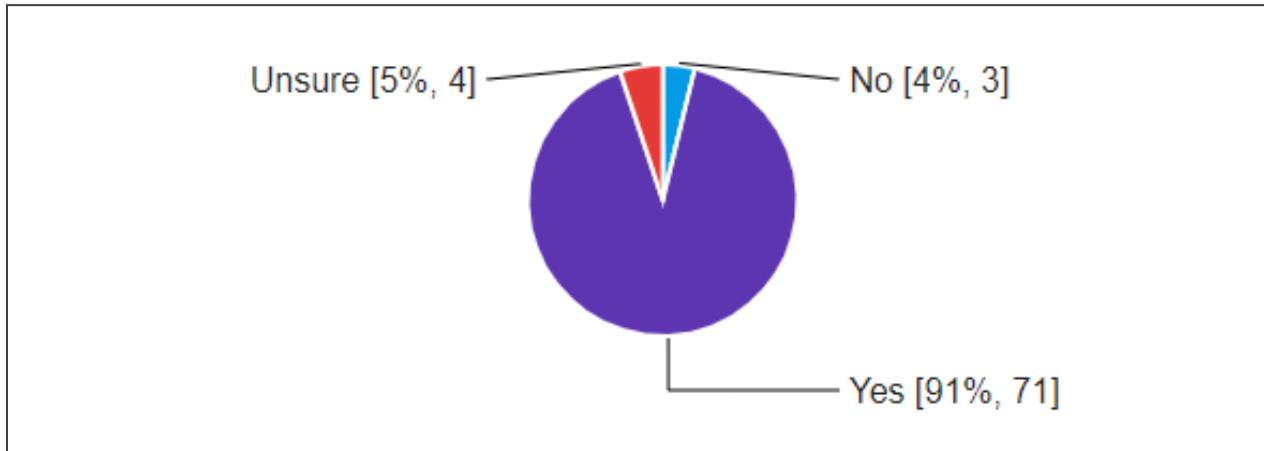
Metric	Value
Number of Districts in Montana	403
Estimated Cost of Professional Development per Day	\$1,800 - \$3,000 per day
Total Cost of Professional Development for 2 Days	\$725,000 - \$1,209,000
Total Cost of Professional Development for 4 Days	\$1,450,000 - \$2,418,000

Estimated Range of Total Costs for Professional Development for all Montana Schools:
 = \$725,000 - \$2,418,000

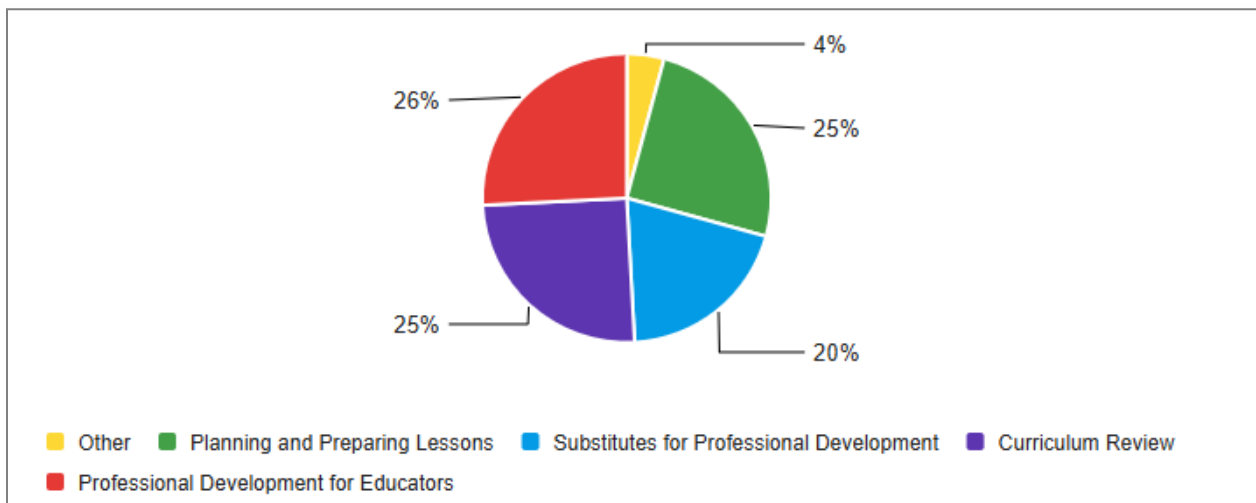
Estimated total cost range of Curricular Resources & Professional Development:
 = \$29,050,000 - \$30,743,000

Implications of Revised K-12 Math Content Standards on Time:

Question 1: Will the implementation of the revised K-12 Standards have an impact on the TIME spent for educators in your school district?:



Question 2: What types of impacts on time will the implementation of the revised K-12 Math standards have on your district?



Time Impacts of Revised K-12 Math Standards Implementation:

- **Instructional Strategies and Course Development**
 - Need for re-design and development of courses and assessment strategies.
 - Preparing to integrate math into other curricular areas.

- **Ongoing Coaching and Support**
 - *Investment in ongoing coaching (3 FTE) to support implementation.*
 - *Building teacher confidence and practice in using the new curriculum.*
- **Administrative Responsibilities**
 - *Increased responsibilities for administrators, including implementing new standards and facilitating professional development.*
- **Community Engagement**
 - *Time required for parent and board meetings to discuss changes and gather feedback.*
- **Professional Development Logistics**
 - *Time and resources needed for travel to professional development sessions.*
 - *Unpacking and understanding the updated standards is a significant investment of time.*

Appendix B: 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 C: Math Standards Revision Review Team Members

Review Team	Location	Assigned Role
Becky Berg	Billings	K-5 Review
Jenny Combs	Billings	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 Committee

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

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, Standards Revision Project Co-Lead
- **Aimee Konzen**, Professional Learning Manager
- **Katrina Engeldrum**, Mathematics Instructional Coordinator, Standards Revision Project Co-Lead
- **Michelle McCarthy**, Science Instructional Coordinator, Revision Process and Project Support
- **Matthew Bell**, American Indian Culture and Language Immersion Specialist and Project Support
- **Mike Jetty**, Indian Education for All Specialist and Project Support
- **Jennifer Stadum**, Indian Education for All Specialist and Project Support
- **Crystal Hickman**, American Indian Student Achievement Specialist and Project Support
- **Sheri Harlow**, Administrative Support