Date: October 3, 2025

Utah State Board of Education

Draft P-12 Utah Core Mathematics Standards Public Feedback Report

Date: October 3, 2025
Contact Person and Email: Molly Basham; molly.basham@schools.utah.gov

Draft: 1

This draft is for consideration during the October Standards & Assessment meeting (October 3, 2025)
Rule/Statue: Board Approved Standards Revision Process

Procedures and Process

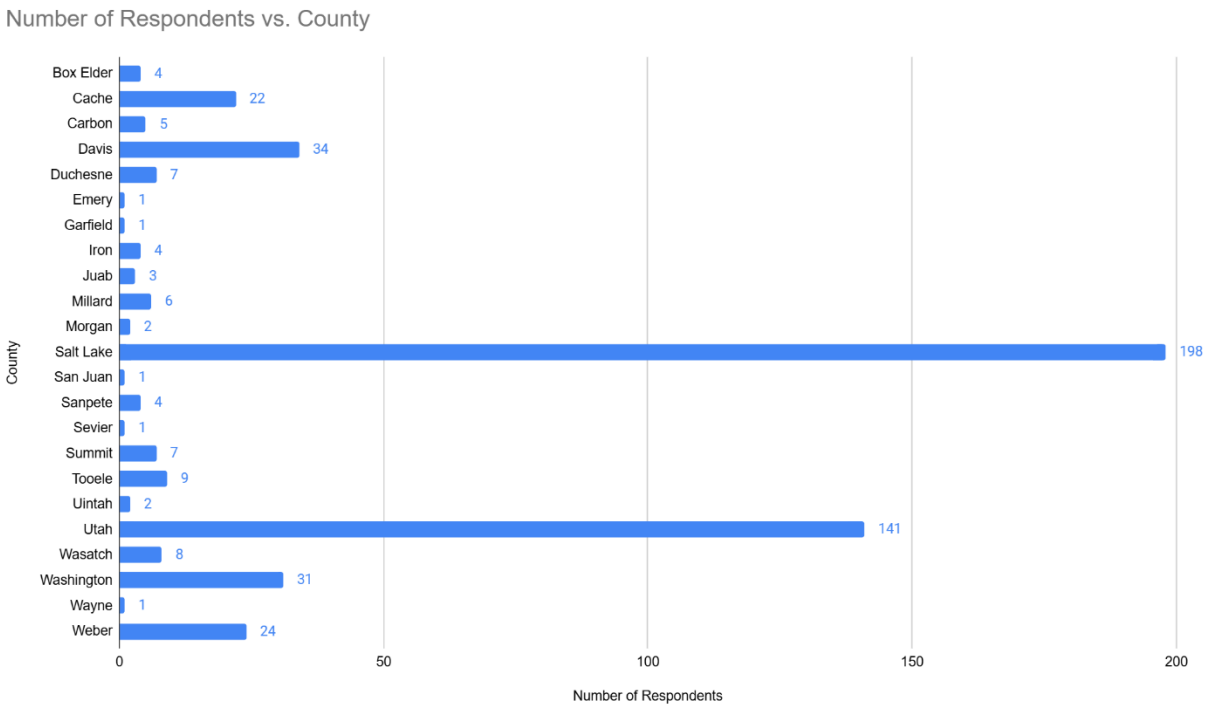
Public feedback from the survey questions has been organized in this document. For each relevant question, comments have been grouped into four categories:

- ☐ **Supportive feedback** that does not indicate actionable changes.
- ☐ **Critical feedback** that doesn't suggest actionable changes.
- ☐ **Actionable feedback** that proposes specific changes.
- ☐ **Unrelated feedback** that doesn't pertain to the standards or the question.

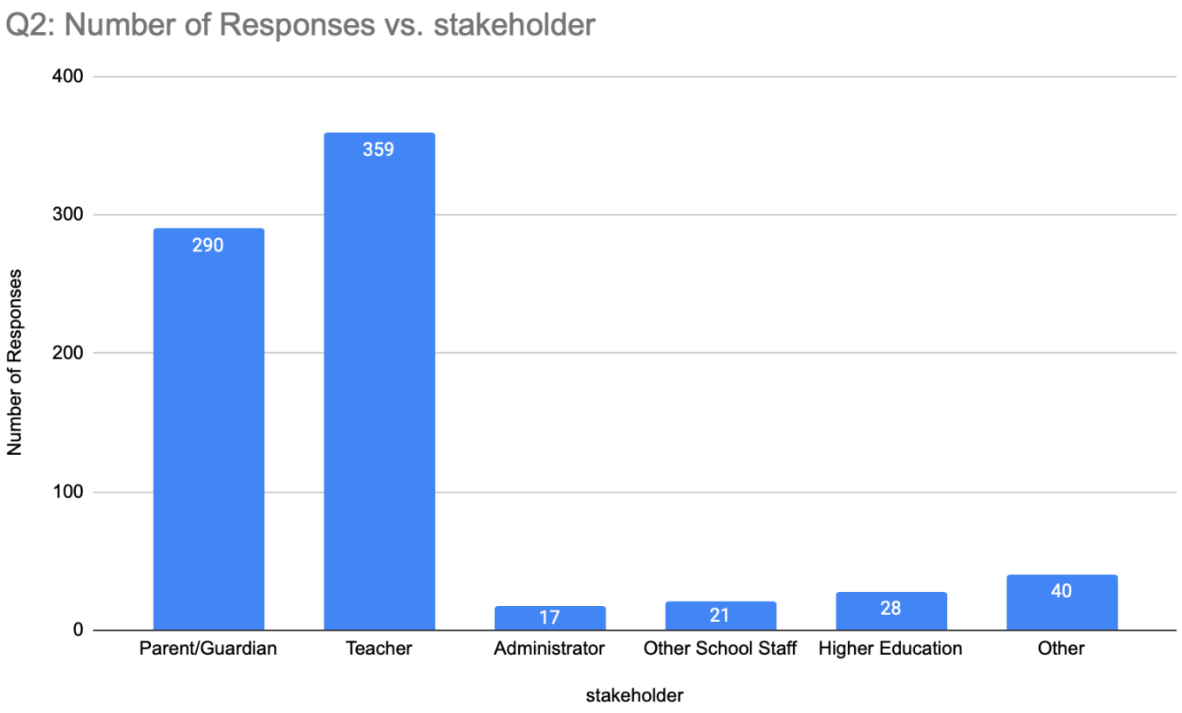
To make the feedback easier to review, comments for each question have been organized into common themes. A summary graph for each question has been provided as well.

The writing committee will review all the feedback and indicate whether any changes were made to the draft standards. Where appropriate, justification has also been provided for the decisions made.

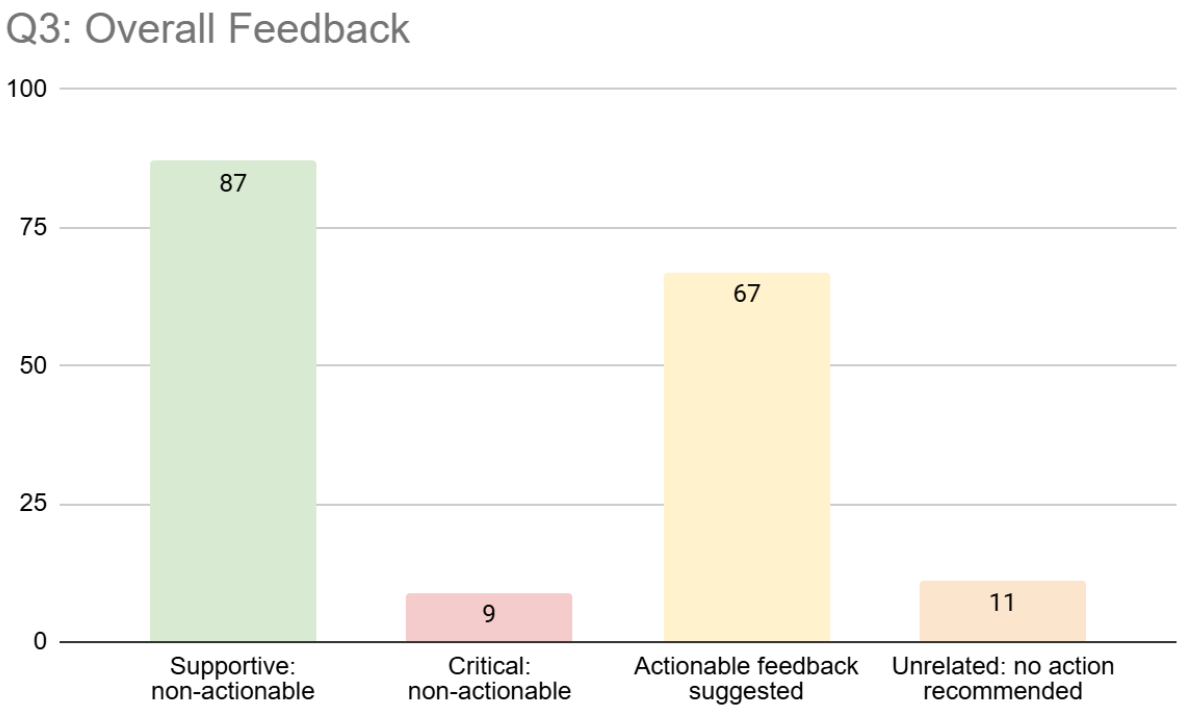
Question 1: Please select the county in which you reside.

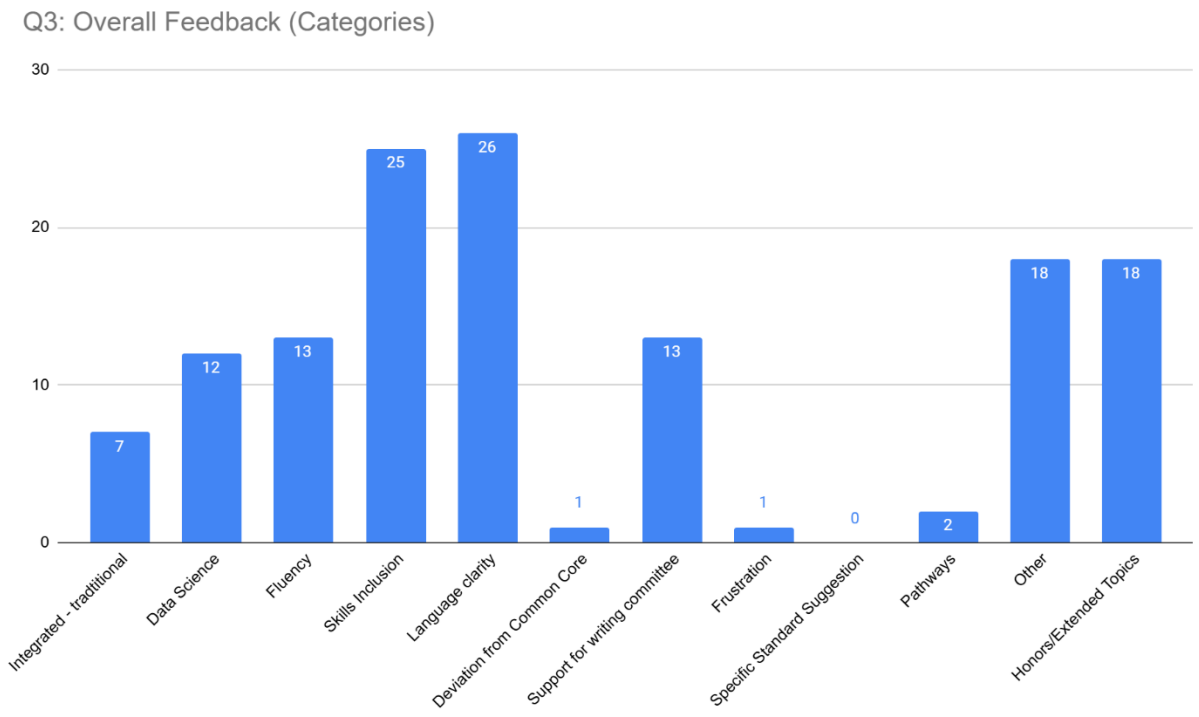


Question 2: Please select the stakeholder group(s) to which you belong. Mark all that apply.



Question 3: Please share any feedback you have regarding the introduction section of the Draft P-12 Utah Core Mathematics Standards written by the Mathematics Standards Writing Committee.


Q3: Overall Feedback
100
75
50
25
0
87
9
67
11
Supportive: non-actionable
Critical: non-actionable
Actionable feedback suggested
Unrelated: no action recommended



Supportive: Non-Actionable

Data Science

The standards look very thoughtful, love the data science and maintaining the integrated math through high school!
The introduction to the Draft P–12 Utah Core Mathematics Standards reflects a commitment to mathematical literacy and conceptual understanding. However, I would encourage stronger acknowledgment of how AI tools, digital calculators, and ubiquitous access to computational devices are reshaping the role of memorization, algorithmic repetition, and paper-based calculation in students' lives. In an age where technology can instantly solve arithmetic problems, students benefit more from knowing what to calculate and why, rather than how to manually compute every solution. Emphasizing mathematical reasoning, data interpretation, financial

literacy, and problem-solving over procedural fluency will better equip students for modern careers and citizenship.
Love the standards—love the addition of data science and huge fan of integrated through high school
Excellent addition of Mathematical Skills and Data Science skills
I trust the writing committee of experts to write the math standards that kids need to learn. I love the addition of data science and the modernized skills.
I appreciate that these new standards align with research-based principles of math teaching and learning. Additionally, these standards parallel the relatively new Utah SEEd standards in science, which will make for a more cohesive STEM education for Utah students. Furthermore, the new focus on data science will help to ensure our students are prepared for the modern world.
I think the committee has done a great job modernizing standards! Love the addition of data science
In today's world, knowledge and competency in statistics and data science are essential components of a well-rounded education. I'm pleased to see that the new standards integrate these subjects across all K–12 grade levels.
"These standards seem to be more aligned to students showing what they know and more mastery or proficency. Mathematical Practices are exchanged for this. More hands on, less extra information. Streamlined standards. What Math programs are out there that you think would best fit these points or criteria? Four areas of Major works, does that mean teachers in Third Grade do not attend to holes in learning of Addition and Subtraction from previous grades? I appreciate using strategies to back up the students' thinking, can multiple strateiges still be used to defend answers? Glad to see Data is not lumped in with Measurement! Thank you for that!"

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Fluency

I like the introduction to the standards. I appreciate that we did not lose fluency. I tell parents (when I was teaching) all the time that fluency matters, yes, your kid can use a calculator, but by 10th grade, when you are factoring polynomials, I can tell which students have fluency with factors. I do not feel that we lost any part of math. I think you also opened the door to homework, which is an important part of building math fluency, is practice.
The introduction was clear and laid the foundation for the purpose, structure, and key ideas. Additionally, the clarity on what defines fluency was a much needed inclusion.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Honors/Extended

I love the removal of an honors track because I have seen first hand that it leads to a lowering of standards overall AND leaves some students out. I do hope that students can expedite as they used to be able to by bypassing a class they are already proficient in. This should only be a small (very small) portion of the population, but some really do excel if allowed to move faster.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Language Clarity

The introduction is well written and makes sense. Clear and concise descriptions of the different components of the document are provided. I especially appreciate the description of building to procedural fluency that is provided. It is critical to have students engage in a conceptual way and then use that as a foundation for procedural work. Especially in the age of AI we need students that can think more deeply than memorized procedure.
I appreciate the list of changes that were made, however I would love to see a detailed breakdown of any specific standards that were moved or deleted. Teachers all over the state will have to do a deep dive to analyze the changes, and it would be so helpful if there was some kind of document from the committee that listed the specific changes. I love this line in the section about technology: "Software and online programs cannot replace authentic interactions between teachers and students, and the value of student-to-student discourse and collaboration." We all learned the veracity of that statement during the pandemic, yet there are still people and corporations who are pushing technology as the 'answer' to math education. Since I started focusing my efforts on student discourse, student engagement AND learning has improved dramatically. I also appreciate the identification of Essential Competencies and Expectations. That is useful for clarity.
Well done, clear and informative.
Clear and easy to read.
This is clear and focused. The progression from strands up to competencies is appreciated.
I like how clear and focused it is and the sections describing the strands, standards, skills and competencies

The intro seems clear and concise.
I appreciate the fact it's written in language understood by everyone as opposed to language only an educator would easily understand.
I like that the introduction for each grade level breaks down into simple terms what the major outcomes for the grade are
I appreciate each introduction highlighting the concepts to be the focus. For example, Math 2 mentions linear, exponential and quadratic while Math 3 mentions polynomials, rational, cubic, and logarithmic.
I really like the language even a parent can understand what their student should be learning.
It was clear.
As an Educator, I appreciate the attempt to have fewer and more concise standards. As a parent, I like the High school Pathway delineation.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Other

I dont see anything unreasonable within the 160 pages. Just as long as IEPs are kept in acquaintance with the standards to make room for kids with learning disabilities.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

It appears a lot of work has been done. I appreciate the alignment and freedom giving to teachers to have some choice as far as when and how these are taught. I also like that it seems a lot is focused on kids learning how to solve problems and think. As a parent of three, some older and one young enough to benefit from these, I am excited to see the changes that come.
Looks great.
Looks good. The descriptions of strands, standards and competencies makes sense.
Intro is clear and easy to read.
Well written.
Great!
Looks good.
I feel like a change is a good idea. I also feel like we need to take it back to simpler times
It looks good.
These are things that we have already been doing. I like it.
Clear and well written.
It is good, I think it does the job.
It is easy to read and makes sense.
I appreciate this. Nice work, thank you.
Nicely done. Followed easily.
I appreciate the work done. Looking good.
I love really think it is well written and if taught right will be good for the students.
Looks fine.
Great work! Good explanation of the standards and why they are changing.
It works well.
No issues that I can see.
Seems good.
These standards are easier to understand and implement. Thank you!

Good work
Well done.
Appreciated the section that you noted where changes were focused
I don not have any negative feedback. I like that, if followed, the standards are vertically aligned. I think students can succeed if the educators follow the standards and hold enough rigor.
No issues, its clear to me.
It’s good. Easy to read.
I am in support of the explicit description of building procedural fluency out of conceptual understanding and agree that both are important for students to develop.
None. It's fine.
I like the new standards.
Seems pretty standard to me.
The Sentence is hyperbole. Effective math standards allow all Utah students to master mathematics which can then open doors for their future. Thank you for clarifying that these are standards, what a student knows or what a student can do, which do not define instruction or curriculum.
Love it
I like that the major works are stated in the introduction sections.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Skills Inclusion

I am pleased with these new math standards. They seem to be very easy to implement with my first-grade students. I appreciate the opportunities for students to explain their reasoning and strategies. This practice has been extremely valuable within my classroom because it helps each child feel successful, and they can recognize and fix mistakes if needed.
The inclusion of skills into each core standard is needed. The Standards for Mathematical Practice are so necessary for our students to learn to behave as mathematicians, but were often overlooked because of their position in our current standards.
Overall the introduction is straightforward. As a literacy teacher and researcher, I am familiar with the math standards but I talked to math teachers in my cohort to learn more. One question I have is whether the order of Math Skills is hierarchal. It seems the math skills are pretty similar to the Common Core standards with some reordered.
I like the language used for the skills. I also like the order of them as they seem to build upon each other.
It is helpful to have the skills embedded within each standard as has been demonstrated. Having the skill explicitly stated at the end of each standard is especially helpful.
I appreciate the introductory material that describes the Math Skills and intent behind building procedural fluency in conjunction with computational and basic fact fluency.
Well written and very thorough. The description of the skills helped to understand how they would "drive" the content.
The introduction makes sense and is well-written. I'm not sure why we aren't referring to the Mathematical Skills as the Standards for Mathematical Practice anymore since that aligns with the common core for the nation and with NCTM, but that's not my biggest concern.
I do like the explanations for the skills and practices. I feel that it is clear as to the changes and what to expect.

I like the standards as they are written by our standards writing committee. I really appreciate the math skills being listed prior to the standards, as those skills will transfer to many other areas. I disagree with Board Member Earl's desire to place the skills after the standards, because the skills are necessary to learn the standards.
The introduction section is well organized, thoughtful and highlights the shift being made with this update. I like how clearly it is stated that USBE is setting grade-specific expectations, but it is NOT dictating either the curriculum or the teaching methods that would be used to teach the standards. There is still a lot of room for local voice and choice. I appreciate the shifts contained in the draft being outlined here, as well as the clear intention to include a data science strand at all grade levels. The purpose of the essential competencies is explained well. The importance of building procedural fluency is articulated excellently, and I especially love the line about technology and tools always being used to promote mathematical reasoning and sense-making. The section explaining the Mathematical Skills is a much needed update to the NCTM Mathematical Practices. The authors did a wonderful job articulating how the teaching of mathematics needs to grow and change so that student thinking is driving instruction and student learning. It makes it clear how students will build thinking and reasoning skills across their life in the P-12 system in Utah. The focus is on building students who use mathematics to think and reason critically in all areas of their lives, and these 8 skills do a fantastic job of delineating how that can be done. In Skill 3, I especially love the “precise language” connection to communication of mathematics within the idea of precision. Being precise is so much more than just being accurate with calculating. In Skill 4, it is clear that the authors value student discourse in learning and that student-centered instruction is important. In Skill 5, the juxtaposition of adding and removing content in service of understanding structure is beautifully explained. In Skill 6, I absolutely love that they have included

“notice and wonder” as a valuable part of learning mathematics! In Skill 7, the idea of students learning by taking a chance, being wrong and trying again, leading to resilience – and building STEM Identity – a major focus of funding from the legislature in the last round of PL grants from the STEM Action Center, is fantastic. And in Skill 8, the fact that they defined tools to be 3 things – physical objects, technological tools, or mathematical constructs – is amazing! Overall, I believe the authors have laid out a vision of what mathematics NEEDS to be in the state of Utah. Well done!
I love that it clearly states that all students P-12 are to engage with complex math ideas and meet high expectations. It's helpful that shifts in the standards are identified right away in the document. I love the information and graphic showing procedural fluency is bigger than just computation and basic fact memorization.
Looks good.
The Sec 1, 2, & 3 standards are great! They are much easier to read and understand than the previous standards. I like the way the math practices are integrated into the standards to help teachers understand how to present the content. I also really like the essential competencies portion. These seem clear and relevant.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Support for Writing Committee

I like the standards as they are written by our standards writing committee. I really appreciate the math skills being listed prior to the standards, as those skills will transfer to many other areas. I disagree with Board Member Earl's desire to place

the skills after the standards, because the skills are necessary to learn the standards.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
The introduction is well-constructed and clear about the pedagogy and best practices put into the structure of the new math standards.
Overall I think that the simplicity of the standards and the skills that are carried throughout is very thoughtful, and will be a benefit to students and teachers.
Looks like it keeps us moving forward.
No comment other than make sure it is readable for parents to understand.
It was helpful to look at them
The introduction sounds great! Did the people who wrote the standards read it?
I appreciate how they are modeled after research-based student mathematical practices.
I like the introduction created by the committee
Looks good
My favorite part is the essential competencies. I feel that this will be a great place for new teacher to a subject to begin their study and planning.
The introduction is very clear and well-written. I don't have any suggestions for changes.
It is clear with the changes made and the reasons for doing so. It identifies effective mathematical practices along with each skill.
I like knowing that the standards were reduced. However, when I looked into Secondary II and Secondary III (for all students), it did not seem that the math standards were reduced, they were just written differently.
I think it's great!
I love the introduction. I think the language used is helpful and the expectation is there with still keeping enough of a variability in ways to teach and understand is there too.

Looks good from my end.
Again, the introduction is clear and organized in a manner that is easy to understand.
It is well written and gives a good explanation of the intent behind the standards and how they are different from previous standards documents. The summary of the various mathematical skills is a good overview leading into the individual standards.
I appreciate that the following statement , “The standards set grade-specific expectations but do not dictate curriculum or teaching methods, nor do they define the strategies necessary to meet diverse learners' needs (53E-4-202). Customized supports must be provided to ensure all learners have access to the grade-level content in Utah’s Core Mathematics Standards.” addresses that teachers should not be tied to a curriculum and have the freedom to use any and all methods to ensure students can successfully access the math standards.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Critical: Non-Actionable

Data Science

My spouse and I are parents of a daughter with special needs, and I’m worried about how these new math standards will affect her and other Utah students like her. My daughter and many other kids, especially those learning English need simpler, not more complex, lessons to succeed. These standards feel different from

the national Common Core standards, which have more resources available. The introduction says these standards will help kids understand math deeply and learn about data. That sounds good, but it doesn't explain how teachers will get books or tools to teach this, especially since Utah is a smaller State and companies might not make stuff just for us. The national standards have lots of resources, some made for kids who need extra help, but I'm worried these new Utah standards won't. The introduction should say how Utah will make sure teachers have what they need (and at what cost) and how they'll help kids with special needs or English learners understand the math expectations.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Fluency

I would like to call your attention to the controversy regarding the definition of the word FLUENCY. In the introduction, these standards note that procedural fluency "is defined as the ability to apply procedures efficiently, flexibly, and accurately, transfer procedures to different problems and contexts, build or modify procedures from other procedures, and recognize when one strategy or procedure is more appropriate to apply than another." This definition of fluency comes from liberal organizations and states like California that seek to eliminate any notion of speed. But fluency with basic arithmetic facts is "Accuracy and speed." That's it. According to these standards, if students take 30 seconds to come up with 6x7, but do so with flexible thinking, like I know 6x6 is 36 and that would be one more 6 so that means it's 36+6 which is 42, then that is considered fluent. But it's not. If students need to use their working memory to come up with 6x7 they will suffer from a cognitive overload when in Secondary math classes, they need to perform 6x7 as one small part of an overall problem solving calculation. Students are in

Secondary with no ability to do fluent mental math. These students will struggle in STEM studies and careers. Please consider that quickly being able to do 8x9 is not a source of math anxiety. It just means students need more practice.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Clarity

The introduction specifically states that the standard set clear expectations, but the standards are written to confuse people. Standards should be clear and written in simple language so that parents and students can understand them without decoding. In other words, at least that post of the introduction is a flat out lie.
Why can't you write the standards in a clear and easily understandable way. These are ridiculous!
It feels like they were poorly written using AI. The verbiage is difficult to explain to a colleague let along a student. These worst directly against teach clarity which has a 0.75 effect size on the Hattie Visible Learning Scale.
Very flourishy, was there a word count that needed to be reached? Less is more. It's hard to read the whole thing when there are 'no duh' sections like the 'mathematical tools and technology' gumming it up.
It’s long to follow.
Standards should be more rigorous and math should be required in 12th grade

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Pathways

Standards should be more rigorous and math should be required in 12th grade

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Unrelated: No Action Recommended

I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!
Will a set of rubrics for the standards be provided with this new set? If we as a state are to all use mastery grading, it would make the most sense for the state to establish a breakdown of the standards on a "Mastery, Near, and No Evidence scale". Especially since all students are then tested on a final standardized test across the state. Giving teachers autonomy to create their own rubrics is not favor, it is a challenge. It is like saying "You must drive this circus across the country, pick from these ten vehicles. We won't tell you which one is the best one for the job, and the only feedback you will receive is your time compared to others at the end. You won't know if it was the engine, the wheels, the

passangers, the traffic, or your own driving that prevented you from getting there as fast as the others". In other words, it makes us create something that should be standarized, so we can more clearly judge our own teaching expectations and approach related to content.
The only feedback I have is that under no circumstances should any math problem be used to push political propaganda or sexual/gender related topics. Stop sneaking in topics or positions that parents disapprove of and teach math without controversial topics, propaganda, and harmful ideologies in the problems.
None
I couldn't care less about the introduction.
None
None
You need to change this survey. Start over. Tell me what your motivation is in making the changes articulate those as bullet points and then ask me about each bullet point. Then ask me about broad applications based on each goal.
It's fine. A little long and puts more pressure on the teacher
Honestly, the Draft P-12 is too lengthy for public feedback. It needs to be boiled down to the pertinent information for parents and not just administrators.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Actionable Feedback Suggested

Data Science

The data science standards part outlines four skills that students use to model with mathematics. These are the four skills in the Statistical Problem-Solving Process (Gaise II). So is data science just statistics in disguise? There are skills that data science adds to statistics, especially since statistics is such a key piece in data science. There is a data science model for K-12 called the Data Investigation Process by HollyLynne Lee that adds some steps to the process that I think are worthwhile.
First, thank you for your hard work. I wanted to share a few important things! First, My son (HS senior) was able to complete: Cal I, Calc II, Calc III, College Linear Algebra, and Stats 2040, and is receiving a degree in Business Analytics concurrently at age 18! This said, your secondary math I, II, and III are great foundations for this path! Please make them more available to the gifted by offering Sec Math I at grade 7 for those who are ready!! It was so difficult to be allowed take a Calc class in 9th grade, and now my younger son (14) is having even MORE hoops to jump through to access these options. From an Industry stand-point (My husband is a CTO and CEO of a data science based company). The Industry requirements for "Data Science"/ Data Analytics ARE actually Calc I, II Linear Algebra, Stats, SQL modeling etc. So, to be honest for students who thrive learning this early, you might want to encourage the Calc track to them. Perhaps even rethink the pathway term labeled "Data Science" as NO college (outside of Utah) especially IVY League would accept a student into a data science program without calculus. I love that you have a Calculus Track, and being able to understand statistics from an early age is fantastic. However, with AI, students need to be able to also understand 'the ask' and complexity with a mind developed through Calc to actually do the industry standard of "Data Science" or they will be replaced by AI. This is important to know. Also, please don't leave this as a 'choice' up to the student. They will always (usually) choose an easier route. Students who get A's should automatically track to the Calculus Track. I am happy to help you brainstorm a new name for your Tracks as I have been working with my son on math pathways for over 5 years. My son actually started a group called mathuputah.com to educate to kids to the power of math tied to business success and would be happy to talk to the legislature about the importance of offering a pathway early to gifted students who can. Last note,

PLEASE require 4 years of math! Many if not most finish their requirement as Juniors and don't take an additional year. Calc would make such a difference in their success in life... and for those who aren't quite there please require a 4th year life skills math (taxes, loan calculation, etc) should be required. Thank you! I really wish I had know earlier about this, I could have helped so much.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Fluency

While the overall number of standards may be reduced, standards were not clarified and the content that we are actually teaching seems to have increased significantly. In the paragraph on building procedural fluency, you state that conceptual understanding is the foundation for procedural fluency. It does not feel that way in the diagram of procedural fluency, computational fluency, and basic fact fluency. Conceptual fluency should be in the diagram. It feels like we are moving backwards by emphasizing procedural fluency over conceptual fluency.
I was a bit confused by the definition of a standard on page 4. I recognize that as something difficult to define in general, but perhaps it could be defined in terms of assessment? Each standard represents a skill, ability, or competency against which students will be assessed. I also would have liked a discussion about the difference between essential competencies and standards. It might be good to discuss how those are standards that will be given priority as they represent skills that will be needed to succeed in future grade levels.

I did not understand the point of the diagram on page 6, the one involving procedural fluency. Was this to demonstrate procedural fluency as coming from basic fact fluency? I wonder if a flow chart diagram might be more illustrative. In the Mathematical Tools and Technology section, I would recommend placing the sentence "Software and online programs..." at the end of the section to give it greater emphasis. On page 8, when discussing Skill 3 and making sense of solutions, I might recommend changing the last sentence to read "...make sense and are reasonable in the context of the problem." I might recommend in the second paragraph under skill 4 on page 8 to replace the word "conjecture" with "ideas" or "arguments." As this document is also public facing, I think that would make that section more approachable.
I like the "Shifts in the Standards" section that explains the reasoning behind the changes. In addition to a section on procedural fluency (which is excellent) it would be beneficial to frame this in the broader scope of what is known in Mathematics Education as *rigor*, generally defined as having three pillars: conceptual understanding, procedural fluency, and authentic application. This conversation should emphasize that all three are important and a healthy math education involves learning and growth of all three pillars, as they feed off each other immensely. Having a section in the core about procedural fluency without the other two pillars might send the message that it is the only aspect of rigor we give merit.
I appreciate that conceptual understanding and procedural fluency are highlighted, though I am concerned that conceptual understanding is presented as adjuct to instead of essential for developing procedural fluency. I don't have the reference in front of me, but research shows that students who develop a high degree of conceptual understanding perform better in (and enjoy mathematics more than) students who focus on procedures, and that students who are taught procedures before they understand a concept become limited in their mathematical learning. Especially in the elementary grades, teachers need to understand that helping

students build strong conceptual understanding is essential to students' long term success, and that focusing on speed and specific procedures (especially those that can be memorized without being understood) hamstrings students' learning at advanced levels.
I am grateful essential competencies are provided. I would like to see the 5 strands of mathematics proficiency incorporated in addition to building procedural fluency: 1. Conceptual understanding, 2. Procedural fluency, 3. Strategic competence, 4. Adaptive reasoning, and 5. Productive disposition. https://mason.gmu.edu/~jsuh4/teaching/strands.htm I value the work done to describe the skills that need to accompany the learning of math concepts. The workforce doesn't need adults that can follow prescribed procedures to get answers to equations developed by curriculum developers. Computing devices can get answers faster and with more accuracy than humans. We need a workforce with sensemaking experience and reasoning abilities to creatively use math to determine alternative solutions to life problems. The 5 strands of mathematics fluency and mathematical skills provide teachers the structure to develop these abilities in our students. I would like to see the standards incorporate more of these fluencies and skills to communicate their priority.
I liked the idea of the essential competencies until I saw them in the later portion of the draft. They are so BROAD that they are worthless. Why even bother? What's with the graphic not having conceptual understanding? Why is it all about fluency? I'm afraid I would say computational and procedural fluency fall into the same general interpretation for most people. Your words and the graphic do not address the same thing and I find it confusing. I'm not sure why the change from mathematical practices to skills. It's fine, I just feel like renaming is not necessary.
Building Procedural Fluency Through the progression of the standards, students are provided opportunities to make sense of and build a conceptual as well as a procedural understanding of the mathematical operations.

I appreciated that it highlighted that the standards don't dictate teaching methods or curriculum, as that leaves room for teachers to teach in a way that highlights their strengths. I also thought it was good that it says multiple times that other skills not dictated in the standards can be used when appropriate. I also think the section that talks about technology and how software and online programs can't replace authentic teacher and student relationships. I think that is really important to today's climate. I think the Building Procedural Fluency section could use some clarification. When I first read through it, I felt that Procedural Fluency was well defined, but Conceptual Understanding was not. When finishing the introduction, I saw how conceptual understanding was defined within the skills, but I wonder if a definition in the procedural fluency section would add clarity. I also was confused by the diagram at the top of page 4. I wasn't sure how it supported the statements in the paragraph above.
Maybe take out the word family and just use the phrase “college, career and life.” The explanation of conceptual understanding and procedural fluency is superb.
Looks good. You do need to fix the graphic "Computational Fluency"
I have a lot of concerns with the introduction section and fear that a lot of the language will lead to more confusion and argument among teachers and parents than it will lead to clarity. First, "skills" instead of "practices". We have mathematical Practices in our current core and there are books and research written about these practices, in the new core it appears that they are now called skills. Skills do not have the same heritage and meaning as "practices" and I was confused by exactly what they were. I understand the core is trying to use the "skills" differently, incorporating them into the different standards or "strands" themselves, but even that I have more thoughts on (e.g. moving skills into mathematical concepts conflates what a mathematical skill vs. mathematical concept even is). In short, I don't think we need to include "skills" and eliminate "practices".

Second, I have serious concerns about the section "procedural fluency". How it is define procedural and conceptual is very worrying to me, I am also worried how the section is titled Procedural Fluency and we don't have another section titled Conceptual Understanding as both are very important.

"Procedural fluency is defined as the ability to apply procedures efficiently, flexibly, and

accurately, transfer procedures to different problems and contexts, build or modify

procedures from other procedures, and recognize when one strategy or procedure

is more appropriate to apply than another."

It feels like this is bleeding into conceptual quite a bit. To me, procedural fluency is being able to calculate and use algorithms fluently. Building upon these procedures to form new procedures requires a conceptual understanding of the underlying mathematics. Just because I am good and slope point form does not mean I can understand how that can be used with quadratic transformations; however, understanding why point slope form works the way it does (conceptual understanding) would let me "build or modify procedures".

Going back to the skills, there is nothing in the skills I feel are better than the current mathematical practices and would prefer to keep the practices instead of the skills.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Honors/Extended Standards

The introduction does a good job of stressing the importance of high standards for every student, but I am very troubled by the removal of honors and non-honors distinctions in grades 9 and 10. This type of “detracking” diminishes the rigor needed by advanced students who are preparing for concurrent enrollment and college-level work. Placing all students into a single track does not meet diverse needs. Those who are ahead notice quickly when they aren’t being challenged, which hinders growth and reduces motivation to pursue higher-level opportunities. Meanwhile, students who are not yet ready for the same pace may end up feeling inferior or “behind.” Rather than building confidence, this can lead to discouragement, disengagement, and even long-term psychological struggles. Ultimately, this approach shortchanges both groups: advanced students lose momentum while struggling students lose confidence. Real equity provides different pathways that allow each learner to thrive, instead of forcing every student into one uniform model.
There should be an honors track in high school. And where did logs go? Is that no longer taught? Cross class wise log is used in chemistry
I agree that students "must have the opportunity to learn and meet high mathematics standards". These standards do not move us closer to that goal. Expectations are lowered for Secondary Math 1 and Math 2 with the removal of honors topics, and students will be less prepared for higher electives.
Eliminating (a putting in place guidelines designed to eliminate) the honors math programs throughout jr high & young high school seems short sighted and misdirected. I have a daughter who has greatly benefited from the honors track. I have a son who has greatly benefited from being in a non-honors track. Let there be choices so parents can decide what is best for each of their students. Let public schools stay a viable option. Don’t cookie cutter education so everyone ends up the most common denominator.

Side note: It feels like you have overcomplicated the collection of feedback to lessen the amount of feedback.
I believe that certain students should have the opportunity to excel, and that honors classes give that opportunity. I also believe that regular classes tend to attract students who do not have the desire to excel.
Without honors options we are not preparing our children.
Removing the option for honors math will only hurt teachers and students. I have kids who are adhd and who also excel in math. Once they got in to honors math that actually challenged them, they never had any behavioral issues in math again. Removing that option for kids who are ready for it will prove to be disastrous. 9th and 10th grades are the prime time to be taking those kinds of classes.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
It looks like the honors sections have been removed. There needs to be a way to let more advanced students move to harder content. Do we have a way that they can do two years in one in the 6-8 years? There will be too big of a gap between abilities otherwise.
My students take Honors Sec Math courses and it seems that with this new design that many topics that they cover in Honors are missing from it. It seems like the new design is implementing a lot of modeling and discussions or planning on choosing a process or conjecturing. I am not sure that this design is really preparing kids for advancing in mathematics but instead is trying to keep students in lower levels of math and not push them to take more advanced mathematics
My son benefitted from taking honors math in both junior high and high school, and it has left him better prepared for college.
Please continue having honors math classes starting in 7th grade. You are hurting Utah children by taking out honors classes.
I want honors math!! it was so helpful for me and i want other people to have the opportunity

Do not remove honors math from schools. I feel like it is very important to have these options for students preparing for further education.
The introduction rightly emphasizes high standards for all students, but I am deeply concerned that the proposed changes eliminate the distinction between honors and non-honors courses in grades 9 and 10. This “detracking” approach risks lowering the level of rigor for advanced students who need acceleration to prepare for concurrent enrollment and college-level coursework. A one-size-fits-all framework does not serve all students equally well. Students who are advanced quickly recognize that they are not being challenged, which stifles their growth and discourages them from pursuing higher-level opportunities. On the other end of the spectrum, students who struggle are often left feeling “dumb” when forced to keep pace with material beyond their readiness level. Instead of empowering them, this approach can reinforce feelings of inadequacy and set them down a path of disengagement, frustration, and even psychological harm. In short, this model weakens outcomes for both groups: it limits potential for the strong and undermines confidence for the vulnerable. True equity means creating pathways that support all learners, not forcing everyone into the same track.
Please do not remove any honors specific classes. Our children are already disadvantaged from other states because our system is not as rigorous in preparation for college. My older 2 both took honors and ap and still felt like most of the out of state students at byu far surpassed them in their classes. Please give our kids the tools to succeed- anything that makes our schools easier is disservice to our children. Provide opportunities for all students and expect high standards. Our state is growing both in people and socioeconomics- we need to be leading the country, not playing catch up.
I really like how the introduction lays out the importance of math for every kid and sets a solid foundation for future learning—it’s great that it focuses on building skills early on. It does a good job addressing the need for a strong base, which totally vibes with your worry about keeping advanced math options alive. That said, I’d love to see it tackle concerns about cutting advanced classes head-on to give parents and teachers more peace of mind about college prep.

Please DO NOT remove Honors options from class courses.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Integrated VS Honors

On page 5, the last bullet point begins with "In Secondary Math III." To more align with desires heard from hundreds, and likely thousands of parents, please consider the traditional model of Algebra 1, Geometry, and Algebra 2 in place of the integrated model, which has been a pain point for more than a decade.
I want another option- We want a dual path like Massachusetts has. I want districts to be able to teach the traditional math path, vs integrated math. Let the LEA's have a choice.
High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn't universally necessary. Students who plan to pursue advanced math will do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.
Go back to algebra I, II & Geometry plz!!
Why the integrated model? Can we go back to Algebra 1, Geometry and Algebra 2?

I personally believe that requiring all students to take Secondary Math 3 is unfair. I also feel that the integrated model has been a disaster for parents, students and teachers. Please consider Algebra 1, Geometry, and Algebra 2.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Language Clarity

I appreciate the explanation but feel the process has been overcomplicated and is thus not easier to follow rather less precise and more confusing. I appreciate the interest in skills that will be built across grade levels but the selected skills do not always align. The entirety is very wordy and takes multiple reads to grasp what is being asked or implied.
"On Algebra A in eighth grade, we would like clarification on ""radical and integer exponents""- will the eighth grade be teaching radical exponents, or radicals and integer exponents? 8.A.5-- this should say ""and"" instead of ""or"""
One thing I've learned in my 16 years as an educator is that clarity matters. As I read through this draft, I found myself stumbling over complex, academic language used in place of clear, straightforward descriptions. For example, on page 24: "As students explore their conjectures, they will learn to evaluate the reasonableness of their solution path and adjust as needed." And on page 33: "Make and test conjectures about the properties of addition. Add context and compare arguments to make sense of these properties as strategies to add and

subtract." I worry that language like this may confuse both teachers and parents, making it harder to understand the intent of the standards. When the wording is vague or overly technical, it opens the door to inconsistent interpretations across classrooms. Teachers are already asked to "unpack" standards, often leading to uncertainty and uneven instruction. I believe students learn more math when parents and teachers clearly understand what is being taught. When standards aren't clear, it can also become an equity issue. Students who are already at risk may not have parents who feel confident interpreting what the standards mean or the resources to pay for extra support like tutoring. That's why I believe so strongly in the power of clear, concise PreK–2 standards. When anyone, whether a teacher or parent, can easily understand what's being taught, it helps everyone work together to support student learning.
It's too wordy.
Please remove standards that are subjective like "attends to precision". There's no assessment that's available for teachers to use to grade this and this standard means nothing to parents at conferences. For instance, if parents want support, what would they do at home with their child to help them "attend to precision"?
overall these new standards are way too vague. I prefer to more detailed ones that we currently have. As a second year teacher this year I can tell you that the current standards help me know what to teach much better that the new ones. The new ones just leave me confused.
I support the integration of the math skills into the math standards. I support the integrated math model that we follow currently in Utah. I feel that the introduction is confusing as is currently stated right now understanding what a skill, standard and strand are.
I have taught Secondary Math 2 for the eight years, so I decided to do a side-by-side comparison with the new standards and our current ones. I am not impressed. In particular, I feel like while there are now fewer standards, they simply took multiple standards and condensed them into one. As a result, we aren't necessarily teaching less content (even though there are fewer standards). Furthermore, in this

simplification process they removed a lot of the clarifying language to know exactly what we are teaching.

impressed. I feel like for Secondary Math 2 here are my quick thoughts:
They removed a lot of the clarifying parts of standards (so combined multiple “old” standards into one, so we have fewer standards, but it’s not necessarily teaching less content). Not to mention the teacher clarity isn’t there as to what should be taught.
They never once mention FACTORING! They talk about solving quadratics, but took out how to solve them (factor, complete the square, quadratic formula). Is this in Secondary Math 3? Are we really waiting to clarify some of these things little later on? Are they just not specifying and hoping people do it all.
Why the change with statistics? We are not teaching probability anymore, and I feel like that’s what students see on the ACT. Are we truly preparing them for the statistics of the ACT now?
What is going on with honors...are we still expecting students to be able to take Calculus after Secondary Math 1-3? While I understand meeting the general population where they are at, are we also meeting the needs of those who need to be challenged?
While some standards were taken out, they weren’t necessarily the ones I thought should be (i.e. do Sec Math 2 students really need to know sin^2(x)+cos^2(x)=1).

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Other

1. The intro section is 10 pages. What if you provided an exec summary highlighting key beliefs, goals, and structural components. Might make it easier for teachers and

the community to more quickly get their heads around the goals. 2. There is little acknowledgment of the practical challenge in implementation, especially for under-resourced schools or overburdened educators. A sentence or two validating that reality, and perhaps previewing how teachers will receive extra support could improve the tone of the intro and buy-in.
A table of contents with page number and hyperlinks would make it easier to review the draft.
Adjustments need to be made for students in self-contained special education units. These state standards are unrealistic for our students at every grade level. If our students with severe needs are compared to GenEd peers, they will never meet state standards. They are set up to fail.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Suggested Modifications

Utah's Core Mathematics Standards assist in opening doors of opportunity for all students. They set clear expectations and guide students through a focused and coherent progression of math concepts, considering age-level development and emphasizing proficiency of identified essential competencies. These standards establish a strong mathematical foundation in early grades that allows students to engage with complex mathematical ~~ideas~~ concepts as they progress through secondary mathematics.
All students must have the opportunity to learn and meet high mathematics standards in order to understand and navigate the modern world. Engaging with mathematics helps students develop tools to analyze patterns, quantify relationships, and make informed decisions. Understanding mathematics provides

students with skills that support success in college, career, and family life. Mathematics plays a critical role in the development of cognitive abilities, significantly contributing to the architectural growth of a child's brain. Regarded as a unifying discipline, it assists students in a comprehensive understanding of the world around them. Additionally, it enhances logical reasoning, problem-solving abilities, and overall mental development.
Mthematical Skills In each grade-level core, there is a collection of Mathematical Skills. Each skill is a fundamental mathematical practice that students build as they engage with mathematical content. ~~To ensure students develop capacity with these skills, they have been embedded into every standard across all strands~~ and can be *identified by the use of italic text.*
Definitions of Strands, Essential Competencies, Standards, Mathematical Skills--Reordered to reflect the order in the document. I moved essential competencies to the front, then standards and skills.)
Shifts in the Standards Data Science standards were emphasized and incorporated into all grades ~~to build statistical literacy essential for Utah citizens.~~
Mathematical Tools and Technology An excellent mathematics program integrates the use of mathematical tools and technology as ~~essential~~ resources to empower students to meet the learning intentions of the classroom.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

The part about "do not dictate curriculum or teaching methods" may send the message that these things do not matter. I wonder if this statement should be complemented by encouragement for LEAs to choose high-quality instructional materials and to attend to research-based effective teaching practices outlined by NCTM. Another possibility would be to focus on building the outlined skills (students can't develop the skills if Tier 1 instruction is primarily lecture and guided-notes packets). I also wonder if a brief statement regarding the reduction of standards would be beneficial -- to be clear that it is not a "dumbing-down" or lowering of expectations, but should allow all classes to go in greater depth and increase student understanding of the most important mathematical concepts at each grade level.
The claim is made in the introduction that the number of standards has been reduced, and that may be true across some grade levels. In Secondary Math II, for example, it SEEMS like the number of standards has been reduced quite a lot, but when you read the standards, many of them have been combined, so even though the number of standards has been reduced, the number of ideas hasn't changed much. I could only definitively identify three standards that had been fully eliminated in Secondary Math 2. Because of the proposed changes in Secondary Math 3, it is difficult to ascertain the change in the number of standards. Anyway, it just feels like the change in number of standards (a least in high school) is not really significant.
Math 3, possible typo? "(3) describe characteristics of functions (4) extend congruence and similarity and (4) Draw and justify conclusions ..." Is the first (4) misplaced? It doesn't make sense to me. I also think primary and secondary data need to be defined. I've taught statistics for years and didn't know what was meant by that. Secondary 2 says, "In secondary mathematics II instructional time should focus on four major works: " and then it lists 5 things. Same thing in the Secondary 1 Introduction.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Pathways

What is meant by "The vision going forward is that these Board-approved versions of Secondary III would replace the opt out provision currently in place for the Secondary III course." ? Does that mean that all students will need Secondary I, II, and III to graduate? There will be no alternative 3rd year options possible?
The secondary math standards should also align with what is being assessed on the ACT. If schools are being measured by that standardized test, then we should make sure that we are teaching the content that is on the math portion of the ACT.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Skills Inclusion

I have a lot of concerns with the introduction section and fear that a lot of the language will lead to more confusion and argument among teachers and parents than it will lead to clarity. First, "skills" instead of "practices". We have mathematical Practices in our current

core and there are books and research written about these practices, in the new core it appears that they are now called skills. Skills do not have the same heritage and meaning as "practices" and I was confused by exactly what they were. I understand the core is trying to use the "skills" differently, incorporating them into the different standards or "strands" themselves, but even that I have more thoughts on (e.g. moving skills into mathematical concepts conflates what a mathematical skill vs. mathematical concept even is). In short, I don't think we need to include "skills" and eliminate "practices".

Second, I have serious concerns about the section "procedural fluency". How it is define procedural and conceptual is very worrying to me, I am also worried how the section is titled Procedural Fluency and we don't have another section titled Conceptual Understanding as both are very important.

"Procedural fluency is defined as the ability to apply procedures efficiently, flexibly, and
accurately, transfer procedures to different problems and contexts, build or modify procedures from other procedures, and recognize when one strategy or procedure is more appropriate to apply than another."

It feels like this is bleeding into conceptual quite a bit. To me, procedural fluency is being able to calculate and use algorithms fluently. Building upon these procedures to form new procedures requires a conceptual understanding of the underlying mathematics. Just because I am good and slope point form does not mean I can understand how that can be used with quadratic transformations; however, understanding why point slope form works the way it does (conceptual understanding) would let me "build or modify procedures".

Going back to the skills, there is nothing in the skills I feel are better than the current mathematical practices and would prefer to keep the practices instead of the skills.

It’s too long!!!! Too wordy and detailed. More simple draft, please. I do not like common core.
I am hoping that we will not be doing away with the mathematical practices as a whole. I feel they were clearly stated for students to understand. Students were able to identify easily which MP(s) they were using during individual problems or lessons and it helped them when working towards their success criteria.
Why change the mp to "skills" we dont have to have our own special wording. Its confusing to find materials, teacher moving in and out of state, and just seems superfluous.
building visual models I feel that with this phrase we need actual building materials as a contractor. There has to be better words for us to use. The set up is okay and usable.
I like the information on the introductory pages. I think maybe a sentence describing how the mathematical skills connect to the Standards for Mathematical Practice from NCTM would help with the transition. I think a document connecting the two would be great. I do like the skills and especially the skills listed under each grade level, applying it to their developmental situation. Love the Data Science standards!
There seems to be a discrepancy between the purpose or definition of standards, Reys (2006) state, "The standards set grade-specific expectations but do not dictate curriculum or teaching methods, nor do they define the strategies necessary to meet diverse learners' needs." Yet in the draft document every standard begins with the mathematical skills/practices that define HOW students will learn the standards. This is problematic because it is dictating how teachers and curriculum should teach the standards. The focus is on the mathematical skills/practices rather than the mathematics content.
I do not know why we need to change the 8 Math Practices into SKILLS. We have spent a large amount of time training teachers and students to recognize and use

the 8 Math Practices, that are nationally recognized, to identify them. Please consider returning tot he Math Practices and not SKILLS.
Do we need to change the language from mathematical practices to "Mathematical Skills?" It seems that the aim is to confuse...not clarify. Teachers don't just glance at our core standards. We study it, dissect it, unpack it, study it more. If we change the wording to say skills (which is already used to talk about so much at schools) then we are adding to our learning a new shared vocabulary that holds little meaning. Just let us refer to them as mathematical practices, since that is what they are! Teachers want a document that can help facilitate discussion between grades and teams. The overuse of a generic word like skills will probably confuse conversations.
Why have we switched the name of Mathematical Practices (standardized across the nation and within commercial curriculum tools) to Mathematical Skills? It's an unnecessary change, especially considering there isn't even a substantial change to these "skills".
The Mathematical Skills, currently known as the Standards for Mathematical Practice, are neither teachable or testable. One of the failures of our current standards/testing is that we included these skills in our tests. As someone with a B.S. degree in math, these "skills" are ways that I might go about solving these problems, but I might find different methods, and being able to solve the problem and show the mathematical equations that led to that solution are the best way to demonstrate mathematical competency. Providing these skills as suggestions for teachers is fine. To incorporate them, and certainly if we test on them, is highly counter-productive to actual mathematical competence. Please get back to the basic math facts and math concepts without conflating "flowery" language with math. If we want actual mathematicians, we need to not make everything language -based, instead of math-based.
Some of the mathematical skills seem vague. It would be helpful as an educator to have some examples listed, especially as it pertains to the "build and use models" skill. I'm unclear by what is meant by a verbal model, as my understanding of a "model" is something that is visually seen and representative of an idea or concept.

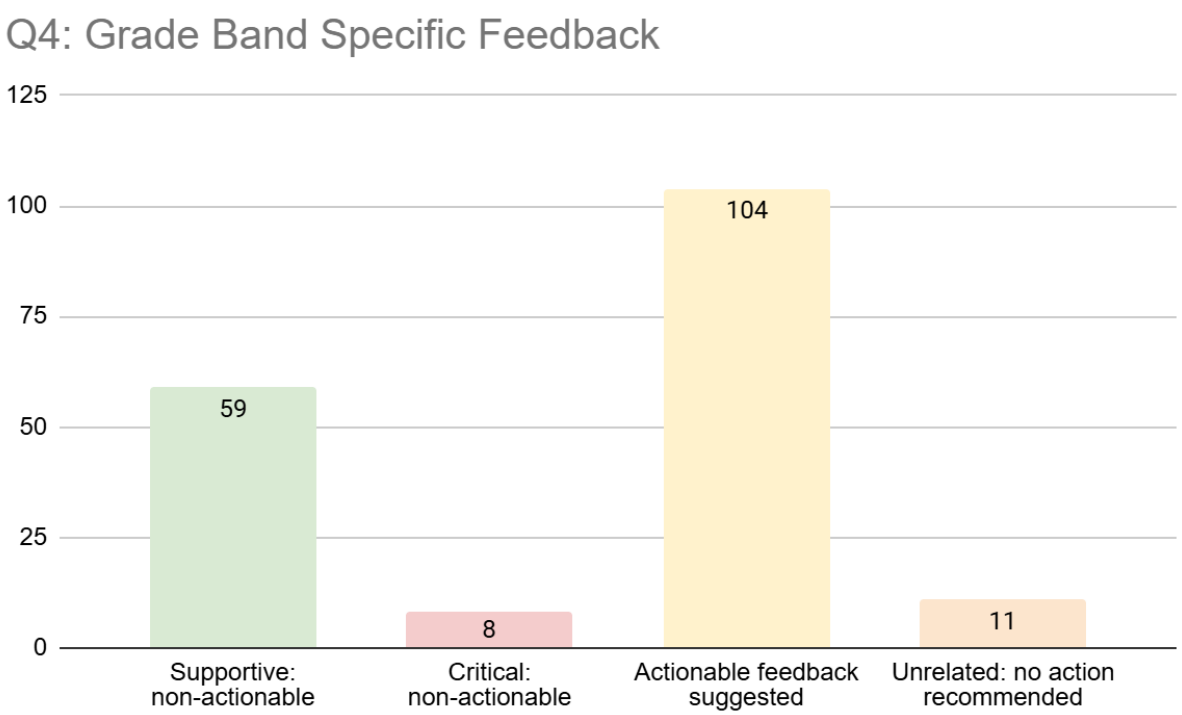
Please don't change the math curriculum this way. Whoever is writing this math curriculum should keep in mind that if assessments are written like this survey, the whole plan needs to be thrown out and redone.

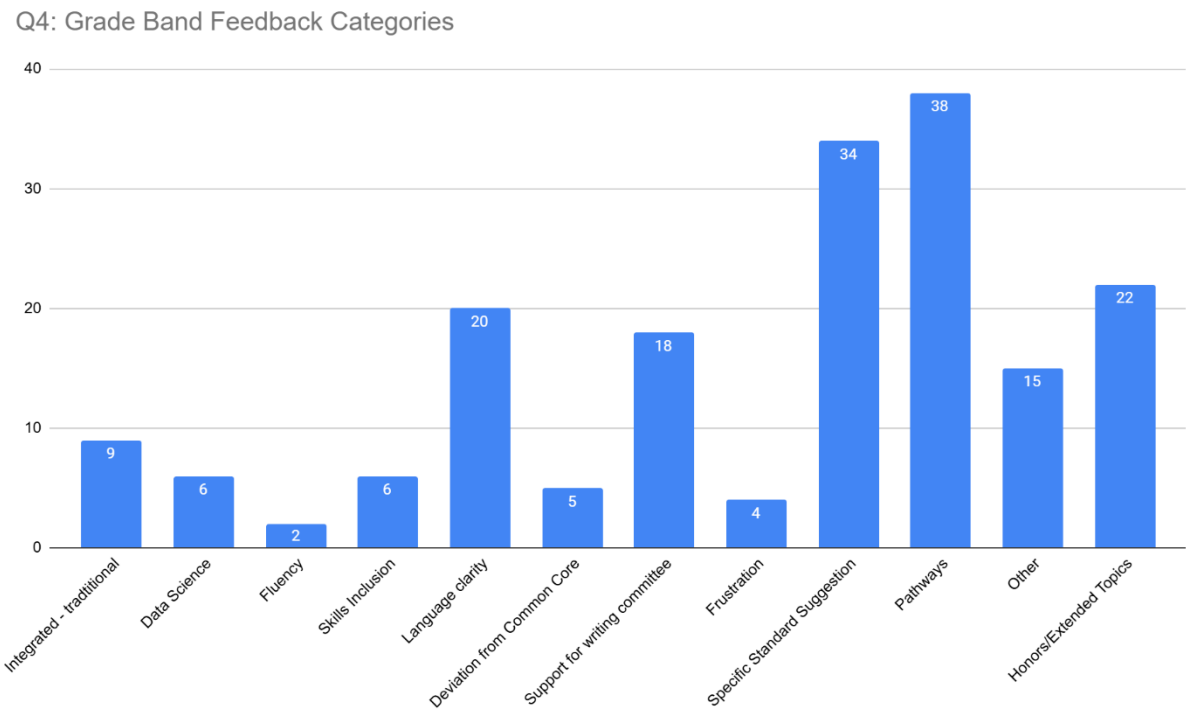
Paste responses here

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Question 4: Please share any feedback you have regarding a specific grade band (elementary, middle school, high school) or grade level in Draft P-12 Utah Core Mathematics Standards written by the Mathematics Standards Writing Committee.


Q4: Grade Band Specific Feedback
125
100
75
50
25
0
59
8
104
11
Supportive: non-actionable
Critical: non-actionable
Actionable feedback suggested
Unrelated: no action recommended



Supportive: Non-Actionable

Elementary

Data Science

I appreciate that there is more of an emphasis of data analysis in fourth grade. This feels more aligned with state testing.

Language Clarity

(Elementary specific) While the new wording of the standards is better, it will take time for teachers to understand them. Providing examples of what is meant for each skill in the core guides will be essential.

Skills Inclusion

I appreciate that the standards are related to the SKILLS that are used in 3rd Grade. Skills instead of Math Practices? More streamlined information.

Specific Standards

I love the change to the fourth grade standards. Previously these two standards were put together and it was very difficult to grade students on it because we were finding some students were amazing at comparing numbers, but then they were unable to do expanded and word form. Or vice versa so splitting the two of them is fantastic. 4.NBT.2 Read multi-digit whole numbers up to and including 1,000,000 and represent multi-digit whole numbers using numerals and expanded form. (Sk 1) 4.NBT.3 Compare two whole numbers with up to 6 digits and represent the relationship between two numbers using comparison symbols <, =, and >. (Sk 1)
4th Grade- I like that the requirement is to teach dividing with a three digit divisor instead of up to 4. There is so many standards to teach in 4th, adding data standards will be very difficult to accomplish by the end of the year. The order of operations isn't listed as a standard, but students need to know how to write an equation to solve multi-step problems, which is included. Is teaching the order of operations implied by that?

Support for the work of the writing committee

I am very happy with the elementary band. It is not a huge change from what we are already doing, which is very doable for teachers, especially if they have a new curriculum... They can still focus mainly on the standards.
Elementary seems to have progress that makes sense from grade to grade. I don't know enough about the other grades to speak well to it but trust the writing committee knows what they are doing.
Well written and practical.

☐ Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Secondary

Skills Inclusion

The focus on was on the high school grade band. The skills were the key component to helping students succeed. The skills seemed to "drive" how the content was to be presented. Or in other words, the skills gave a clear understanding of the focus for the topic. The most important piece was the Secondary III branches, and the opportunity for students to make a choice relevant to their college and career future.

Honors

This looks good. I wonder about how the accelerated students will do.

Integrated vs. Traditional

The condensing into more broad standards to reduce the number of standards in secondary grades (6-12) is much needed with the embedded math skills. These skills are so often overlooked and very important to include. Please keep the integrated model for high school grades. We see how teaching algebra in conjunction with geometry and statistics can highlight how these mathematical fields are not siloed and actually support each other.

Language Clarity

I love the middles school standards and how they are simple to read and I can understand exactly what the students need to know by the end of each grade level.

Pathways

I really like the high school course pathways. This will be a step in the right direction to have these courses as they are proposed.

Where did the Honors/Extended track go for Secondary Mathematics? I didn't see any mention of matrices or vectors in the Sec 1 standards, so I assume it has disappeared. I absolutely love the idea of splitting Secondary 3 into Math for All, then giving a few choices for students to take the path that aligns with their interests. Not all students need to go to college or take Calculus, and I'm glad to see less emphasis on Calculus as the ultimate goal for every math student.
Love the pathways at the high school level. Looking forward to students having the options.
I like the high school pathways. It will be good for students to have the data science option. I would like to see AP Precalculus as an option. I also like the more clear as well as fewer standards.
Looks good. I like the pathway consideration for high school. Will there additional direction with respect to other course options for high school math? Are there other course that will earn math credits outside of the ones in this draft?
They look good. What will happen with high school pathways? Will students have other choices? Do we have curriculum that can be used to support the different options after Math 2? Is AP still going to work out? Are we doing AP Precalculus for the calculus pathway?
This looks good. I appreciate the coherence and how well connected this draft is to the current set of standards. The options in high school seem like a good move. This will bring up questions about what will be required for high school graduation. Are those requirements changing with these standards? Will we have students taking more math?
It looks good. Will there be guidance about AP courses or other courses for high school that aren’t in the document?
I currently teach secondary math 3, and I like the idea of splitting secondary 3 into different pathways. I believe that change will be more efficient at prepare students for the next step.

I am excited for the Secondary Math Pathways, especially that there are options for Secondary Math 3. It is a much needed change. I am strongly in favor of these pathways.

Specific Standards

I teach 6th grade. Currently Ratios is a huge thing students need to know on RISE testing. The current standards focus quite a bit on ratios. In reading through what is being proposed there are items that focus on ratios. There are only two standards in Ratios for 6th grade. If it is important shouldn't there be more than what is being proposed?
I appreciate the changes to math III to allow for alternative paths without requiring parents to "opt out" of math III when it does not meet their child's career/personal goals.
Looks good, especially the secondary courses
Middle School- we like that they will be looking for patterns.
I teach secondary and the standards for middle and high school look good. They have done a nice job of maintaining the important content and making the standards less cluttered.
I like the high school courses and standards.

Support for the work of the writing committee

I like the standards for 8th and 9th grade.
I love the high school SM3 for all and the choice options. There seems to be fewer standards in the HS, which is great.
I teach high school, and have taught all 3 of the secondary courses. After reading through all 3 of the classes, I feel that the precision to equalize the amount of topics/stands in the different classes makes them much more manageable.
7th grade standards are clear and uncluttered.
I love how Secondary Math III has different pathway options so this will be much better for students!

☐ Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

P-12

Data Science

The increase in data science is important for our students today.

Language Clarity

Looks like we are keeping things very similar to the standards we have. This draft is clear to me.
The only change I can see in 8th grade stardards are the addition of 8NS4. I like that it is less wordy which may help those unfamilar with the core. The only thing that I would critisize is that you have different section for the essential competencies that would normally be listed with the standards. It will take those of us who are used to the core a moment to adjust to the new layout. Examples may be helpful.

Skills Inclusion

We like the focus on skills. However, it seems that some of the fitting of skills to standards is forced.
I love how the skills are integrated into the standards so teachers will be more likely to focus on what becoming a mathematician really includes instead of just focusing on computation and getting a correct answer fast. The integration of skills in each standard actually makes it easier to interpret what the standard is actually asking teachers to teach and suggests using research-based effective practices rather than just getting students to memorize content. I'm excited for the skill of constructing and justifying arguments being specifically called out in early grade standards. It is very helpful to see how the skills are described at the different grade bands and what that would actually look like. Glad to see P3&4 as part of the document rather than being it's own stand alone piece.

Specific Standards

I like the information explaining what students should have learned in the previous grade and where they are going with their learning in the current grade.
It is so great to see the consistency between this draft and the current standards. We need to maintain the course and direction we are heading so that we can continue the progress that has been made over the past several years.

Support for the work of the writing committee

These standards are well written. They are clear and have more focus than the current standards. I appreciate how the standards clearly build upon the current standards and continue to incorporate many important research supported progressions that support high-quality learning experiences for our students.
Well done. Maintains focus, rigor and balance while being clear and concise.
The progression is great. I especially appreciate how absolute value has been adjusted.
I agree with what the writing committee came up with.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I trust the writing committee of experts to write the math standards that kids need to learn. I love the addition of data science and the modernized skills.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
I really like the essential competencies section for the grade levels. That is very helpful for teachers and especially intervention teachers.
They look good.
Look good
They look good.
I'm glad to see that we are staying with a lot of what we have had up to now. Let's keep the momentum and keep moving forward.

I think this is a great progression of concepts that is age and developmentally appropriate.
No issues.
Looks good, I trust the writing team knows how this should go.
These seem similar to what we have had. No concerns.
None
Easy to understand.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Critical: Non-Actionable

Elementary

Deviation from Common Core

In elementary, standards keep getting pushed down a grade which often makes them developmentally inappropriate. It frustrates me to see this still happening.
One major concern my math teacher colleague expressed is that changing some of the math skills removes the ability of teachers to use the math resources they currently use because they do not map exactly to the new skills. This is particularly challenging for smaller schools, charters, and rural districts with limited funding to adopt new curriculum.
The standards for young kids, like Preschool Age 3 and 4, focus on counting and sorting things. I like teaching these basics early, but they expect kids to use tools like blocks or pictures. For example, Preschool Age 3 asks kids to count 1–5 objects by touching each one (P3.CC.3). If schools don't have these tools because

companies don’t make Utah-specific stuff, teachers might struggle. For my daughter, who has special needs, and kids learning English, complex lessons are hard. They need simple instructions and extra support, like pictures or slower steps. The national standards have more ready-made materials, some for special needs kids, but these Utah standards might leave teachers without enough help. If companies don’t make Utah-specific tools, teachers might struggle, like in Hawaii where low funding meant schools lacked supplies.

Frustration with math

Elementary still covers more skills than what a child can process and commit to memory to move successfully to the next grade level. For example, most 8 year old students think a 3 digit number is large and difficult. But now we expect you to understand it when you are seven.

Language Clarity

Elementary standards are now far less "child-friendly." Teachers will have to reword the standards for their posted objectives. This change seems ostentatious and unnecessary. Typically, I appreciate clarity, but the reduction of standards by combining them and rephrasing them feels unnecessary. Everything is still there, just worded and organized differently. This causes a great deal of additional work on the LEA side--with no potential benefits.
It seems to me that the expectations remain essentially unchanged, but that the new pre-K and elementary standards themselves are convoluted with excess, unnecessary language. In other words, we should not be adding unnecessary wording to the standards. Keep it simple and straight forward. Although the number of stands was reduced, they are absolutely NOT clarified! Mathematical skills, mathematical practices: why change what you call them? I love the essential competencies! They are written clearly and concisely.
Elementary has too much to cover in one school year. This creates surface level understanding at best and a widening gap for each successive grade level.

Specific Standards

The elementary grade band standards regarding fractions do not reflect the most current research on how children construct a well-developed sense for the meaning and use of fractions. My name is Damon Bahr and I am a retired mathematics education professor from BYU.
3-5 band has a LOT of fraction work that kids just arent ready for. Most countries dont introduce this until middle school. I fear this band has had more things stuffed into it and kids will go to middle school not having the basics because they had no time to actually practice anything.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Secondary

Honors

Since I looked at Secondary Math 2 here are my questions: They never once mention FACTORING! They talk about solving quadratics, but took out how to solve them (factor, complete the square, quadratic formula). Is this in Secondary Math 3? Are we really waiting to clarify some of these things little later on? Are they just not specifying and hoping people do it all. Why the change with statistics? We are not teaching probability anymore, and I feel like that's what students see on the ACT. Are we truly preparing them for the statistics of the ACT now? What is going on with honors...are we still expecting students to be able to take Calculus after Secondary Math 1-3? While I understand meeting the general population where they are at, are we also meeting the needs of those who need to be challenged? Furthermore, there are quite a few topics in honors that are not in regular once you get to Secondary Math 2-3 so are these just not being taught?

While some standards were taken out, they weren't necessarily the ones I thought should be (i.e. do Sec Math 2 students really need to know sin^2(x)+cos^2(x)=1)?

Other

It will be really difficult for the high school level to implement the new core for the 26-27 school year. Our school has a deadline of Sept. 12 for courses to be added to the student registration cards and final deadline for students to be registered is Jan. 16. The current timeline won't even have the approval to meet these deadlines.

Pathways

I worry about the high school Math Level III options and how those will be handled in schools. Will parents/students know the best pathway to choose? Will it be the schools responsibility to inform us?
High School -- Instead of naming it SM3 Calculus, I would name it SM3 Pre-Calculus so that students understand they are not taking Calculus that year, but preparing for it. SM3 for all seems like more than students who intend to go into trades need. I hope we can keep other options open for them if that is their choice. If not, I can accept it.
My focus is on Math III. With the development of the three pathways, I see what you are doing, but not all students fit in those paths. What about the students that have taken Math and Personal Finance or something Math related that gives them their third year of math but is more geared toward their learning. Some students are not math minded and I feel we are setting those type of students up for failure.

Integrated vs. Traditional

High School is still challenging to find good materials, as a state that still combines Algebra, Geometry, and Algebra II into the Secondary I, II, and III courses, especially when students come from other states (which is not as rare as it was). Please reconsider being so different from other states, it's harming our transfer students.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

P-12

Language Clarity

It's too wordy.

Frustration with math

You all spend way too much time revamping and rewording standards, while our test scores continue to go down. Focus on the right things. Make clear standards, i.e., by the end of 3rd grade, students should know their multiplication facts 0-12.

Unrelated: No Action Recommended

Elementary

If the state insists on keeping kindergarten optional, then the standards should reflect that. Adding 5 additional standards is completely unreasonable. This negatively impacts every grade after kindergarten as they come in "behind" because parents weren't required to make sure their children attended school regularly. Then every grade has more and more difficulty in "filling gaps" and meeting their own rigorous standards. These are false categories. If students are not required to attend kindergarten then they should not be considered behind when they either don't attend or miss 70+ plus days of the school year.
I teach kindergarten. Teaching the students young only helps them as they move into older grades.
I know for elementary classrooms this is going to take a lot more prep for teachers. Districts should be required to give ample time for planning to get this done correctly. I know some districts do, but Weber does not for their teachers.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed....

Secondary

How is this going to affect the state testing? If I remember the Secondary Math I and Secondary Math II state tests are going to be adjusted so they are more like the RISE tests. How do the new standards tie in with this? Are the questions being redone so they match the new standards?
I am a high school math teacher, and my main points are for the SM2 core.
My feedback for Secondary 2 and Secondary 3 (all students) is that the curriculum is long. In my school, the students only take math 2/3 of a year, which is not advantageous to them. I wish the USBE could intervene and mandate that all students take math all year long. By doing it, all the math standards will be taught, which could increase students' learning and retention.
I'd love to look it over with Secondary III teachers, then see if everything feeds downward correctly. I looked over the 8th grade and Secondary I specifically because that is what I've taught for 11 years. I could see some changes, but I need to dig into it more.

P-12

The only feedback I have is that under no circumstances should any math problem be used to push political propaganda or sexual/gender related topics. Stop sneaking in topics or positions that parents disapprove of and teach math without controversial topics, propaganda, and harmful ideologies in the problems.
I hope this comes with paper/pencil expectations and not just practice through “games”.
The Utah math standards seem to be moving in a direction that undervalues direct instruction. Like much in education, there is nuance. Literacy researcher Dr. Reid Lyon recently reminded educators: "When you are working on something that is so

critical to a life—a child's life—belief systems don't cut it. Evidence cuts it." Direct instruction can be a powerful tool and has been shown to be effective, especially for our most at-risk learners. You can learn more about the evidence here. I'm also concerned that the standard algorithm—a reliable, efficient method for computation—is not explicitly referenced in the K–2 standards. Last year, I read Infinite Powers: How Calculus Reveals the Secrets of the Universe and was struck by the idea that if I had been left to "discover" calculus on my own, I would have failed. But with clear, explicit teaching, I was able to understand concepts that had once felt far out of reach—concepts others had spent centuries discovering.
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Actionable Feedback Suggested

Elementary

Data Science

I'm an expert at 4th grade teaching. 4th graders do not have the background knowledge needed to understand bias, data collection, and its problems.

Fluency

I noticed that most grade levels have 9 essential competencies, while kindergarten has 11, third grade has only 7, and fourth grade has 12. My concern is specifically with third grade, because there is NOTHING mentioned in their essential competencies with addition or subtraction. There is a major gap in learning there that makes the addition/subtraction precision extra difficult in 4th grade. Could something be adjusted or added there to bridge that gap in learning priorities? Third grade already has less than all other grades, while 4th grade has the most. This seems to set up many 4th graders up for greater difficulty, especially where 4th grade class sizes are typically much larger than 3rd grade classes.
It doesn't look like the students will be required to do timed math tests in 2nd or 3rd grade to practice addition, subtraction, multiplication or division. I had to do this. My children did not. My children do well at math and understand these concepts. However, they are now in High School. As I watch them do their homework I can see it taking twice as long, because every time they have to do simple arithmetic they have to stop and think what the answer is (usually) or type it in the calculator. Having homework take twice as long as it could have is not great. Please go back to having them do timed tests. I think it will help with overall homework completion in all areas, not just math, due to it freeing up more time for homework or relaxation.

Language Clarity

Kindergarten - I love the use of mathematical language in the standards (i.e. K.OA.1), love the inclusion of problem types Skill 1 3rd - 5th grade - it says "Students use structures and patterns to see complicated things as single objects or composed of several objects". I'm not exactly sure if my interpretation is what you are thinking. I'm wondering what you mean by that?
Elementary Standards: The effort to connect every standard to a skill is confusing and unhelpful. The language used is not precise and leaves a lot of room for frustration and confusion which will result in teachers avoiding the standards all together. I am

very unimpressed. I am also concerned with how hefty the language is in all standards. We are looking at upper collegiate level writing when the whole purpose was to simplify and clarify.
The elementary band is shifting to vague wording and language rather than clarifying. It reads like a redacted document that is not allowed to use important mathematical vocabulary like graph, algorithm, strategy and instead using words like approach and visualization. If student are meant to create or study a graph, don't say "scaled visualization". If students are expected to use place value strategies or an algorithm, then just say what it is instead of circling around the expectation. If we expect students to use relevant vocabulary, why are we not using that vocabulary in the standards. We need a document that is usable. That means that we all are clear about exactly what students are expected to be able to do.
The elementary standards are written in a highly technical verbose that make it difficult to understand and teach.

Skills Inclusion

I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.

Specific Standards

Kindergarten strand looked good. I would love to see money added into Kindergarten. Dimes and pennies add perfectly into tens and ones. It is such an easy way to teach teen numbers too. Plus parents want to see more practical math applications. I've talked to a lot of employers that ask that we teach counting back change.
The standards for 5th-grade seem to omit order of operations and estimation strategies other than rounding. These are critical for student success in determining reasonableness of strategies and solutions as well as on RISE summative tests in their current format. In addition division with two digit divisors, three digit by three digit

multiplication, and addition/subtraction to the thousandths are omitted which will also inhibit student success on existing RISE summative testing. It is also curious that fraction division is the only operation with regard to fractions that is not considered an essential competency. The addition of prime vs composite numbers in operations and algebraic thinking standards seems ill aligned, why not include the concept with finding common denominators and simplifying fractions where it could be embedded in context?
I am a 5th grade teacher. Reducing fractions is not in our core, and yet they need to be able to do that for end of year testing. I believe it belongs in the core so that we know we are responsible to teach this concept.
I looked at the 5th grade standards. Honestly, the shapes are not necessary
As a 4th grade teacher currently, and having taught 3rd-6th, I was hoping to see some of the skills in 4ht grade simplified. There is a lot of skill growth and standards in the 4th grade strand and it is a huge jump from 3rd grade. There is barely enough time in a school year for students to achieve mastery in these skills. Having taught 5th the most over the past ten years I feel that there is room to move some of the standards involving measurement conversions and other geometry skills to this grade level. The 5th grade standards are substantially shorter than 4th and they are only building on the 4h grade standards, where most of the skills in 4th are new or substantially harder than the skills that they were using in 3rd grade.
Please match the Acadience test to follow the standards. No where in 3rd grade do you see that they should multiply a 2 digit number by a one digit number, yet it's on the test. The only thing in the standards is to multiply a one digit number by a multiple of 10. Those questions should be on the test but not ones such as 3x32.
I focused mostly in 4th and 5th grade as I am more familiar with them. I noticed the standards aren’t very specific about the use of algorithms. I think more clarity in that area would be helpful. I'd also like to see the concept of time continue beyond 3rd grade—it's a skill students need to keep developing across all grade levels. I love how prime and composite numbers are being taught in 5th grade. I would love to see that go deeper and explore factoring of numbers as well. It is a great skill when finding common denominators.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Secondary

Data Science

A collection of faculty from the Data Science and Artificial Intelligence Center at Utah State University provided collective feedback on Secondary Math I - III standards. That feedback is contained in a document available at the following link: https://usu.box.com/s/o8rh6rnmrwgmz78534sf75nkrzrqlry5 (This has been incorporated into this feedback document.
In 7th Grade, all strands have 3-4 standards except data science. Data science has 9 standards. Does that mean that data science will be weighted much more heavily on RISE testing? Should I be spending 2-3 times as long on the data science strand as compared to the other strands? I would LOVE that, truly. But when I look at the Essential Competencies, the number of data science competencies matches the number of geometry competencies. So the number of standards (and the visual length as a result) doesn't seem to align with the Essential Competencies.
At times the wording is confusing: For example, page 7 in secondary III data science it says, "Develop the concept of statistical significance informally through simulation as meaning a result that is unlikely to have occurred solely as a result of random selection in sampling or random assignment in an experiment." This sentence is a little bit confusing. I helped write the data science secondary document, so I don't know how this sentence ended up so confusing. I would edit it to be: "Explore statistical significance informally by using computer simulations to model random chance. Compare the randomized data distribution to the sample data distribution to determine if the observed sample pattern is unlikely to have occurred purely due to random selection in sampling or random assignment in an experiment."

Deviation from Common Core

Where are the statistics/probability? You also lost Expressions and Equations? Here is what the Utah Core has, and you are missing some of the most important things.... Expressions and Equations are needed so much in 8th grade.'
Eighth Grade
Expressions and Equations (8.EE)
Functions (8.F)
Geometry (8.G)
Statistics and Probability (8.SP)
The Number System (8.NS)

Honors

High school: I am concerned about the lack of an honors path to Calculus. One semester in secondary math 3 focused on topics needed for Calculus is NOT sufficient to adequately prepare students. To prepare students for Calculus, they need more indepth exposure to the various high school strands then they would end up getting in regularly secondary math courses. I teach AP Calcls, but I also teach secondary math 2 to juniors who were unsuccessful in the class there sophomore year. The students who really struggle with math can't be held to the same indepth standards that a student wanting to take Calculus would be. If everyone, regardless of math goals, is in the same class, the depth that the higher achieving students need will end up being lowered to make it so the struggling students don't all fail.

Depth that content is taught at is vital in preping students for future classes. I have taught AP Calc at two different schools. Both schools taught what was in the SM3 honors/extended core, but one school taught at an Alegebra 2 depth while the other taught at a precalculus depth, the one that taught at an Algebra 2 depth didn't prepare the kids for Calculus, they were prepared for CE Math 1050 (which I also teach).

I guess my point is that it is fine to have a "math for all" but it shouldn't be a "depth for all." Some students need honors classes where they get more depth than what is expected for the all students.

I think that honors is there for a reason - I think there is too much flexibility in the new set up and we are going to have a really hard time with kids switching schools and such. I think honors should stay so that there is consistency between the districts and prepping kids appropriately for calculus or whatever class we need to get to. I think we also need to include honors standards in each year of secondary math so that in secondary math three "honors" they are not trying to cover all of the secondary 3 standards on top of the other honors topics that used to be covered in previous years.
Honors topics (standards) need to be in here. I think there is too much flexibility in here. When kids transfer from one school to another, it will be hard for them if we are all running honors differently. It also makes it really hard for secondary 3 because we are now having to cover ALL of the topics in secondary 3 trying to get them ready for calculus when sec 3 already has too many standards to be able to cover in an entire year. I also think that giving the schools/districts the ability to choose how they want to do it is going to cause more problems. I thought the point of this was to make sure we are all on the same page, and it feels like we are going away from that.
Honors is an important part of high school because it allows students who want to accelerate. Students need to spread out the precalculus topics or there will be too much to cover in 11th grade. There needs to be a clear division of standards in honors. It shouldn't be left up to the individual school. The precalculus pathway leaves too much content for eleventh grade.
I worry that with there not being honors standards for each level school will all run honors differently making it harder for students that have move between school. Why was probability removed form math 2
I do not think that math one two, and three have been a good change from the Utah math. I learned. There definitely needs to be different levels for a different level students so nobody has left behind and so students that want to learn more have that option.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult

course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
Please continue having honors math classes starting in 7th grade. You are hurting Utah children by taking out honors classes.
I am astounded that it is even being considered to remove honors level math at the high school level. Not only does it hinder our children from receiving all the prep they need to succeed in college math, but it also hinders their application process when many private institutions judge a student by their class level difficulties. How could this be beneficial to kids that need more rigorous studies? My children have all benefited by honors classes and the ability to meet them where they are at in math. Honors math also allows classes to be filled with kids who are serious and focused about their math. They appreciate the extra concepts that you are looking to throw out and avoid teaching. Please allow all Utah children and their parents to choose what is the right path, not a statewide mandate. This should be left in the hands of the people not a board.
I like the idea of a Secondary Math 3 Data Science and a Secondary Math 3 Calculus. This is similar to what we are already doing in my district. Will there be further guidance on which path students should take or is this up to the districts to create? It would be helpful to have a statement regarding Honors/Extended/Plus standards since we currently have courses with these labels but the draft standards do not include these courses.
For Secondary Math II, I agree with the 5 big areas. I strongly feel that we need to differentiate between an extended pathway and a general pathway by this point!! I teach SM2, SM2H, and Calculus. I can teach the sophomore SM2 kids many of the same skills as SM2H, but it will take longer. Often in SM2, we use Desmos or other technology to graph and solve, which is great for those students!! The ability to use technology to graph a quadratic has been fantastic! Then we can spend plenty of time on analyzing the graph for what it means in context, or spend our time with other applications. In order for a student to be successful in Calculus, though, they need to do all that graphing by hand. And solving by hand. Plus add on the analyzing of the graph they

just drew by hand. Since honors or extended students have better fundamentals, and frankly care more about learning the material, graphing AND analyzing is not too much. We have the time to do it all. This is just an example of a specific skill that we teach differently in the two levels of SM2. Many other skills need to be extended beyond basic SM2 levels in order for a student to be ready for Calculus or a stem related career. We NEED stem students to be ready for hard math in college, but we also NEED a pathway to graduation that is attainable for all students (even those who are wholly uninterested and unmotivated about math) and prepares them to be in non-stem careers. Because of this, we need two different classes with two levels of curriculum. Many of the concepts can be identical (and we use some identical things at BHS in both SM2 and SM2H), but the extended/honors students need to be able to spend time on hard math and the standard students need the necessary time to truly understand a subject they aren't naturally talented at. p.s. there is NO way that in a class of 30 students, I would be able to provide 2 different curriculums moving at 2 different paces to those 30 students. I need them to be sitting in different class periods.
every grade should have honors ESPECIALLY junior year
Waiting to offer honors math until later in school is a terrible idea. I consider honors classes an opportunity for my children to gain the knowledge they need prior to high school. Please continue offering honors math at all grade levels.
Please keep all of the honors classes for middle school and high school.
At the high school level (grades 9–10), the removal of honors Math 1 and Math 2 will significantly reduce student preparation for higher-level courses in 11th and 12th grade. Currently, students who take honors courses in 9th and 10th grade enter concurrent enrollment Math 1050 with the background needed to succeed. Without those honors pathways, students will be underprepared for calculus or other advanced pathways. In practice, this reduces opportunity rather than expanding it.

I am looking g at grade levels 10-12. High school math. My understanding is that the honors classes not be available. The honors programs have prepared my children well for college. My kids have come from a charter school. And need upper level classes. They will not be prepared for concurrent enrollment classes if there are no honors math classes. They will also be bored with the regular math classes. Please do not take this option away! This will affect many students.
Please do not remove any honors specific classes. Our children are already disadvantaged from other states because our system is not as rigorous in preparation for college. My older 2 both took honors and ap and still felt like most of the out of state students at byu far surpassed them in their classes. Please give our kids the tools to succeed- anything that makes our schools easier is disservice to our children. Provide opportunities for all students and expect high standards. Our state is growing both in people and socioeconomics- we need to be leading the country, not playing catch up.
In high school, particularly in grades 9 and 10, eliminating honors Math 1 and Math 2 would seriously weaken students' readiness for advanced coursework in 11th and 12th grade. At present, students who complete the honors sequence arrive in concurrent enrollment Math 1050 with the foundation they need to succeed. Taking away those honors options means students will enter upper-level classes, such as calculus, without adequate preparation. Rather than broadening access, this change actually narrows opportunities for students who want to pursue rigorous academic pathways.
Please make sure we keep honors math options for students starting in middle school.
Please DO NOT remove Honors options from class courses.

Integrated vs. Traditional

For high school, the integrated model of Secondary Math I, II, and III is so, so tough for parents and many teachers. Please consider utilizing the traditional model of Algebra 1, Geometry, and Algebra 2. Many companies gear curriculum and other major helps towards the traditional model.

The whole thing is idiotic. I don't know what you guys are doing, but staying with "Math I", "Math II", and so on is simply moronic. Go back to Algebra 1, Geometry, Algebra 2, Trigonometry, Calc, etc.
I really wish there were a path that grouped math according to discipline, I.e. pre-algebra, algebra, geometry, calculus instead of the integrated math 1 and 2. It had been a disaster for my kids. While it might make sense for someone who already has foundational math skills to “integrate” the connections this approach has not proven successful for a strong foundation in math for most students. Even if it were just offered as an online alternative to the in-school curriculum, I think it would be a great option and even allow for comparison between the success of the two different approaches.
Regarding the high school band, as a whole, I think switching to an integrated core 10+ years ago was a mistake, and I wish Utah would switch back. For one, in slicing-and-dicing up the Algebra-Geometry-Algebra2 sandwich and dispersing parts of each into Math 1, 2, and 3, I have seen a problem, as a math teacher, with many students not able to stick with a single topic/standard long enough to allow it to "click", or "sink in". Take factoring, for instance. You learn a little factoring in Math 1, then a little more in Math 2, but students never stick with it long enough before they're on to some other new topic, and so by the time they get to Math 3, they've forgotten almost all of it, and there needs to be A LOT of review in order to bring them up to where they need to be to even start the Math 3 material. And reviews are good and appropriate, and even expected, but when you have to do this for not just factoring, but EVERY topic that was sliced-and-diced up it takes up a lot of time, and there is never the time to cover everything in the curriculum (which would be difficult anyway, as the Math 3 curriculum is and has been from the beginning, so packed full--and this rewrite did nothing, as far as I can tell, to help ameliorate that--but that's an issue for a different feedback box). The Algebra-Geometry-Algebra2 sandwich, I believe, handles this better. Students stick with topics for longer period, and are quicker able to see the applications of those topics (ex: you don't see how absolutely critical your Math 2 factoring skills are until you learn about finding roots of polynomials in Math 3), not a full year or two later. And

so the spiral review happens at a more appropriate pace--again, not a full year or two later. I don't think the integrated core is the preferred system for teaching math. Secondly, I think there is something to be said for tradition here. The Algebra-Geometry-Algebra2 sandwich has been refined over centuries, with Euclid at its heart. His Elements has been the textbook template for Geometry for not just centuries, but millennia. I'm not comfortable with how it--the Elements, the 2nd most published book after the Bible--was just eviscerated and sprinkled through Math 1, 2, and 3. That seems like a major violation of the "Chesterton's Fence" protocol, where before you go changing something, make sure you understand what it was, on a deep level, and why it was there. At the very least we owe Chesterton, in this case, an "environmental impact study" of what effects removing the Elements from the curriculum has resulted in, including comparing the data with that from prior to the switch to the integrated core. (And by "the Elements", I mean the old-school way of teaching geometry: a year of struggling through postulates and proofs. The stuff that Abraham Lincoln studied by firelight in order to become a better lawyer.) One thing I do think is good about the rewrite of the core is the "Essential Competencies". Those are valuable guidance for parents and teachers. Teachers especially, when the strands (<cough> Math 3 <cough>) are so packed that it is impossible to teach ALL the standards.
I think we need to remove or at least open the option to go back to the math the way I learned it. Common core is not working. Leave it up to us to decide what system we want.
Go back to algebra I, II & Geometry plz!!
Too much confusion in high school math. Why Secondary Math 1, Secondary Math 2, and Secondary Math 3? Can we go back to Algebra 1, Geometry and Algebra 2?

Language Clarity

As I was looking over the standards, I recognize that some of the past standards had clearer language using the words "factor", "Quadratic Formula", even "simplify" using a certain method. I think in stream lining the standards, the important specifics were left out of the needed language.

For the 7th grade math core, I greatly appreciate the simplified language: I've taughts 7th grade math for close to 20 years, and for at least the most recent 10, I've been expected to write a standards-based learning objective on the board for each lesson: this has been difficult due to the complexity of the language in each standard. This simplifed core is already simplifed and much more student (and parent) friendly. I appreicate not needing to re-write or descipher the language of the standards for use in my lessons. I also appreciate the more generalized focus in many of the standards, allowing for students to develop confidence in creating and using their own mental and visual representations rather than relying on the representations that have been taught generally for years (and have been generally ineffective, given the state of our national math performance on international assessments). Giving teachers the space to help students be creative with their mathematical thinking is developmentally appropriate for our k12 population, as creativity allows them to learn the way children learn best: through play. One change I would request is that probability come before statistics in data science, as (a) probability is much more easily taught and learned through play than statistics, and (b) statistically analysis is built on the understanding of probability. Without a solid understanding of probability, using statistics to make inferences about populations based on a representative sample would be logically incoherent.
I have only looked at 7th grade. Many of the standards are VERY vague. Can you add examples of rigor?
High School: One of the state goals was to lessen the number of standards and strands, particularly in courses such as Secondary Math 2. Based on the current standards, while numerically less (I believe) than the previous standards, does not appear to significantly reduce the actual content present in the course. The need of teachers teaching this content is for it to redistributed and reduced so we aren't teaching as much content. Students are drowning in this course because of how much there is to teach. The breadth of topics is contributing to mile-wide and inch deep understanding.
Middle School overall these new standards are way too vague. I prefer to more detailed ones that we currently have. As a second year teacher this year I can tell you that the current

standards help me know what to teach much better that the new ones. The new ones just leave me confused.

Other

For middle and high school, something that has always been a downside of the secondary math I core is that it is essentially a repeat of the math 8 curriculum but with only a few extra standards. Then when students hit high school they struggle to keep up with secondary math 2's almost entirely new content.
Without honors options we are not preparing our children.
Taking honors math in junior high and high school has greatly benefitted my son, giving him a stronger foundation and leaving him better prepared for college.
I am grateful that the rigor stayed in the Secondary II course. I was hoping more rigor would be added to the Secondary I course so that the jump is not so big.
I believe the standards between 6th and 7th should be a little bit more balanced.
For Math 8 and Math 9(Math 1), I like how Math 8 gives a basic idea of students exploring and being introduced into new concepts. Then I like how math 9 is a create, solve problems, distinguish type of language. I still think that they are almost too similar in concepts though, but I think it is better than it has been instead of being a copy the next year.

Pathways

I really like the way Secondary Math III was dealt with (by adding different pathways). However, the essential math is still vast. It might prove difficult teaching a the prescribed calculus or data science topics *in addition* to the essential topics. Also, I'm not sure the set of standards labeled essential topics and the set of topics everyone needs to know are the same set.
Math 3 - I really like this 'pathways' idea. The current explanation of the pathways states that LEAs will have flexibility in how to design their schedules. One thing I would encourage the board to look at (and what will be my focus in the 'standard specific' section of this form) is to, to the best of their ability, make sure that the Math for All material, specific

Calculus Pathway material, and specific Data Science Pathway material can actually be taught in a semester so that LEAs truly have the option to offer semester classes or full year classes. I personally see the semester option as more powerful and effective long term than the full year model. If there is material in the Math for All that is not, as it is put on the standards document, "crucial" to all students then it should not be in the Math for All standards but rather allocated to the pathway specific standards. - Major Work #1 is to solve algebraic equations. None of the Math For All (MFA) standards address solving specifically, nor do any of the MFA essential competencies. It's not until you get to the Calculus specific standards that solving equations is brought up. So why is this a major work if it only really applies to the Calculus pathway? - The 'major works' paragraph differs slightly in the Math for All section from the Calculus and Data Science sections - All of the Data Science standards (both in the MFA and DS specific standards) are written as if the students are statisticians in training. I would really like to see at least one data science standard in the Math for All set of standards that treats the students as every day people. This standard could focus on data literacy and being able to interpret and draw conclusions from both standard charts/graphs and non-standard charts/graphs (think New York Times 'whats going on in this graph' type charts). It, or an additional standard, could also encompass "does the provided conclusion make sense"? As a current Data Science instructor I would like to see the Math for All data science standards be more focused on this "laymans" approach to statistics and being good consumers of data (think Science ACT type problems). The Data Science pathway specific standards can then focus on preparing students for an actual statistics course that is focused on the in's and out's of how to be a statistician. Consider the Calculus pathway standards. They lay the groundwork to do Calculus. They are not asking the kids to DO calculus. As currently written, the data science standards are not laying the groundwork for kids to take statistics but they are actually having the kids DO statistics - which is a great thing, just not at this stage. I think the kids would be better served to have the data science standards focused more on groundwork than to dive straight in to being a statistician or data scientist.
I appreciate the vision of the Draft P-12 Utah Core Mathematics Standards, especially the goal of offering relevant Grade 11 pathways in calculus, data science, and other applied mathematics options. These changes can help more students see the

connection between math and their future goals.

However, I am concerned about the requirement that all students complete the first semester of Grade 11 in Mathematics III before branching into pathways. For students who have struggled in Mathematics I and II—or for those with Individualized Education Programs (IEPs) or other learning needs—this pace and level of content could be overwhelming and could create an unnecessary barrier to completing a mathematics credit.

To ensure equity and access for all learners, I respectfully recommend that the an option is offered, such as:

I appreciate the flexible pacing options, allowing students to take the first semester of Mathematics III over a year. And wish for a varied course versions – enrollment in an "Essentials" version focusing on priority standards, without penalty.

Provide alternative entry points to pathways – Allow students to begin the second-semester pathway courses without completing the entire Mathematics III content, when determined appropriate by an IEP team or school support team.

Protect graduation access – Ensure that alternative math courses, such as quantitative reasoning or functional math, continue to meet the third-year math graduation requirement for students with documented needs.

Support implementation with resources – Provide professional development and curriculum resources to help teachers adapt instruction for students who learn differently, including online resources for online schools.

I believe these steps will help keep the rigor and vision of the new standards while ensuring that every Utah student—regardless of math ability—has a real opportunity to succeed in Grade 11 and beyond.

In general, with the rise of online school, more resources should be considered that support those institutions.
Secondary 3 is the only section in Draft P-12 that has different pathways listed. Students are often on different pathways much earlier than 11th grade. I believe this change would be detrimental for our fast-paced learners. I understand we want every student to achieve at a high level, but I fear this sentiment often results in curricular decisions that affect our highest learners the most. If not for honors/accelerated programs throughout middle/high school I most likely wouldn't have attended college at all, let alone have earned 2 bachelor's degrees and a master's. This option also gave my children the ability to be placed with other students who learned at their same pace. Giving my faster paced children a challenge, and my slower paced one a place to feel accomplished not confused or dumb. I think a faster paced curriculum should be available to all students which up until now has been available starting in 9th grade.
In Draft P-12, Secondary 3 is the only section with distinct pathways, yet students are often placed on different learning tracks well before 11th grade. Removing accelerated options at this stage would disadvantage fast-paced learners. While the goal of high achievement for all students is important, it can inadvertently result in curricular decisions that limit opportunities for advanced learners. Honors and accelerated programs in middle and high school are pivotal to many students' academic success. These programs also benefited many students by allowing them to learn alongside peers at a similar pace—providing challenge for the faster learners and a sense of confidence for the slower-paced learners. For these reasons, I believe accelerated pathways should remain available to students beginning in 9th grade.
High School pathways may need some clarification on what is happening for all student vs. the different options. Will the current course offerings that students have in high school go away, or will they still be available?
I like the high school pathways. I wonder about the difference between math for calculus and a precalculus course? Why not just call it precalculus? Also, do we really know what data science should be? What is the larger body of work those standards are based on? Does data science mean you are choosing to pursue AP Stats? Can you take data science path and take calculus? Students can take both calculus and AP stats in our current system.

They look good. I wonder about high school courses. Can students still take both AP Calculus and AP Stats or will they have to choose? Will the number of math credits to graduate be changed with this new set of standards? We need students to do more math.
High school question: will we still have three credits of math required? What will happen to the opt out for Math 3? With multiple pathways does that mean other math credit options will be removed?
High School - Why are we reinventing the wheel in Math 3? We already have courses that do what the 3-way split seems to be doing. Talk about confusing the public. Don't call them all Math 3. Instead of making Math 3 required just require a third year of mathematics. Data Science, Pre-Calculus, or others are already out their filling these needs. Drop the title Math 3 altogether and use one of these more specific titles. I also feel that the Calculus Pathway is a misnomer, because data science is still a part of it. This seems like we need to give it a better name to describe what it is. We already have a hard time finding curriculum resources for Math 3, by splitting it 3 ways you're making it worse. How will curriculum writers ever give us the resources we need if we are the only CRAZY state in the entire country?
1. I have major concerns about rolling this out in the 2026-2027 school year. I do not see how that will be possible in High School when students will already be registered in the classes in November. Please consider pushing it back a year. 2. I'm concerned that you have dropped the Extended classes. The Secondary math 2 Extended is essential to prepare the students for Calculus. The amount of time you have provided, one semester, to prepare students for Calculus is not nearly enough. 3. It is concerning that you would want non math teachers to teach some math courses as per the changes in pathways in High School. You can look at the results that non science teachers are performing at on RISE and see that they are outperformed by credentialed science teachers. Please do not put this course in the CTE.
I love the new division of the Secondary Math 3 core. I am concerned that the Calculus Pathway has too many topics to be covered adequately and be prepared for the AP Calculus test. I think that this pathway has too much data science. If these students are

successful in AP Calculus, they will be able to be successful in any Statistics course at the university level even without a lot of data science being covered in Sec3.
I fear the three secondary 3 paths are named in such a way that may confuse parents, teachers, administrators, and councilors. For example Secondary 3 (CALCULUS) contains a lot of concepts that are not calculus or precalculus concepts and rather are just preparing students for STEM or statistics. I would suggest my students take the Secondary 3 Calculus path if they want to go into Concurrent Enrollment or AP classes (Stats or Calculus) and so I fear the naming system is misleading. Also "Math for Everyone" is very imprecise language and I believe will lead to mismatching students to where they need to be. I don't know the solution but I do believe "math for everyone" is going to be referred negatively by some students as it doesn't have everyone in the class, so it is most definitely not "for everyone".
Secondary Math 3 for all has too many ideas pressed into one year. One can not expect students to succeed if they need to learn this many strands in one grade. We already have data that says students can not handle the current pace of math 3. And this new plan wants to put all of statistics in instead of just part of it. There is not enough time to cover trigonometric functions because they have not seen Sin and cos in the context of a unit circle before and therefore can not extend the idea to what sin(x) and cos(x) are. Either the idea of a unit circle needs to be added to math 2 as prerequisite for that idea, or all of the trig ideas beyond right trianlge trig must be put solely into the Math Calculus pathway.
Within Secondary Math 3: With the pathways, students are asked to make decisions about their lives too early. The name 'data science' implies that students who want to do data science or science or anything with data want to take it. However, those students would need to take Calculus. I think the name 'Data Science' needs to be changed because students who are not headed to math-heavy major are not going to sign up for that class.
I would like to comment about the high school band. It appears that there is only one pathway until Sec 3, which I do agree with. I am concerned about the Sec 3 class options. I believe that parents and students as Juniors in high school often do not know the path that their student will take in life and

may also not make the best class choice. I have seen too many students with the support of their parents, choose the easiest path. Students that want to take CE 1050 or AP Calc should both be in the Sec 3 calculus class. I believe that name needs to be changed to indicate it is a pathway for those seeking a college degree. The data science pathway is not a path that prepares them correctly for any classes beyond it at a college level. If they want a degree in data science, they will also need to take Calculus and should have taken the calculus pathway instead of the data pathway. The data pathway better prepares students for CE 1030, but the name of the pathway does not indicate that path. If the sec 3 regular pathway is attempting to prepare students for CE1050, there have been too many topics removed that may be important to their success including the work with rational and radicals. The Sec 3 calculus pathway seems to have not been as thinned as the other courses but instead has had an increase with the data science standards added. A consideration of a reduction in data science topics seems necessary.
High school secondary math 3 is a bit confusing with the three different pathways. Are we really going to have to get three different textbooks to cover the three types of SM3?
I really like using the integrated pathway for math in high school. I was hoping to see the number of standards taught in SM1, SM2, and SM3 to be more evened out between the three courses. I can seen that some content was moved and I appreciate that. I DO NOT like the idea of three SM3 classes. Mostly because of what a nightmare that will be with counselors getting students into the right math course. My opinion is to stick with SM3 and Data Science.
High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn’t universally necessary. Students who plan to pursue advanced math will

do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.
Why is probability not still in Secondary II? Too many things in Secondary III (calculus pathway), there is no way to complete all of that in one school year. What about pathways for Secondary I and II that also lead to calculus and could have some of the standards listed under Secondary III (calculus pathway)
I think there is a lack of clarity about the Secondary Math 3 course (or courses?). It seems impractical to teach the first semester as a "mixed course" and then have kids separate into different strands. Teaching the course that way would mean that you teach topics at a surface level in the fall (to ALL) and then have to revisit topics to get to the additional standards for the Calculus pathway. It would be super disjointed for those students. That means high schools are just going to have to support 2 or 3 or 4 different "Secondary Math 3" courses, all named essentially the same thing. It is going to make collaboration between teachers more difficult (will one teacher take all the "Math 3 for Calculus" classes, and another teacher take the "Math 3 for Data Science". Registering students for these classes with different subscripts is going to be terrible. We are going to have lots of students accidentally registering for the wrong course, or end up in the wrong course but not realize it until later when it is difficult to switch. If they are going to be different courses, let's just name them different things instead of calling them all Math 3.
I have concerns I wish to express about the changes to secondary math III pathways being considered. I understand the concern which exists of the number of Utah high school students which are opting out of secondary math III for other options. While I would love to have as many students learning as much of math as they can I do not feel that many of the students in my school which opt out would be better off had they taken math III. We allow students which have no aspirations for college to opt out, and our teacher which instructs the opt out classes works hard to make the alternative options worthwhile and beneficial for the students in the real world. He tries to teach the skills that everyone tries to say they wish they would have learned in high school. To me, it really would not make sense to force these students to be in math III courses. Proficiency for Math II standards across the board in the state is not good and it would only harm the relationship between these students and math to force them in to math classes which they are not ready to participate in.

Further, I have gotten the sense that universities in the state are pushing students who are not pursuing STEM fields to take introductory level stats instead of Math 1030 or Math 1050. This is an interesting plan that I am not so sure I agree with. I would like to see students take both Math 1030 and Math 1040. Even more concerning to me, I do not like the idea of gearing Math III towards either "calculus" or "data analysis". I want my students that are taking calculus to also want to take an introductory level stats class to expose them the field of statistics. I also don't want students that are capable of calculus dodging it for Math 1040. Has it been found that our current curriculum has not been preparing students enough for 1040? Why not have students continue through a normal math III course? I would not mind if we introduced a whole extra course that could be focused on only data literacy if we wanted to go that route. I just really do not want our higher end students choosing between a STEM field and taking an easier route out when they are 16-17 years old.
I'm a bit concerned about the high school grade band, especially the Secondary III level, since the draft mentions offering different pathways like Calculus and Data Science. While it's great to give students options, I worry that reducing advanced math classes might limit their readiness for college-level math, which could set them back later in life. The emphasis on essential standards for all students is solid, but I'd love to see more clarity on how advanced learners can still challenge themselves without losing rigor. Maybe adding some examples of how these pathways maintain high standards would help ease those concerns.
My expertise is at the high school level. I have taught for 35 years, 25 of them here in Utah. I love the integrated pathway. I believe that this serves our students well, and allows them to see how strands grow over time. I do not believe that the Algebra, Geometry, Algebra 2 pathway is better for students in the long run. The opportunity to blend topics within the courses allows for deeper conversations and better opportunities for understanding mathematics in a richer, more wonderful way on the integrated model. In our current standards, we have way too much to cover in SM2, and with this draft, the authors have made a welcome attempt to cut that down. We have gone from 17 strands in the current standards, to 5 in this draft. Yay! The number of standards has

decreased from 61 to 31! That is a much more reasonable amount of content to cover in a year. But I do not feel that the quality of the standards for SM2 has suffered. I think this is a good rewrite. I am worried about the SM3 draft. There is already confusion about the exact offerings that would be required. I believe the number of students who currently opt out of SM3 to take non-traditional math classes to earn their third math credit has been the impetus to create this split. I feel this draft will make it harder for students and parents to choose an appropriate pathway through SM3. While the goal of splitting off some of the SM3 content to delineate a clear Calculus bound pathway is the correct one, students who are ready for this class should really be taking a Precalc level course to adequately prepare them for Calculus. So why not make that the pathway? Encourage students to go to a CE or AP version of Precalc coming out of SM2, rather than creating a “calculus track” version of SM3. Students who are not on the Calculus pathway will either take SM3 for All, or SM3 with a Data Science emphasis. Is SM3 for All a year-long course? Is it a semester? No one seems to understand the intent of that label. There needs to be more clarification around how students would be able to earn that credit without moving into a non-traditional math class like accounting or computer programming to get their 3rd math credit.
I encourage you to consider revising the description of the Data Science Pathway in the Secondary Math Pathways Introduction. The current list of careers appears too limited as a rationale for studying statistics and data science. In reality, many of the careers listed under the Calculus Pathway also require coursework in statistics and data science to earn a degree or certification. These fields include, but are not limited to, biology, chemistry, physics, engineering, finance, accounting, business analytics, political science, criminology, public policy, and pharmacy. According to the American Statistical Association, approximately 138 degree programs require statistics. You can find more details here: https://www.amstat.org/asa/files/pdfs/EDU-CollegeMajorsFlyer.pdf
I worry about having all students take Secondary Mathematics III rather than the previous elective courses that could work for their third math credit. I know the focus was on standards that would be beneficial for all students in their different life directions, but I am not sure Secondary Mathematics III meets that goal, even with the two options and reduced standards.

Overall though I feel good about the progression in secondary grades for the conceptual development and that there is no surprising jumps that I can see in expected learning.

Skills Inclusion

Looking at the skills in each grade band, the grades are grouped and the same skill description is used for each group. I think this causes some confusion where specific examples are given that don't apply to that grade. For example, for 6-8th grade, skill 8 says students will perform operations on numbers in scientific notation, but in the standards, they don't learn scientific notation until 8th grade. Thus that skill description is not accurate for 6th and 7th grade. As a teacher, if I was teaching 6th grade I might read that and think that I am expected to teach scientific notation. Maybe a solution to this would be re-wording the skills language to make it clear that all the applications won't be used in every grade.

Specific Standards

For the high school grade band, I recommend including explicit guidance for integrating modern computational tools (e.g., Desmos, GeoGebra, spreadsheet software, AI-based math assistants, etc.). Instruction should shift away from traditional “drill-and-kill” models toward applied mathematics and interdisciplinary connections -- such as using statistics in environmental studies, exponential functions in financial modeling, or geometry in 3D design. A clear, intentional progression from practical to abstract thinking, rather than frontloading abstraction, will serve students across ability levels and career goals.
Middle School - 7th Grade: it is not clear of any reductions in standards for the 7th grade content. There seems to be some additions which does not allow for the deeper discussions and learning that is recommended. It is unclear if the previous 7.RP.3 went away or was just combined with the previous 7.RP.1. Recommend really reconsidering some reductions in content and making it clear of those reductions.
6th grade: too much to soon! There isn’t enough time in the school year to master or even introduce adequately all these standards. Just one example is the data section. Most adults don’t understand MAD or ever use it yet a 12 year old who had no real life

use for it is expected to use it to solve real world equations? That's a math major concept, not an elementary school concept. There is no real life application to this age group. I also noticed an addition of assessing slope in triangles. That is another addition being added to kids who are just trying to find area and perimeter still, too much too soon! Let elementary kids really master the concepts applicable to their age. They will understand some of these concepts as they get older and they are applicable to them.
I think the standard grade band is correct, but CALCULUS or Math for Life must be added for 12th grade. It doesn't serve anyone for Seniors to 'check-out.' Also, fast paced early learning and college must be accessible from grade 7. Many kids are capable and need the opportunity!! 7th Sec Math I, 8th Sec Math II, 9 Sec MathIII, 10 Calc I, (1 semester only) Calc II, 11th Statistics 2040, 12th College Linear Algebra. Allowing this pathway easily will put UTAH on the world stage! It isn't allowed in CA, this would improve our economy and make leaders out of our kids!! You have the infrastructure in place, you just need to open it up and encourage your top students to take it!
Several standards particularly in Grade 7, ask students to deeply analyze and justify relationships (e.g., 7.RP.2) or apply probabilistic reasoning in real-world contexts (e.g., 7.SP.6). While instructionally rich, these standards may be difficult to assess at scale. Given how many standards call for multi-step reasoning, multiple representations, and iterative learning, it will be important that educators are supported with tools that reduce the complexity of delivering, assessing and analyzing the results of these kinds of tasks. Additionally, the same feedback could be applied to HS. Many standards, particularly in Functions and Data Analysis, ask students to interpret functions from different representations, compare models, justify approaches, and draw conclusions from real-world or simulated data. For example, the Functions strand includes expectations like: “Construct and compare linear, exponential, and quadratic functions that model relationships between quantities and use them to solve problems.” And in the Data Analysis strand, students are expected to:

“Interpret the results of simulations to estimate probabilities of compound events and evaluate reliability of predictions.” While these expectations are on point instructionally—they would be difficult to assess consistently and equitably without tools that support symbolic reasoning, multiple representations (graphs, tables, equations), and open-ended work at scale. To implement these standards effectively, high school teachers will need support for designing, delivering, and grading complex problems, ideally in a digital environment that aligns with their existing tools.
In Secondary math 1, in the essential competencies it references solving equations and graphing linear and exponential functions, but it's not really spelled out in the standards. Are we assuming kids have learned this in math 8 or are we teaching it in SM1?
High school: Are we only ever addressing systems on equations during Secondary II? I was thinking it was originally in I and III but not II.
7th grade doesn't have any specific standards that address graphing in the coordinate plane. I think there should be something involving plotting points in all four quadrants in the Essential Competencies. In the Secondary III Data Science Pathway Essential Competencies section, you copied the first five standards written in the Essential Competencies for Secondary III For All - this is redundant.
In high school, the 9th graders are generally ready for more of a challenge. They've graphed lines and solved one-variable equations quite a lot. You could put a little more beef into 9th grade, like a little bit of polynomials near the end, and probably some radicals and maybe rational exponents. I know all these things would be good inclusions to prepare them for 10th grade.
Middle/High School: Algebra 1 concepts need to begin in 8th grade, to allow the full complement of high-level content to be achieved before 12th grade, which would allow most students, who choose, to take Calculus. Currently, including in these standards, it would take an accelerated track to be prepared for Calculus by 12th grade. Additionally,

the integrated approach to HS math is not provided in a logically coherent way that builds on concepts and reinforces mathematical ideas. We need to have the traditional college-prep pathway of disparate Algebra 1->Geometry->Algebra2->Pre-Calculus to prepare kids going forward. The following concepts are delayed when compared with a set of standards (CA 1997) that had great success in reducing demographic disparities in students in math for over a decade. Every one of these concepts appeared in the 8th grade standards and are moved to later years in our standards. Solve linear equations and inequalities in one variable, including absolute value Secondary Math 1 (Grade 9) Delayed by 1 year; appears in Secondary Math 1. Graph linear equations and inequalities; determine slope and intercepts Grade 8 (basic slope) + Secondary Math 1 (full treatment) Introductory exposure in Grade 8, full skill in Grade 9. Solve systems of two linear equations in two variables Secondary Math 1 Entirely moved to Grade 9. Add, subtract, and multiply polynomials Secondary Math 1 Appears in Grade 9 instead of Grade 8. Factor polynomials; include factoring quadratics Secondary Math 2 Delayed to Grade 10 for most students. Use quadratic formula to solve quadratic equations Secondary Math 2 Delayed to Grade 10; not in standard Grade 8 curriculum. Simplify rational expressions Secondary Math 2 Not introduced until Grade 10. Work with radicals and rational exponents Secondary Math 2 Delayed to Grade 10. Understand and apply function notation Secondary Math 1 Introduced in Grade 9. Interpret and analyze data using linear models Grade 8 & Secondary Math 1 Basic exposure in Grade 8; full model work in Grade 9. This is just one example of a single grade where concepts are delayed to subsequent grades that shouldn't be.
Grade 8 is the only grade with a standard on Absolute Value equations. There are multiple levels of absolute value equations. They should be split through 7th through 9th grade. Grade 8 is loaded with a lot of solving equations but absolute value

equations are a different ball game. I have taught 8th grade students who are above grade level absolute value equations of all level and they struggle, for the average 8th grade student at grade level this would be a lot of work to add in with all of the other 8th grade standards.
I like how the grade levels build on each other. 7.D.8- do the probabilities need to be equal? Can the students not produce an unequal probability model?
In the sixth grade, I found a few things that I would change to be clearer and more concise. Skill 1 – on the 4th line it says properties of integers of exponents (it should be properties of integer exponents). The 2nd “of” should be removed.

P-12

Deviation from Common Core

It seems we have completely disregarded the core standards and have written our own. It makes it difficult to reference current materials used in class with the new standards. This would also make it difficult to use external tools or resources, such as textbooks or online materials.
They are still tied to Common Core, I would like to have them simplified and clear. I want a front page that has bullet points that are easy to identify for teachers and parents. Here's what you need to learn in 4th grade, 5th grade, etc.....

Language Clarity

This took the previous model and added frill. As a teacher it is hard to read because of the length. It is also hard to tie grade bands together with the layout and verbiage.
This is a general comment, but I feel like the standards in each grade band are extremely vague, and I don't think you should rely on the core guide. If I can't look at a standard and know exactly which concepts I am expected to teach my students, and I have to go to a whole other document to get clarification, I don't think the standard is written well enough. The core guide should be for examples on where the standard

may pop up, not to provide a rewritten version of the standard that is more clear. The standard itself should be enough.
While one of the goals was to have fewer standards in each grade, the way that this has been done is crazy. For example, in 9th grade there has been a 47% reduction in standards, in 10th grade a 49% reduction, and in 11th grade a 67% reduction. Yet as I go into these standards and review the new standards the grain size of them is huge. Although it is being advertised as a decrease in the number of standards a teacher will teach and a student should learn each year. In reality, this is not the case. Having the grain size of the standards will likely mean that some of the content in these standards will not get taught.
It's too long!!!! Too wordy and detailed. More simple draft, please. Go back to traditional math.
It is wordy and too much the same. The math standards are 160 pages.

Skills Inclusion

In the elementary grades it is concerning that children, who are learning sound number sense are required to ask questions and formulate argument with right or wrong answers. If you don't know something it is impossible to ask a good question or firm and argument. The mastering of mathematics content should be prioritized above questions and arguments. Children will ask questions and form arguments if they have enough understanding. They lead to deeper understanding but do not help Primary math learning. The clear list of Essential competences for each grade level is amazing. Hopefully that will build mastery per grade for all Utah students. Ensure equal attention is given to mastery of competencies, mastery of math symbols and vocabulary and recognizing which procedure is required for each problem. All models and manipulatives are presented for visual and procedural understanding of math leading to a correct answer. Students should never be expected execute each type of visual example to prove they understand visuals and manipulatives as we have recently seen in curriculum. The visuals are there to aid their understanding and correct answer. All math lesson should be intentionally taught, not discovered and they should build on previous knowledge and skills, students need enough teaching, feedback, practice and

reteaching to attain mastery. Focus on mastery of Essential competencies per grade. The goal should be all Utah students prepared to take and pass Algebra 1 in 8th grade. That is what the highest performing PISA schools attain. More Geometry so students learn to reason through and entire problem and prove an outcome. I support and entire year if geometry as one course so students can grow and build logic and reason through math, geometry. Students in secondary math are instructed in large chunks of new concepts without enough practice. break concepts down, practice concepts on paper, build into entire concepts without enough mastery of smaller concepts. Used the language of mastery over competency, you can't build on competence but you can build on mastery. Thank you for expecting written and digital modeling. Writing math problems out is more effective, typing math into a computer is frustrating, time consuming and takes away from mathematics thinking. Computers are often a barrier to learning math.
Expect more, not less, of the students.
I can see for some of the elementary and middle school bands that the modeling and project based activities will help build foundations that could help students know why a process works but as they advance students skills and desire to do more math splits student bodies into those who pursue more advanced mathematics and related scientific, medical, and engineering pathways. While others diverge from these paths that require more advanced mathematical skills, knowledge, and experience and move towards paths that require much less advance mathematics.
Overall lowering of Utah State Standards across the board is disturbing as an educator. Many educators are in consensus about the standards that they teach compared to the new proposed standards are significantly lower.

Other

My comment is for Skill 6, as used for elementary standards. This says, "Ask questions to explore mathematical ideas." I think this is a very important skill. Yet, this is where we may want limitations. What kind of questions are allowed? Will the questions come from the curriculum, the

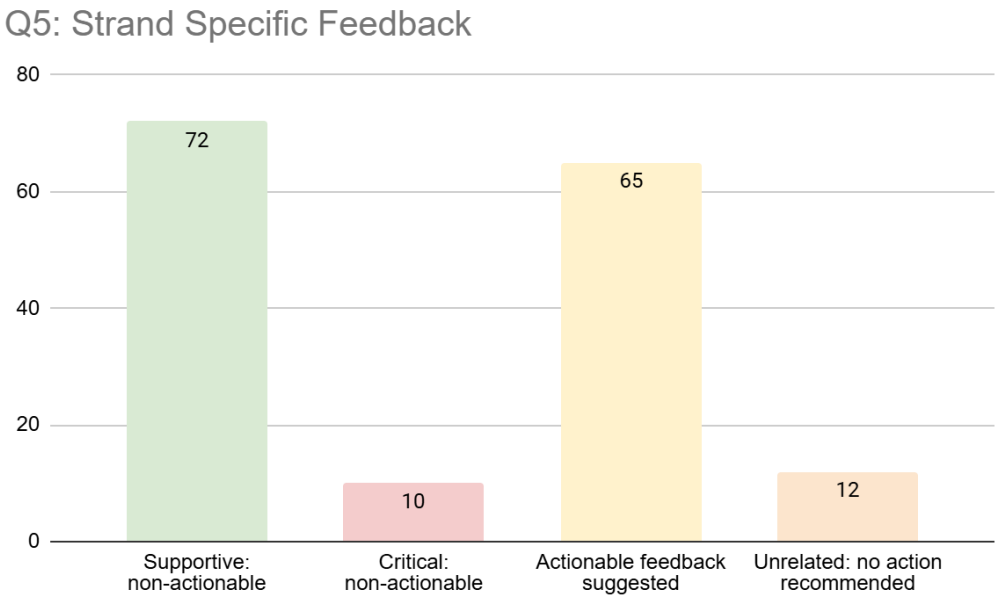
teachers, or the students? These questions will need to be specific to the math problem. Teachers may not raise other seemingly related but not age-appropriate questions or expound on any "sensitive material" questions if brought up by students.

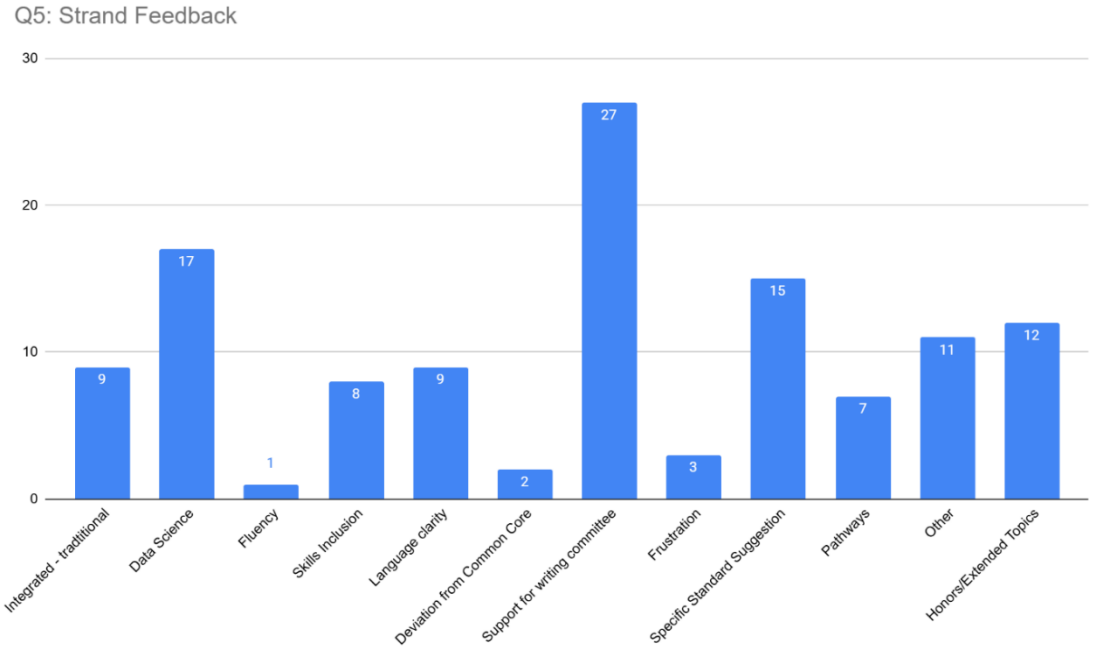
Core guidelines should also reflect these same limits. One example------ "I-ready" math is an elementary curriculum and it's full of story problems. These types of problems are important for the students, but need topic limitations.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed....

Question 5: Please share any feedback you have regarding the strand(s) in the Draft P-12 Utah Core Mathematics Standards written by the Mathematics Standards Writing Committee.


Q5: Strand Specific Feedback
80
60
40
20
0
72
10
65
12
Supportive: non-actionable
Critical: non-actionable
Actionable feedback suggested
Unrelated: no action recommended


Q5: Strand Feedback
30
20
10
0
9
17
1
8
9
2
27
3
15
7
11
12
Integrated - traditional
Data Science
Fluency
Skills Inclusion
Language clarity
Deviation from Common Core
Support for writing committee
Frustration
Specific Standard Suggestion
Pathways
Other
Honors/Extended Topics

Supportive: Non-Actionable

Elementary

Data Science

So excited to see the focus on Data Science! Merging Geometry and Measurement in elementary makes so much sense.
The addition of Data Science is greatly needed and wise in today's economy. This will also support science investigations! Combining Measurement and Geometry, while making data it's own strand is great! These go hand in hand much better.

Deviation from Common Core

love the separation of Measurement and Data, and combining measurement and geometry--they seemed to fit together that way, so it feels right

Secondary

Integrated vs. Traditional

Having both the integrated and traditional pathways would not work for students who move schools or LEA's within Utah, nor would it be okay for summative assessments. Having two different sets of standards means we have two different assessments for the same grade level at the end of the year. Our students shouldn't be taking assessments covering different standards when they are being compared to each other.
Strands look good I like that we have integrated courses that have stands present every year.

Specific Standards

S1.F.4 - Build explicit and recursive equations to model sequences using FUNCTION notation. I cannot emphasize enough how powerful this standard is for learning huge swaths of mathematics. When I first learned about sequences in 1985, I wrote them with sequence notation and they seemed like their own segregated piece of mathematics with no connection to anything else. I have seen SO MUCH POWER come from writing sequences with function notation instead. It leads seamlessly into linear and exponential functions, and is such an intuitive way to teach these concepts. This is my very favorite standard of all time, and I don't care what changes are ever made to future standards, it is something you would have to pry from my cold, dead fingers because I refuse to teach it any other way. So thanks for this standard, is what I am saying. It is good stuff. :)
I like that probability was moved to secondary III.

Support of the work of the writing committee

The EE 6th-8th, which I helped write, looked good.
I like that Expressions and Equations has just been simplified to Algebra for the Strands.
The strands look good.

P-12

Data Science

I like the structure of the data science strand. I am interested to see how it builds in each grade level. The other strands are the same as our current standards. The introduction to each strand at the grade level is helpful.
They look good. The data science is increased and well written.
I'm very happy about the inclusion of data science, real world data, and modeling applications for each grade band and subject. I have found that incorporating data science into my curriculum, which I have done over the past 4 years, has really

helped students engage with the content more and find relevance and meaning in it. I no longer get asked, "When will we use this?"
I think the progression is good between the grade levels. I like the increased emphasis on data science and statistics and I think that will bring a positive change to student learning.

Language Clarity

Strands are concise and well defined.
It's important to ensure that the strands are vertically aligned to ensure foundational skill are being built in a coherent aligned progression.

Other

The strand organization in the draft, Number (N), Algebra (A), Geometry (G), Functions (F), and Data Analysis (DA), creates a strong, coherent framework for math learning across K–12. The strands evolve in depth and complexity as students progress through grades, supporting conceptual development and preparing students for real-world mathematical reasoning. That said, many strands, particularly Data Analysis, Functions, and Algebra, place high cognitive demands on both students and teachers. These standards ask students to construct and critique arguments, analyze relationships across multiple representations, and apply reasoning to open-ended, real-world problems. This is a meaningful shift from procedural math toward conceptual understanding and application. However, these shifts also introduce logistical challenges. Teachers will need to: - Deliver tasks that support multiple representations (graphical, numerical, symbolic), - Collect and analyze student reasoning efficiently, - Provide timely feedback on complex, multi-step problems, Meeting these demands consistently, especially within the constraints of

classroom time and staffing and with teachers of varying mathematical competency, will require tools that can integrate into existing instructional and assessment workflows, reduce manual grading, and support symbolic reasoning and modeling. In short, the strength of the strand design isn't just about what it asks of students, but in what it implies about the support teachers will require to deliver on your vision.
Could you also publish the standards grouped by strand (instead of by grade level), so teachers like me can see more clearly how Geometry (for instance) develops across grade levels?

Pathways

The strands, especially throughout the high school course pathways are very well done.
I like the additional emphasis on data science and the pathways that are being provided.

Skills Inclusion

I like how the skills are linked to each standard strand and I feel this will help teachers direct students more to developing a skill instead of just pure regurgitation of problem solving.

Support of the work of the writing committee

Very well done and thoughtful.
They seem to make sense.
Well done!
understanding at best and a widening gap for each successive grade level.
They look good to me.
I agree with the strands.
They look great.
They look good.

I like the way the strands are in the draft. They are well connected to what they have been and will support teachers in their work with students.
I trust the writing committee of experts to write the math standards that kids need to learn. I love the addition of data science and the modernized skills.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
I think that the way strands are organized is great.
The strands are appropriate and easier for the teacher and parent to reconcile.
I like the strands they are easy to understand and connect between grade levels. I can find what students who are coming to me should know and what I need make sure my students have a firm understanding of before they move on.
Strands are pretty generic. I do like the inclusion/integration of the 8 mathematical practices into each grade band.
I like the simplification of the standards name. They get to the point and leave less arguement about what is actually required.
I love these changes and the clarity overall. This provides high-level goals for students to apply mathematics principals and build self-confidence in math though K-12 learning. Keep up the great work!
Look good
I think that the strands are separated into specific topics which will be easier for parents, students, and teachers to use.
The organization of grade levels and the strands are great.
The strands are not much different than what teachers are familiar with so that is a nice starting point for teachers to use and build from. Reordering some of the strands makes sense for progession.
No feedback on the strands...I think they are good.
I like the flow between the grade levels through each strand. I like condensing many of the strands (probability and data science for example)
Well written and practical.

The modifications that have been made to the strands are extremely positive! It provides greater coherence.
They look good. Very well done. I appreciate that we are staying in line with current trends.
I like them.
They look good.
I would say they are appropriate.
They seem like the usual strands.
These look good. Balancing the strands within courses and across courses as students move up from year to year is important. The more integrated the better.
They look good.
The strands focus on what is relevant today in our society. And will be relevant in 5 years. In addition, having the integration of strands in a single year, helps students make connections between strands.
The strands are well organized and well written.
I like multiple strands in every year so students experience multiple math strands every year.
Good
Your work is appreciated.
I am not bothered by the change of strand names. However, we have all our standards and strands in our powerschool grade book and you are asking a big lift to rename all these.
They look great!
I love the flow of the strands between grades.
The simplification of the strands through the secondary classes is phenomenal. The authors did a great job of articulating a clear vision of how each strand builds over time. No notes.

I like the organization of the strands. Especially the consolidation of the standards for Expressions & equations
My overall feedback is positive. I'm glad to see a shift towards resesarch based modern math standards that minimize an outdated focus on memorization and timed tests (which are a known problem cause they increase math anxiety). I'm also glad to see a modern focus on data science. The empahsis on math skills/practices is a positive direction given the alignment with Utah SEEd standards.
Excellent work!
No issues
Strands are good. Its good to have all of them progressing every year.
I like the way the strands built on each other - they were helpful in thinking about those grade levels
Looks good. We need all strands represented.
Strands look good. A good balance of each strand ever year makes sense.
They make sense and align with the strands we've had.
None, all relevant content is available.

Critical: Non-Actionable

Elementary

Data Science

While it does seem reasonable to me that measurement is now with geometry since they go hand in hand, measurement still goes very well with data, so it doesn't seem like an essential change.
Teaching kids about data, like sorting in preschool (P3.D.1) or making graphs in high school (S3.D.4), is a great idea. But this isn't in the national Common Core, so I'm worried teachers won't have books or software to teach it. High school standards, like S3.D.5 (creating data questions), are tough and need special tools.

In Alaska, unique standards meant teachers had to create their own materials, which was hard, especially in rural areas. Arizona and Indiana also struggled with resources for their unique standards. My daughter and kids with special needs or those learning English need simple words and clear examples, not complex lessons.
Elementary teachers were already feeling the crunch, so I do not understand the addition of the data standards.

Specific Standards

I have concerns when I see the children learn to add or subtract starting with the hundreds column. To me this is confusing.

Language Clarity

The third grade standards are a mess. As a teacher who has to use the standards everyday I cannot follow them.

P-12

Frustration with Math

You are overcomplicating ALL of this. It isn't useful.

Skills inclusion

Again I get the modeling and conjecturing in lower grades but don't see how it helps advanced students or mathematics prepare to continue their progress and quicker growth. it just seems that these additional components is pushing out many topics that will decrease the number of advanced mathematics students over time. It worries me that we will lose student participation in advanced mathematics with the way this is proposed.

Length of Standards

There are too many.
Seems like 160 page document for the average parent is excessive. It would be nice if you sent out a summary of the changes you are proposing. My fear is most parents won't be aware of the impact these changes will have without a summary.

Unrelated: No Action Recommended

Elementary

Data Science

I'd like to have some training or examples on how to include the data science strands into teaching. This isn't really supported by my math curriculum, so I'll need to find materials and opportunities to teach it. I'm concerned about the time it will take to include it. It's already super challenging to get through 4th grade standards during a school year.
I would like some additional information regarding the data science strand. I teach 2nd grade and this is new verbiage from the core I teach currently. Many of the standards reflect similar topics to picture graphs, bar graphs, and line plots we currently teach—do these address the new standards as fully as the Mathematics Standards Writing Committee has intended or are there additional data representations they would suggest teaching to 2nd graders to fulfill the requirement? Thank you!

Secondary

Language Clarity

Thanks for working so hard on this! I guess the first things I have to say are that they seem like they are worded very vaguely so that it's not specific to what is to be taught. It worries me that teachers could interpret them differently and end up teaching different content. Second, with the second with the splitting of the secondary math 3 into three different sets of standards that are somewhat similar,

I am wondering how this is meant to be implemented at a small school. The school I teach at has very small classes and it's not likely that schedule wise students will all be placed in the correct class.

Other

Core Mathematics is fine, but you should take a look at BYU 8th grade math curriculum, that prepared my boys to be successful in Sec. Math I in 7th grade.

P-12

Frustration with Math

The only feedback I have is that under no circumstances should any math problem be used to push political propaganda or sexual/gender related topics. Stop sneaking in topics or positions that parents disapprove of and teach math without controversial topics, propaganda, and harmful ideologies in the problems.
I don't know what strand or subject matter you're referring to because they don't have it in front of me and this website is glitching. I already lost all of my answers previously. I do not like any of the changes to this math court and I do not like how parents are unable to see the motivation behind the changes or give feedback per change in a way that's understandable.

Other

I'm honestly not sure what you mean by the strand?
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!

Skills inclusion

I think that including example problems for the skills strands for the teachers would be beneficial. Changing the wording of the standards is not going to ensure that teachers are using the skills in the skills strand. Giving teachers concrete examples to show what is the expected outcome is the only way to ensure that they will understand what is needed to have students become competent. Many teachers will just continue to use the program provided by their district or do what they have been doing as the math concepts have not necessarily changed within the grade bands.

Actionable Feedback Suggested

Elementary

Data Science

The data strand is interesting but perhaps puts more rigor than what a 8 year old can understand. So when they are 9 they feel overwhelmed with information and are ready to give up on math.

Fluency

NBT and NS: I see you removed the term "standard algorithm" from the standards--it isn't clear to me in which grade(s) that is expected for the various operations with whole numbers, fractions or decimals. This was already an issue in the previous standards, specifically, teaching standard algorithm too early when numeric strategies were mentioned, and I'm concerned with even less explicit guidance, this problem will be exacerbated as the standards are currently written.

Language Clarity

Common core has caused my kids 11 and 12 now to dislike math and stay behind even if their teacher doesn't agree. I want math to be just math simple and clear.

Other

K.CC strand- It would be extremely helpful (and aligned better to the Acadience test) if this kindergarten strand included wording that students will recognize and

name numbers to 30. That is currently a hole in the Kinder standards. They have to count to 100 from any number and read and write to 20 but really benefit from being able to recognize and name numbers beyond 20.

Specific Standards

I find no mention in any standard to simplifying fractions. This skill needs understanding of equivalent fractions and greatest common factors as prerequisites. This skill is needed to better understand simplifying expressions.

Secondary

Data Science

The Algebra Strand in Math 3 for all has one standard (which sounds like there are a lot of prerequisite concepts/skills necessary to successfully meet that standard). This is deceptive to me. When the common core came out the claim was there were fewer standards so that you could go deeper. There were fewer standards BUT we could not go deeper because there was pre-requisite skills and concepts never addressed in the core that were necessary. This is why that particular strand scares me senseless. Have we repeated that mistake?! The Data Science strand doesn't make any sense to most of my colleagues. They say they have no vision as to what the standards are all about because the wording is so broad or undefined in their minds. I'm being asked all the time what does it mean, wording changes to support understanding by teachers would be helpful. Especially since most of them do not have an expertise in Statistics and took one course in college that may or may not have taught them these concepts.
Focus on the Essential Competencies. Those are the foundations. The Mathematical Skills can be completely ignored. Data Science isn't as necessary as these standards appear to make them. Anyone with a decent understanding of the basic math concepts will be able to extrapolate to statistics. How to Lie with Statistics is a good book to read. Providing leading and incomplete stats to sway student perceptions isn't a good way to go, and yet is has become very common in our public school system. Give them the basic information and let them decide for

themselves. Box and whisker plots are not essential tools for 6th graders to learn. Focus on the calculations and the numeric competencies instead.
The data science strand. From the research I have done, there are three big disciplines: (1) math & statistics (2) computer science (3) domain-specific knowledge. I understand domain-specific knowledge will come down to curriculum materials and the contexts being used. I also see a lot of math & statistics standards (most are literally just the statistics standards from the 2016 version. Grade 8 for example). Statistics/data literacy will be crucial in younger grades, as that is doable in a young classroom. But where are the computer science skills in higher grades? 8th graders are more than capable of using excel and codap with their explorations. There are hints of it like "select tools" in some standards, but to me that makes computer science skills more of a pedagogical choice rather than a required skill. And no I don't think that adding clarification in the core guide is good enough. Concord Consortium and Data Science 4 Everyone are drafting K-12 learning progressions to help guide the creation of standards in states. I've seen a glimpse of their draft and think they do a REALLY nice job of outlining specific data science skills in ALL three disciplines listed above. It might be worthwhile to wait for them to come out to use as a guide for writing these standards. I think they will serve as a good baseline and will actually add some additional skills to the current math & statistics skills that are outlined.

Honors

Please do not make it harder for Utah students to compete by taking more AP classes out and more options of excelling in high school away from the schools leave the option to have honors courses in math
Without honors options we are not preparing our children.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
My son benefitted from taking honors math in both junior high and high school, and it has left him better prepared for college.

Please continue having honors math classes starting in 7th grade. You are hurting Utah children by taking out honors classes.
honors math is good!
My kids all take through calculus and we're very well prepared. Now that my younger kids are going through the program, the math teachers say that the honors options are going to go away. They say that many standards within the honors option have just disappeared. Please don't delete what my kids need to know for calculus.
The strands as written are broad and well-intentioned, but they do not address the need for different levels of depth and pace. For example, algebraic reasoning and functions strands must be approached with greater rigor for students on a calculus pathway. Simply embedding “essential competencies” is not sufficient if advanced students are not given room to accelerate. I strongly recommend that the strands explicitly allow for honors-level differentiation to ensure college readiness.
The strands look fine as long as they include honors.
Please do not remove any honors specific classes. Our children are already disadvantaged from other states because our system is not as rigorous in preparation for college. My older 2 both took honors and ap and still felt like most of the out of state students at byu far surpassed them in their classes. Please give our kids the tools to succeed- anything that makes our schools easier is disservice to our children. Provide opportunities for all students and expect high standards. Our state is growing both in people and socioeconomics- we need to be leading the country, not playing catch up.
While the strands are thoughtfully organized, they fail to reflect the reality that students progress at different levels of depth and speed. For instance, algebraic reasoning and functions require a higher level of challenge for those on a calculus track. Merely embedding “essential competencies” is not enough if advanced students are not provided opportunities to move ahead. I urge the committee to revise the strands so that honors-level differentiation is clearly supported, ensuring that students remain on pace for college-level readiness.
Please DO NOT remove Honors options from class courses.

Integrated vs. Traditional

Strnads, Standards, yadda, yadda, yadda ... it's all garbage. Get books from reputable math publishers in the areas I listed above, and everything will work out a LOT better. Seriously, the math scores in Utah are atrocious. Changing to this Math i, Math II garbage has not helped.
A dual path would be better or go back to traditional math! Show simply what needs to be learned.
Geometry tends to take a large back seat to Algebra in the current Secondary Math I, II, and III model. It is my opinion that it needs to be its own course.
I was elected by parents and teachers who have shared that they want local control, and they want the bar raised in our academics across the board. I was elected to push for conservative reform that goes back to traditional methods of learning. A dual path for LEA's to have more autonomy will be a good start.
The Geometry strands should not be parsed out into each of the 3 grades. The standards even state how critical the Secondary Math 1 Geometry standards are to the Secondary Math 2 Geometry standards yet we do not teach them together. That's asinine. Students would gain far more fluency if the related topics were taught together in the same year - particularly for Geometry. The Data Science strands being integrated into separate years makes more sense and I like that those standards tie into the the other strands for that specific grade. i.e. focusing on lines of regression in Secondary Math 1 where lines are heavily taught makes perfect sense.
Go back to algebra I, II & Geometry plz!!

Language Clarity

Please put statistics (probability) in each year of the standards!! Please be specific about what you want students to learn - solve quadratics is not specific. How? With technology only, factoring, completing the square, quadratic formula, etc?! I don't want to have to guess what I am supposed to be teaching.
Why did we take probability completely out of secondary 2? That is the topic that shows up the most on the ACT, so it feels like we are not even preparing them for that. This means that students will only learn probability if they take the data

science sec 3... and not if they take any other courses? It doesn't seem like anything got simplified. I just feel more confused and overwhelmed looking through this.

Other

7th and 8th grade strands: I like that the strand has been changed to Algebra. I like that the strand has been changed to Data Science and that the abbreviation is just the letter D, instead of DS. I would like all the 7th and 8th grade strands to have only one letter, instead of two. RP becomes R, NS becomes N.

Pathways

Strengths of SM3 Standards and Pathways
- The updated SM3 curriculum is overall very strong.
- Students who struggle with SM3 now have the option of taking an alternate course rather than dropping mathematics entirely.
- The SM3 Data Science pathway offers an excellent preparation for students intending to pursue college-level statistics or AP Statistics, particularly with the expanded focus on statistical standards.

Concerns with SM3 Calculus Pathway
- The SM3 Calculus pathway does not include sufficient trigonometric preparation.
  - Inverse Trig Functions
  - Graphing inverse trig functions.
  - Trig Identities and applications
- Parametric equations need to be included for students to succeed in Calculus
- Students entering Calculus from this pathway may not be adequately prepared for the rigor of the course.
- Scheduling will be a nightmare for students and staff to try and do three SM3 classes.

Recommendation
To better prepare students for success in Calculus, I recommend permitting them to bypass SM3 and enroll directly in Pre-Calculus or CE 1050 (College Algebra)/1060 (College Trigonometry). These courses provide deeper coverage of trigonometry

and build a stronger foundation in algebra, which are both essential for Calculus readiness. In college, students would not be allowed to move directly from Math 1010 (Intermediate Algebra) to Calculus. Likewise, high school students should follow a logical progression that emphasizes algebra and trigonometry. By replacing SM3 with Math 1050 and Math 1060, students will enter Calculus with the preparation needed for greater success.
I love the new division of the Secondary Math 3 core. I am concerned that the Calculus Pathway has too many topics to be covered adequately and be prepared for the AP Calculus test. I think that this pathway has too much data science. If these students are successful in AP Calculus, they will be able to be successful in any Statistics course at the university level even without a lot of data science being covered in Sec3.
High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn't universally necessary. Students who plan to pursue advanced math will do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.
They do not seem well sorted, with some years having almost no algebra or geometry. Secondary II needs more Data science (probability would be nice to have there still) Secondary III (math for all pathway) needs more in it, there are multiply standards in the calculus pathway that could also be in this pathway, they can learn more trig besides just sine and cosine graphs. Law of sines and cosine are great for that, applications too.

I appreciate how the strands in the Draft P-12 Utah Core Mathematics Standards are organized around overarching themes to connect mathematical concepts across grade levels, which seems like a smart way to build a logical learning progression. However, I'm a bit worried that the flexibility in pathways, especially at the high school level, might dilute the focus on advanced math strands like algebra or calculus, potentially leaving students less prepared for college. It'd be helpful if the document provided more detail on how these strands ensure all students, including those aiming for advanced studies, can still access rigorous content. Maybe adding some examples of how the strands support both foundational and advanced learning could address those concerns.

Specific Standards

On page 137, the description of the Functions strand differs from that of the Math 3 for all and Data Science descriptions due to the inclusion of additional material for the Calculus pathway. It would add more clarity for the reader to split the description into two paragraphs: one that matches the Functions descriptions from Math 3 for All and one that includes the additional Calculus material. It would read fine as it is if all the calculus material was presented at the end of the paragraph, however, the line "build and use parametric and graphic models" is squeezed in between two parts of the original description from Math 3 for All.
On Algebra A in eighth grade, we would like clarification on "radical and integer exponents"- will the eighth grade be teaching radical exponents, or radicals and integer exponents?
I appreciate the change from "EE" to "A." Not a big deal, but I think that will be helpful for students and parents who are given standards-based grades. Changing "SP" to "Data Science" is also an interesting change; I see it's possible that students might start to conflate math (theoretical science) with natural or social sciences. I'd prefer to keep the strand name as "Statistics and Probability," though I would also prefer it be broken into two (though closely related and even intertwined) strands: probablilty, and statistics. I would also suggest this because most of the strands at the 7th grade level have about 4 standards; the data science standard has 9. The current core has 8 SP standards, and most of the others have 4-6. This can be difficult for students who receive proficiency based grades based on strands and

standards: smaller groups of standards are less intimdating, especially when there's a final exam for each standard. "Data Literacy" might be another appropriate moniker for the strand, with a focus on understanding how data is collected, analyzed, organized, and interpreted. "Data science" might be a better term for the same strand in more advanced classes. For the geometry strand, I would ask that the standards be organized and numbered a little differently. The drafted 7.G.4 (relationships between pairs of angles) matches the current 7.G.5, which overlaps with algebra to find that unknown angle. I think this should be 7.G.1, as it often involves open figures and focuses on angles, whereas the rest of the geometry standards look at closed figures that are bounded and defined by angles. I'd leave 7.G.2 and 7.G.3 where they are: moving from pairs of angles to three angles and then into four or more makes sense to my 7th graders, and I would end the geometry standards with the drafted 7.G.1 as 7.G.4, allowing students to connect all of the geometry standards to the concept of scale, which greatly overlaps with the RP standards that focus on proportional reasoning. (It'd be great to have students make tables, graphs, and equations that show the relationships between the scaled perimeter, area, and volume of geometrical figures, and maybe even help them tie it back to the geometry standard about using angle pairs to identify the proportional (multiplicative) relationships in angle pairs that can help students find the unknown measurement in the angle.
S2.A.5 Select and use tools strategically to solve a system of equations consisting of a linear equation and a quadratic equation in two variables. (Sk 8). What tool? this is so vague. how will it be ensured that all school are teaching the same tool?
The strand about teaching rational exponents in math 2. Since math two is all about quadratics the rational exponents do not really fit in math 2. It will be taught once and never applied anywhere else in the curriculum. Where as in Math 3 students will be using inverses where they will need rational exponents.

Students do not write x^2+4=(x+2i)(x-2i) often. We typically are finding the solutions for x but not writing the complex solutions as factors. We do factor using real soultions. This might be more of a honors strand. There is no words that wants the students to graph the functions. It says to draft a function that is quadratic. What does that mean? There is no probability anywhere. How will students do well in Math 1040 if they have no probability. They need a foundation of probability.
7th grade Ratio/Proportion Strand - What is going on with percents? Number Systems - The focus says it is fractions and decimals. In 7.NS.4, percents are mentioned. Data Science - We suggest taking out histograms. These are difficult for students and requires a lot of time to explore. We suggest letting 9th grade handle it. Also, the focus of the data science strand says we focus on making inferences. We love this focus. The standards do not seem to align with this focus. Adding the creation of multiple visual representations adds what to us seems like an unnecessary burden and does not support the focus. We want to spend more time on the understanding. Some creation will be involved, but not focused on. This is an example of expanding the standards not reducing them. Geometry - In the introduction, it states that the focus is solving problems involving scale drawing and informal geometric constructions and working with two and three dimensional shapes to solve problem involving area, surface area and volume. We suggest that geometric constructions be taken out of the focus as surface area and volume and scale drawings are each such large topics. Algebra - These standards are not clear.
Geometry SM2 strand: Are coordinate geometry proofs included? Such as proving a quadrilateral is a rectangle by finding the length of the diagonals? Or that a quadrilateral is a parallelogram by finding the slopes of the sides? In the past we have taught the midsegment theorem and points of concurrency. Are those out?

Secondary Math 3 for all students should be solving polynomial equations still.
In Secondary I, II and III Data Science strands, the terms "primary data" and "secondary data" are used without any explanation of what those are. Somewhere teachers need an explanation of data gathered by the investigators vs. previously gathered so the teachers know what they mean. I feel like oversights like this lead to teachers skipping the stats unit all together in their classrooms because they already feel unsure about their understanding and ability to teach it. In particular, I feel like secondary I S1.D.2, secondary 2 S2.D.2 and S3.D.5 all need either definitions or simplified wording. S1.D.6 reads like it was most important to get "justify" and "evaluate results" rather than make sense. Do we really evaluate results by justifying? S2.D.4- Should it maybe say "line or curve" of best fit?
Looking at the progression of absolute value, I wonder if solving absolute value equations should be moved from 8th to Sec 1. Currently, absolute value is not mentioned in Sec 1 at all. Since in Sec 2, they focus on graphing absolute value equations, I think it makes more sense to cover absolute value equations in Math 1 in standard S1.A.4.

P-12

Data Science

I love the inclusion of the Data Science strand into our core standards. Being able to analyze and interpret data is a necessary life skill for students in our current reality. My concern, however, is that with the inclusion of the Data Science strand, teachers have, on average, 5 new standards added to their load. It is already difficult to cover as many standards as teachers have to teach during the school year and make sure students achieve proficiency in these standards. Unless we compensate for the inclusion of the Data Science strand by removing existing standards in proportion to those being added, we are just increasing teachers' workload without giving them any additional time or support.

My second concern about the Data Science strand is that, in upper elementary grades, the strand goes deeper than it should, bringing in junior high school content in some cases. I'll address these specific standards elsewhere in the survey. Finally, the skill of "making conjectures" seems to be overused, even forced, in the MG strand throughout the elementary grades. I'll reference specific instances later on in the survey.
While I was excited to see the new Data science strand in the standards I am disappointed to see that it is just a rename of the statistics and probability standards that have been in the standards since 2000. If we really want to be on top of helping students prepare for data science, we need to have a distinctly different set of standards for students to learn. Data science is different from statistics and probability. There are groups that are working on implementing data science in different ways into the K-12 mathematics. Were any of these groups research used to develop and think about the standards for data science? Was this website used: https://www.datascience4everyone.org/recipes/the-concord-consortium to determine what data science is as well as what is needed for students when they leave K-12?

Deviation from Common Core

I'm not sure if this falls under strands, but why does Utah feel the need to modify and tweak the Standards of Mathematical Practice and other standard numbers. Having consistent standards (and numbering) helps teachers find resources and ideas from other teacher throughout the state and country. In a state that does very little to support teachers via curriculum (at least at a high school level), teachers need the ability to search for resources effectively and to collaborate with other teachers, including those out of state. Having our own number system and our own math practice standards will make those sorts of things less efficient.
This may seem silly and minute, but it is something that really stuck out to me. I love using the 8 Math Practices in my second grade classroom and am

disappointed that these have been rewritten into 8 Skills. The 8 Skills seem very close to the 8 Math Practices. If you really needed to make this change, it would have been nice to align them. For example, Skill 8 is "Select and use tools appropriately and strategically." Math Practice 5 is "Use appropriate tools strategically." Couldn't you have made Skill 8 Skill 5 instead? I have used the Math Practices for years and now will need to relearn them if they are kept this way.

Integrated vs. Traditional

It’s too long!!!! Too wordy and detailed. More simple draft, please. Go back to traditional math.

Language Clarity

With these being standards/strands for students I think they should be more accessible to students in terminology and vocabulary. The introduction of the Data Science strand has the potential to be very beneficial for students, but currently needs improvement. The wording seems ineffective, intimidating, and jumbled. The standards are not clear or concise.
I have seen the phrase "Attend to" often. When designing a way to measure this standard and provide feedback on the students mastery of the topic, do we measure the final results or the process by which the mathamatics is done? Is there a way to make that clearer?
I also appreciate the clarity of what has been termed the Essential Competencies. It's a positive summary of the concepts covered. It is a good touch-stone but the standards need a little more specifics.
It’s too wordy

Other

I feel there needs to be another option for Special Ed students or those who struggle with math. Don't force everyone in one path.
Students should be explaining their thinking in sentences all the way through the core.

How will new technology be integrated in the new standards? Will students still be required to do a bunch of work with paper and pencil? Will Artificial Intelligence be a part of learning?
The strands look good. Maybe just label them.
They should have an example of each type of problem for each standard so the teachers should know what is exactly expected.

Skills Integration

I think some of the skills are confusing when written into the strand. For example, "Add or remove context to find quotients with remainders..." How does a student add or remove context when dividing?
Some of the things I am concerned about are removing some language that gives a construct and boundaries for what the standard should cover. I am concerned that some of the language is basically the same as the old standards, but they are reordered. This makes it very hard for teachers to use national resources to understand and teach the standards. This is especially true for the new 'Math Skills' as compared to the old 'Math Practices'. This will be a big disadvantage for teachers, especially in the early elementary grades, as they have to be experts on so many content areas. Additionally, it takes away the power of collective efficacy with very good math resources available. We have been fairly close to Common Core standards for about 12 years, and this will make it difficult to use those resources. I don't think people understand what a disruption that will be for teachers and students.
I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.

One comment for all the strands, overall: I noticed that this rewrite has incorporated the Mathematical Skills directly into the language of the Standards. I can see--and even agree with--the idea behind this strategy, but I think the implementation is problematic, and likely won't accomplish that goal that was behind this effort. So, it seems like incorporating the skills into the standards was little more than a "match" game of "what might best fit the standard here?" The result risks giving the impression that ONLY those skills written into the standard is important for that standard. Whereas an experienced teacher knows that ALL the skills are potentially important, but depending on the particular standard and the context, certain skills may need to be emphasized over others. The rewrite, essentially, has done the work of balancing which skills go best with which standards. However, that process--of going through the standards and evaluating which skills would be best to emphasize--would likely be very useful for a new teacher. And so, by having it already done for them you are doing two things: 1) telling them that this is the correct result of that process (which I don't think you got correct in all instances--the context is going to dictate greatly which skills are going to be useful and should be emphasized) and 2) denying the new teacher the chance to go through that process themselves, as many experienced teacher have already done. Or worse, this risks teachers perceiving what you have done as little more than a "match game", where the matches are not really foundationally unpinned by mathematical principals, but just your best attempts to sprinkle in the skills to the standards, however tenuous the connect might be. And that result risks the teachers then, therefore, reading the standards in such a way that disregards the skills component entirely.
I feel the strands are far too vague. I have been teaching 17 years, have a masters in mathematics education, and don't know what several of the strands are intending students to learn. I also think mixing the strands with the skills leads to even more unclear expectations. With the practices, students were expected to practice the different

practices throughout the entire core, it now feels like specific skills should be taught with specific concepts and not throughout.
I hope the implementation makes clear the purpose of having separate skills and standards.

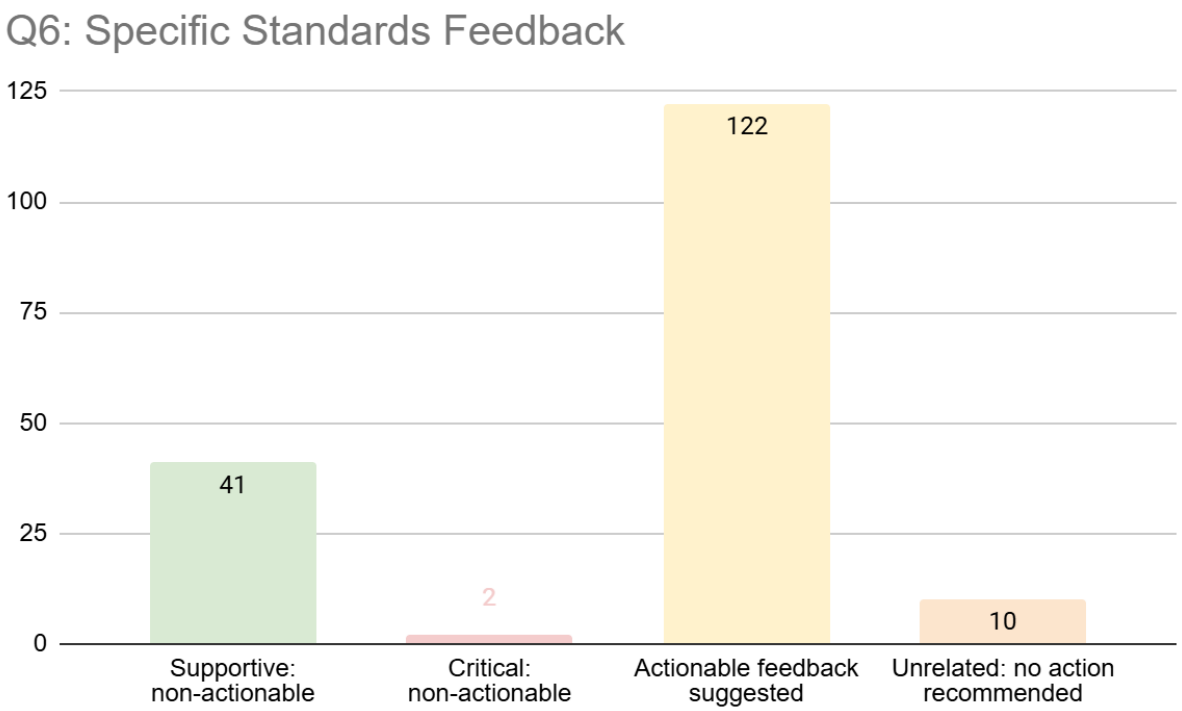
Specific Standards

The current strands appear consistent with longstanding math frameworks (e.g., Numbers and Operations, Algebra, Geometry, etc.), but the future of math education should consider a restructuring. For example, a dedicated strand for Mathematics in the Real World (personal finance, data science, math in technology and design) could signal Utah's leadership in relevant, employability-focused instruction. Similarly, Digital Tools and Mathematical Thinking could become a cross-cutting strand, ensuring students practice responsible and strategic use of AI and tech rather than avoiding them.
3.OA.7 Not sure I understand how to work with " Remove context to represent situations as equations with a variable standing in for the unknown quantity." G= amount of gum in total? This is a little murky.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 6: Please share any feedback you have regarding specific standards in the Draft P-12 Utah Core Mathematics Standards written by the Mathematics Standards Writing Committee.



Supportive: Non-Actionable

K.OA.4, 1.OA.7, etc - I love that it specifies "flexibly, accurately, and efficiently" and that flexibly is listed first rather than just saying "fluently."
I think they look good.
I really like the "by the end of the course, students should be able to..." at the end of each grade/subject document.
No concerns.
Looks good.
They are more clear and focused.
The standards have been written well, I like that absolute value is not included in 9th grade.
None

They look good. I appreciate that there are fewer and they are more focused. It is great that the skills are incorporated in effort to support meaningful classroom experiences.
No specific standard concerns.
None
No issues. They look like they are more clear and consice.
They look good. They seem to be more concise, and there are fewer of them.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I trust the writing committee of experts to write the math standards that kids need to learn. I love the addition of data science and the modernized skills.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
No specific standards seem out of place.
No concerns
I don’t see in thing concerning.
They look good to me. Easy to read.
They seem good to me.
Base on what I see they look good. Very similar to what we have now, which is awesome. Teachers don't need to be asked to make big shifts. Better to have us focus in and work to improve the learning even more.
No issues
No specific standards issues.
No specific concerns.
They seem general in nature. I assume that math educators and writing team members know what they need to have taught to students.
No feedback at this time.

No concerns, these look like they are more general and overarching in many ways. Will there be specifics provided in additional documents?
No issues.
nothing specific.
They look great.
The phrasing that embeds the skill focus within the standard is brilliant. Thank you for that change. Thank you for making a concerted effort to pair down the size of the standards, and to really focus on creating depth.
I think it is more user friendly than the previous versions. However, I think the core guides, and making sure that teachers are aware of them will be necessary to the success in teaching the new standards.
As mentioned before, adding core guides with examples will be an important part of releasing new standards to be sure the real intent is captured by teachers.
Much better than the last core revision!
I would mostly just like to talk with an upper grade teacher to see if concepts are covered fully below that grade. I'm glad to see the amount of concepts looks to be lessened.
Overall it looks good, please fix spacing.
Thank you again for the opportunity.
Thank you for all the work put in on organizing, writing, and formatting these and looking for the best possible pathway for students in our state.
Standards are so well written. They are clear and specific.
I have no specific comment other than the opportunity for choice in Secondary III.
I think, in general, that the standard draft is excellent and has a better language attached to it to provide better information.
S3.D.3 I LOVE the definition of independence given here. Please keep that. I know most mathematicians define independence differently, but I think the definition given here is much more contextually useful.
I recently received an email from the College Board regarding the prerequisites for AP Statistics, and I found it noteworthy that they will no longer require a second

year of algebra. This change supports the idea that advanced algebra is not necessarily a prerequisite for success in statistics and data science. It also highlights the fact that the traditional emphasis on the calculus pathway may be overstated. I'm pleased to see that the new math standards reflect a more balanced perspective on the value of learning statistics and data science.
S3.D.5 I personally follow the college board AP Stats curriculum in considering sample surveys as be types of observational studies. I would leave out surveys as a type of study.
Math 3 - I like the Math for All focus on function families as a whole and how they are used in real world modeling, as opposed to algebraic manipulation of each type of family.
I appreciate the proposed changes to Math III. Having multiple pathways is a helpful idea. However, I'm not sure how small and moderate LEAs will manage this. We are not able to offer three different courses of Math III. What is the expectation here?
I think that the separate pathways for Secondary Math 3 students will greatly help many. Over the past few years that I have taught this class, if I had had the opportunity to teach the "Math for All" pathway, my students would have had better success and could have prepared better for future classes.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Unrelated: No Action Recommended

This will take me too long... I can annotate a PDF and send it to you if you want me to. But there is no way that I am going to write all the standards that I have problems with.
The only feedback I have is that under no circumstances should any math problem be used to push political propaganda or sexual/gender related topics. Stop sneaking in topics or positions that parents disapprove of and teach math without controversial topics, propaganda, and harmful ideologies in the problems.
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!
none
Kids come out of elementary without very basic skills. Stop trying to make things "fun" and spend all your time
Can we annotate a pdf or something instead? This is insane to have to type this out in a little box and annotate then by that annoying numbering system. Teacher time is valuable, please make this more user friendly!
I am commenting on them in general- they are all written the same uniform way with the 8 components of Common Core woven in.
Expecting parents to read the entire document with links is ridiculous.
Unfortunately, I can't get the formatting to transfer over. I will send an email to Molly Basham tonight.
Please do not make these changes to the math standards.
It is essential that, overall, the standards are easily understood by teachers so that we can implement the necessary strategies to teach all students.
S2.NS.1, S2.NS.3, S2.F.3

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Actionable Feedback Suggested

Overall

Overall

Is there a way to submit a pdf? I'd love to mark up the standards (as I have already done) and provide feedback but me going through and typing out comments about each standard is not time efficient. Here are some main ones:
These standards are more general and easier to read. Will there be additional documents to help teachers know exactly what to focus in each course?
Please "denote" It's too wordy.
Almost all of the standards are unnecessarily wordy and confusing. There was obviously more emphasis placed on using a specific vocabulary to describe, than there was on describing standards clearly and accurately. You have to re-read them multiple times just to try and figure out a sense of what kids are supposed to know or be able to do. Even then, when we got to the essential standards section there were ideas listed that we didn't even know were hidden in the standards somewhere.
In general, the standards are Broad & Vague and libel to have many varieties of interpretations by teachers. This also brings back my concern of pre-requisite knowledge needing to be addressed/taught, so that you may not be able to go deeper. Also in general, you keep putting the wording of the "skills" into the standard, but the skills should be applied across them all shouldn't they? So all that does is complicate the standard and make it less comprehensible.

It's too long!!!! Too wordy and detailed. More simple draft, please. Go back to traditional math.
Make it simple
None related to a specific standard. I would appreciate having examples listed for the standards, especially high school standards. Since not every math teacher in the state was a part of the meetings from which these standards were formed, it can be difficult for us to see the vision or purpose behind some of them. So, having examples will help ensure that we all share the same vision and understanding of what we want our students to know and learn.
The standards are vague, the common core that unites math education in Utah breaks down when it can be interpreted how ever the teacher wants. Students at different schools will be learning different content with how they are worded.
The Core Mathematics Standards should have vertical alignment. Be consistent with the same wording since early grades. For example, the slope of a line should be referred to as the rate of change of a line.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Honors

Without honors options we are not preparing our children.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
My son benefitted from taking honors math in both junior high and high school, and it has left him better prepared for college.

Please continue having honors math classes starting in 7th grade. You are hurting Utah children by taking out honors classes.
honors math is needed!

Pathways

High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn't universally necessary. Students who plan to pursue advanced math will do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.
Go back to algebra I, II & Geometry plz!!

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Skills

I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.
P3 Mathematical Skills *Skill 1: Describe and represent structures, patterns, and relationships*

In grades P-K, students explore patterns and structures in counting and with shapes. Students begin ~~exploring~~ developing the concepts of addition and subtraction with small numbers.

Skill 2: Build and use models
In grades P-2, students use a variety of models to build their understanding of numbers with increasing complexity, leading to an understanding of the base ten place value system. They model the actions and comparisons represented by the operations of addition and subtraction. Consistent exposure to these models supports fluency and helps students connect concrete experiences to foundational mathematical ideas.

Skill 3: Attend to precision and reasonableness
In grades P-K, students use informal language as they develop and learn precise mathematical vocabulary. They begin to learn strategies for assessing their accuracy when counting, naming numbers, and describing shapes.

Skill 4: Construct, justify, and communicate clear and reasonable arguments
In grades P3 and P4, students are learning to communicate their ideas and listen to the ideas of others. ~~They develop strategies to agree and disagree respectfully~~. Students begin to explain mathematical ~~ideas~~. concepts

Skill 5: Add or remove context to make sense of mathematics
In grades P-2, students build an understanding of what the numbers, symbols, pictures, words, etc., in their work represent. Students develop flexibility in moving between concrete, pictorial, and abstract representations of mathematical ideas. They begin moving back and forth between a problem's context and its representation to use the form that best fits the situation.

Skill 6: Ask questions to explore mathematical ideas
In grades P-2, students ask questions to help them ~~explore~~ understand numbers, place value, the properties of addition and subtraction, and the properties of shapes. Students begin to ask questions about data related to the classroom and

their day-to-day lives. Skill 7: Make conjectures and evaluate the results In grades P-2, students will make and test conjectures related to numbers, place value, the properties of addition and subtraction, and the attributes of shapes. As students ~~explore their conjectures, they~~ ~~will~~ learn to evaluate the reasonableness of their solution path and adjust as needed. Providing students opportunities to revise their thinking helps students develop confidence in problem solving. Skill 8: Select and use tools appropriately and strategically In grades P-2, students use tools when they help them make sense of mathematics. Tools can include, but are not limited to, physical tools, visual tools, and self-created tools such as counters, ten frames, place value charts, hundreds charts, open number lines, strategies, algorithms, etc. Consistent, hands-on practice with these tools builds confidence and prepares students for flexible application.
Adding the word mathematical in front of the word tools.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

P3

CC

In multiple standards are the phrases “add context” and “remove context” - what does that mean?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

P3 Data standards, strike existing data standards and replace:
Data Science (D)
collect and analyze data by sorting and counting objects.
P3.D.1
With prompting and support, ask questions to collect and organize data.
P3.D.2
With support, select and use tools to collect and sort data by attributes (color, shape, size). (Sk 8)
P3.D.3
With prompting and support, attend to precision and reasonableness when analyzing data by counting the number of objects in each category using between 0-5 objects). (Sk 3)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

P4

Competencies

P4 Intro:

In P4, instructional time should focus on three major works: (1) reinforcing concepts of counting and cardinality; (2) ~~exploring~~ introducing concepts of addition and subtraction; and (3) exploring and describing shapes, patterns, and measurable attributes of objects. Quality learning environments focus on hands-on experiences during play and interaction with others to incorporate well-designed mathematical experiences aligned to specific learning goals.

P4 Competencies
Add a Time and money competency and standard (cyclical nature of time)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

P4 Data Science
Strike all existing data science standards and replace:
Data Science (D)
Collect, analyze, and interpret data by sorting and counting objects.
P4.D.1
With prompting and support, collect and analyze data within the classroom. Count the number of objects in each category. (Sk 6)
P4.D.2
Collect and sort data by explicit attributes (color, shape, size). Identify which groups contain more, less, or the same amount.

- ☐ Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

K

Competencies

Kindergarten Competencies Count and write to 100 by ones and tens. (CC) Add Time and money competency and standard

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

CC

K.CC.2 Attend to structure and patterns when counting forward from a given number between 1 and 100. (Sk 1) I think counting forward from any number up to 100 is very difficult for Kindergarten students. Counting on from any number up to 20 would in my opinion be more reasonable for this age.
K.CC.7 references subitizing, but should it also reference conceptual subitizing or groupitizing as the result of composing the subitizing into one group to get up to 10?

K.CC.3 *Use precise* language and actions to identify and ~~*justify*~~ **write** the quantity of objects in a group of 0–20. (Sk 3, 4)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

OA

K.OA.1--The skill included in the standard is "select and use tools." A more appropriate skill for this standard would be for studetns to "build and use models" to represent addition and subtraction. . .
K.OA.3--The standard is great with the exception of students making conjectures about why a number or set of objects can be broken apart in multiple ways. This seems like something that students will see clearly as they build and use models.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

MG

K.MG.1--"Make conjectures to compare two objects with a measureable attribute to see which object has more of / less of . . ." A conjecture is like a hypotheseis that we can test to see if a mathematical idea holds true in all cases. This standard seems to be calling for an estimate rather than a conjecture.

K.MG.1--The standard calls for students to describe several measurable attributes of a single object. Which attributes are we talking about? This standard has, in the past, addressed the attributes of length and weight. Why not list these two attributes by name? By leaving it vague, teachers might not understand what it is students should be paying attention to, such as number of sides, angles, and verticies, which is not the intent of this standard.
K.MG.1 *Attend to precision and reasonableness* when describing several measurable attributes of a single object. ~~*Make conjectures to*~~ compare two objects with a measurable attribute to see which object has "more of"/"less of" the attribute *and evaluate the* ~~*results of those conjectures*~~. (Sk 3, 7) (note- it is hard to tell if the time and focus will be on making, discussing and writing conjectures in place of comparing measurable attributes related to math values. Schools have limited time and resources. Intentional standards are important.)
K..MG.3--Why are we making conjectures about sorting two and three dimensional shapes? What hypothesis are we trying to test. Skill #4 (Constructing, communicating and justifying clear and reasonable arguments) would be much more appropriate here as students explain the inclusion of objects into different groups in their sort.
K.MG.3 ~~*Make conjectures and evaluate the results to*~~ analyze, compare, and sort two- and three-dimensional shapes and objects in different sizes and orientations, using informal language to describe their similarities, differences, and other attributes (for example, color, size, shape, number of sides). (Sk 7)
K.MG.4--As students combine simple shapes to form a variety of shapes, would the language be more accurate to say "compound shapes" rather than a "variety of shapes?"

☐ Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

K Data Science
Strike all existing data science standards and replace
Data Science (D)
Ask questions that lead to collecting, analyzing, and interpreting data. Sort, count, and compare objects in a data set.
K.D.1
Ask questions about a given topic to investigate situations that will lead to collecting and analyzing data with up to three categories. (Sk 6)
K.D.2
Count the number of objects in each category. Interpret data by using math language to identify which groups contain more, less or the same amount."

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 1

Competencies

Standards: Grade 1

Essential Competencies

- ☐ Fluently add and subtract ~~when the largest~~ numbers in ~~the~~ an equation ~~is no greater than~~ up to 10. (Basic fact fluency) (OA)
- ☐ Draw pictures, use objects or write equations to solve addition and subtraction story problems where the largest number in the story is between 0-20 ~~no greater than 20~~. (OA
- ☐ Proficiently use an efficient algorithm ~~variety of strategies~~ to add and subtract. (OA)
- ☐ Add a time and money competency and standard

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

OA

1.OA.1 Is it that start unknown is not needed just for comparison types or is it for any of the problem types? The wording could be read either way.
1.OA.3 ~~*Make and test conjectures* about~~ Demonstrate an understanding of the properties of addition. *Add context* and ~~*compare arguments*~~ use structure to make sense of these properties as strategies to add and subtract. (Sk 4, 5, 7) 1.OA.4 *Describe and represent* subtraction as an unknown-addend problem. ~~*Construct and justify arguments* that explain~~ Demonstrate how to determine the unknown whole

number in an addition or subtraction equation relating to three whole numbers. (Sk 1, 4) 1.OA.6 ~~*Justify* strategies used~~ Demonstrate how to add and subtract with sums and minuends less than or equal to 20, ~~and compare strategies with others~~. (Sk 4) (Note- Are we going to measure a students ability to compare strategies with others? This is a classroom strategy to help a student learn the math concept not a standard for students.) 1.OA.8 *Build and use models* to make sense of the meaning of the equal sign. ~~*Make conjectures*~~ ~~regarding whether~~ Apply math knowledge to addition and subtraction equations to determine if they ~~are~~ true or false and *evaluate the reasonableness of results*. (Sk 2, 7)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NBT

1.NBT.2--As students count by tens, will they be counting on the decade numbers only or will they count by tens from any number?
1.NBT.5 The skills embedded helps to clarify what is expected. I like the addition of two 2-digit numbers to make that clear and that it calls out in the Essential Competencies that it is using pictures and models to add the numbers. 1.NBT.7 I like how the skill of "justify" requires more thinking and reflection on the part of the student to do the mental math rather than the current "without having to count."

1.NBT.5 *Build and use concrete and pictorial models* to determine the sum of two two-digit numbers, a two-digit number and a one-digit number, and a two-digit number and a multiple of ten (less than or equal to 90). Use the models *to represent and describe the structure* of combining tens with tens and ones with ones. ~~*Make conjectures* about when~~ Demonstrate how to compose ten ones into a ten. *Ask questions to compare* concrete and pictorial models. (Sk 1, 2, 6, 7)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

MG

1.MG.5 Ask questions to distinguish attributes of shapes seems strange here. I think Skill 1 or 2 would be more applicable.
1.MG.4 ~~*Ask questions to*~~ *Explore* attributes of and identify common U.S. coins. *Attend to precision* when representing their comparative values and use appropriate notation (5¢). (Sk 3, 6) 1.MG.5 ~~*Ask questions to*~~ Distinguish between defining and non-defining attributes of shapes. Given defining attribute(s), build and draw shapes that possess the defining attribute(s). (Sk 6)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

Grade 1 Data Science
Strike all existing data science standards and replace:
Ask questions that lead to collecting, analyzing, and interpreting data. Develop strategies for organizing data. Interpret visual representations of data.
1.D.1
Select and use tools appropriately and strategically to collect and organize data. Analyze data sets with up to three categories by creating visual representations of the data. (Sk 3)
1.D.2
Using visual representation, solve simple addition, subtraction and comparison problems related to the investigative questions.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 2

Competencies

- ☐ Grade 2 Competencies
  ~~Fluently add and subtract when the largest number in the equation is no greater than 20.~~ Fluently add and subtract numbers up to 20. (Basic fact fluency) (OA)

☐ Fluently add and subtract when the largest number in the equation is between ~~no greater than~~ 0-100. (Computational fluency) (NBT) ☐ Add a Time and money competency and standard.

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

OA

2.OA.4--This is nitpicky, but in the final sentence of the standard, "Make and evaluate conjectures about whether THEY are the same to add by row or column." The word THEY needs to be changed to THE SUMS.
2.OA.4 *Build and use models* involving addition to determine the total number of objects in rectangular arrays with up to 5 rows and up to 5 columns. *Describe and represent the structures and patterns* of the arrays. ~~*Make and evaluate conjectures* about~~ including whether they are the same to add by row or column. (Sk 1, 2, 7)

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

NBT

2.NBT.3 Read three-digit whole numbers and represent structures in those numbers using numerals, base 10 word form, and expanded form. This was hard for most third graders to master and retain and now it is in the 2nd grade expectations. Stop pushing the expectations so high that students fail to understand everyday math concepts for real life application.
2.NBT.5 With attention to precision and reasonableness, use numeric strategies to determine the sum of up to four two-digit numbers, and the difference of two two-digit numbers flexibly, accurately, and efficiently. Justify the process using the relationship between addition and subtraction, properties of addition, and/or place value language. (Sk 3, 4) This is a lot to ask when students are just learning how to add two 2-digit numbers with regrouping.
2.NBT.2 Count within 1,000, ~~*making conjectures* about~~ identify counting patterns and relationships; Skip-count by twos, fives, tens, and hundreds. (Sk 7) 2.NBT.4 ~~*Use tools* and place value understanding to~~ compare two three-digit numbers. *Represent the relationship* between the two numbers using comparison symbols <, =, and >. (Sk 1, 8) 2.NBT.5 *With attention to precision and reasonableness,* use numeric strategies to determine the sum of up to four two-digit numbers, and the difference of two two-digit numbers flexibly, accurately, and efficiently. ~~*Justify* the process~~ use~~ing~~ the relationship between addition and subtraction, properties of addition, and/or place value language to calculate your answer. (Sk 3, 4)

2.NBT.6

Build and use concrete and pictorial models to determine the sums and differences of three-digit numbers with sums and minuends up to and including 999. Use the models to *represent and describe the structure of* combining hundreds with hundreds, tens with tens, and ones with ones. ~~*Make conjectures about*~~ Identify when it is necessary to compose or decompose hundreds, tens, and ones. *Ask questions to compare* concrete and pictorial models with written numeric strategies. (Sk 1, 2, 6, 7) including efficient algorithms

2.NBT.7

Mentally add and subtract multiples of 10 or 100 from a three-digit number, ~~and~~ ~~*justify the*~~ *attend to structure and patterns when evaluating the result.* (Sk 4)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

MG

2.MG.7--The skill "Add or remove context" when thinking about solving problems about money may not be the most appropriate skill for this standard.

2.MG.3

~~*Construct, justify, and communicate clear and reasonable arguments* when~~ Estimate~~ing~~ lengths using inches, feet, centimeters, and meters. (Sk 4)

2.MG.6

Attend to precision and reasonableness when telling and writing time to the nearest five minutes. ~~*Ask questions* to~~ Determine when to use a.m. and p.m. (Sk 3, 6)

2.MG.8

~~*Ask questions to*~~ identify and describe shapes having specific attributes. Build and draw shapes that possess specific attributes. (Sk 6)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

Grade 2 Data Science
Strike all existing data science standards and replace:

Data Science (D)
Ask questions that lead to collecting, analyzing, and interpreting data. Organize and build visual representations using a single unit scale and data features such as titles, labels, and legends. Consider the impact that missing data may have on a data set.
2.D.1
Ask questions to investigate situations that will lead to collecting and analyzing data. Organize and build visual representations using a single unit scale and data features such as titles, labels, and legends.
2.D.2 Identify statistical features of data sets (range and mode). Interpret data to answer investigative questions.
2.D.3 Using visual representation, solve simple addition, subtraction and comparison problems related to the investigative questions.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 3

Introductions

Grade 3-5 Introductions
In third through fifth grade, the major work of each grade focuses on representing and understanding multiplication and division and developing an understanding of fractions. Children generalize and expand their place value understanding. Measurement concepts are expanded to include two- and three-dimensional measurements.

In Grade 5, instructional time should focus on three major works: (1) extend understanding of addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) ~~solidify~~ master place value understanding to develop understanding of operations with decimals to hundredths and with whole number and decimal operations; and (3) develop an understanding of volume.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Competencies

Grade 3 Competencies

- ☐ Fluently multiply digits 1-12 numbers. (Basic fact fluency, memorized) (OA)

- ☐ Fluently divide numbers, with no remainders, when the largest number in the equation ~~is no greater than~~ up to 144. (Basic fact fluency) (OA)
- ☐ Build models and numeric representations to compare fractions and to generate equivalent fractions. (NF)
- ☐ Use models and math formulas to determine the area and perimeter of rectangles. (MG)
- ☐ Represent data sets with more than three categories using various scaled visualizations ~~and identify patterns, trends, and outliers~~ in a data set. Demonstrate the difference between quantitative or categorical data collection (D)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

OA

3.OA.1--Insert the words "find and." For example: "Build and use models to FIND AND interpret products of whole numbers."
3.OA.2--Insert the words "find and." For example: "Build and use models to FIND AND interpret whole number quotients."
3.OA.3 it lists using equal groups, arrays, and measurement quantities. Would it be appropriate to do equal groups, AREA and measurement quantities? Just wondering. Does 3rd grade only work with group/size of group? what does the measurement quantities refer to?

3.OA.1 - 8 are horrible. I had several people reread them to make sure that I wasn't the problem. No one can understand anything that is being written in the OA strand.
3.OA.1 What does it mean to "interpret" a product?
3.OA.8 The wording is very confusing. It is unclear if we only justify even and odd patterns?
3.OA.5 ~~*Make and assess conjectures* about~~ Clearly demonstrate the properties of multiplication. *Add context* ~~and *compare arguments*~~ to make sense of these properties ~~as strategies to~~ when multipling and dividing with products and dividends less than or equal to 100. (Sk 5, 7)Associative, commutative, distributive, identity, and zero property 3.OA.6 *Attend to precision and reasonableness* when flexibly, accurately, and efficiently multiplying and dividing with products, dividends, and divisors up to and including 100, and quotients up to and including ~~10~~12. Know from memory all products of two ~~one-digit~~ numbers 1-12. (Sk 3)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NBT

Introduction Number and Operations in Base Ten (NBT) Use numeric strategies based on efficient algorithms (founded in place value thinking and properties of operations) to perform multi-digit addition, subtraction, and multiplication.

3.NBT.4 Find the product of a one-digit whole number and a multiple of 10. Make and test conjectures to generalize patterns that occure when multiplying by a multiple of ten. Kids are suppose to decide for themselves if their guess is correct based upon their observations, experience? There is more than one idea to support their answers?
3.NBT.1 - I would rather it say unitizing, than "bundling" - haven't read the bundling word in any other grade level up to this point in the new standards.
3.NBT.3 - What are you meaning by using "numeric approaches"? It used to say using strategies based on place value and properties of operations.
3.NBT.3 "Numeric Approaches" is unclear. How else would a 3rd grader approach a sum, but numerically?
3.NBT.3 Determine sums and differences of three-digit whole numbers using ~~numeric approaches~~ efficient algorithms and ~~*justify* the approach with~~ using place value language. (Sk 4) (One of the concerns I have received from parents is that children are taught several ways to complete problems but never proficiently learn one way. Parents have a difficult time helping with some of these approaches thus leaving them frustrated that they are unable to successfully assist their child. This standard is promoting this approach to learning. I understand the need for conceptual learning but certainly students should master an approach prior to extending the learning environment to many approaches. It appears that the exception will now become the rule. Some students may need a different approach but most will be able to follow the learning of one efficient algorithm and the place value significance. Students in third grade want to be successful. We are at 48% profiecnt in 3rd grade and have held steady for the last 5 years. 30% of our economically disadvantaged students are proficient. These are the students who need the most support and the clearest standards for success.) 3.NBT.4

Find the product of a one-digit whole number and a multiple of 10 (10-90) and 11 (11-99). ~~***Make and test conjectures* to generalize**~~ identify patterns that occur when multiplying by a multiple of ten and eleven. (Sk 7)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NF

3.NF.5--This seems to be a new standard. I feel it's completely unnecessary. This should have already happend when thinking about standard 3.NF.1
3.NF.4 - should it say something about equivalent fractions when referring to the same whole?
The heading of the Grade 3 Number and Operations-Fractions strand says, "represent fractions." It seems unclear what that might mean. Are we meant to model a numeric representation of a fraction? Represent a whole number as a fractions? Represent a set of objects as a fraction? 3.NF.1 "compose and decompose a fraction into its unit fractions" is unclear and confusing.
Introduction Number and Operations – Fractions (NF) Develop an understanding of fractions including whole numbers. Represent fractions, find equivalent fractions, and make sense of fractions in context. ~~Denominators are limited to~~ Use 2, 3, 4, 6, and 8 in the denominator ~~third grade~~.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

MG

3.MG.4 - should this be more about connecting the numeric representation to the pictoral instead of "Use tiling to show that ..." I see direct instruction with that wording, not connection.
3.MG.3 Time gets a specific parameter "to the nearest minute." The unit of measure for length (inches? centimeters? both? 1/4 inches? 1/2 inches? 1/8 inches?), liquid volume, and mass or left to personal interpretation.
3.MG.5 This standard seems to be in the wrong strand. The distributive property is currently an OA standard. If you are not going to include wording about finding area using the distributive property, then put it back where it belongs.
3.MG.6 *Add and remove context to solve real-world and mathematical problems* involving perimeters of simple polygons and rectangular areas. *Make and evaluate ~~conjectures~~ about* rectangles with the same perimeter and different areas or with the same area and different perimeters. Describe how these measures are related. (Sk 5, 7)

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

D

Grade 3 Data Science Strike existing data standards and replace with: Data Science (D) Identify results in quantitative or categorical data collection. Represent data sets with more than three categories using scaled visualizations and determine the

benefits and drawbacks of different visual representations and scales. Answer questions related to
3.D.1
Select and use tools appropriately and strategically to generate and collect data. Identify data as quantitative or categorical. Ask and answer questions related to the data representations. (note - There is no need to focus on classroom, school or community as you build through the grades. This piece seems to shift the focus away from the math concept and puts it on the environment you want to collect data in. Textbooks are going to have age-appropriate content for students.)
3.D.2
Attend to precision and reasonableness when analyzing data by creating scaled visualizations representing a data set with more than three categories. Make and evaluate benefits and drawbacks of different visual representations and scales used to analyze a set of data. (Sk 3, 7) Scaling by (2s, 5s and 10s)
3.D.4
Find the median, mode and range of data sets and use addition and subtraction to answer questions related to the representations of the data.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 4

Competencies

Grade 4 Competencies

- ☐ ~~Use models to represent and make sense~~ of Fluently multiply and divide two-digit by two-digit multiplication and division problems with one-digit divisors (ex, 125 ÷ 5 = 25 where 5 is the divisor). (NBT)
- ☐ Make connections between numeric ~~strategies~~ representations and visual models to compare, order, and determine if fractions have equal values. (NF)
- ☐ ~~Build and use models to~~ add and subtract fractions with like denominators and to multiply fractions by a whole number. (NF)
- ~~☐ Identify and discuss potential sources of bias in data collection, representation, and interpretation, and evaluate how data bias may affect how people draw conclusions from data. (D)~~
- ☐ Evaluate data number sets that use fractions and understand how those sets impact the outcome of the mean, median, and mode in data (D). Correctly apply these math concepts.
- ☐ Summarize and display the results of probability experiments. Use the data to predict future probability events (coin toss, rain, plant growth, etc.)

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

OA

4.OA.4 Needs clarity on the latter portion of the standard.
4.OA.5 Ask questions to explore the mathematical idea that a whole number is a multiple of its factors. Make and evaluate conjectures that all whole numbers are divisible by

their factors. (Sk 6, 7) - This standard implys that the students don't need to determine that a whole number is a multiple of its factors, just display the ability to think about the relationship between the whole number and its factors. Is that the goal?
4.OA.3--This standard is unnecessary and forced. Why do we have a standard whose focus is to use and name properties of operations to justify strategies? It feels like the author of this standard wanted to include a standard somewhere that dealt with properties of operations and selected 4.OA. Just an unnecessary and silly standard.
4.OA.5 ~~*Ask questions to explore the mathematical idea*~~ Develop understanding that a whole number is a multiple of its factors. ~~*Make and evaluate conjectures*~~ Demonstrate that all whole numbers are divisible by their factors. (Sk 6, 7) **(Note - We don't want to speculate on this principle. It is needed in greatest common factor, least common multiple, working with fraction and square roots. Why would we explore instead of teaching how multiples are factors of certain numbers or divisibility rules related to factors? We have limited time and resources. The elementary grades are key to building foundations.)** 4.OA.6 Generate a number or shape pattern based on a given rule. *Describe and represent* the features of the pattern that are not explicitly stated in the rule itself. ~~*Make conjectures*~~ *Accurately demonstrate* ~~as to~~ how the pattern will continue. (Sk 1, 7)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NBT

Number and Operations in Base Ten (NBT) Use place value understanding to make multiplicative comparisons. Write, compare, and round whole numbers less than or equal to 1,000,000. Use ~~numeric strategies~~ efficient algorithms, place value understanding, and properties of operations to perform multi-digit addition, subtraction, multiplication, and division. division. 4.NBT.7 Find the quotient of up to a three-digit dividend and one-digit divisor. *Develop visual and numeric models* that demonstrate place value and the relationship between multiplication and division**;** ~~*justify and communicate*~~ Demonstrate the meaning of the remainder. (Sk 2, 4)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NF

4.NF.3 Is not in the correct location. If the standards are meant to be taught somewhat chronologically, this standard would come later.
4.NF.5 Overly complicated, can be simplified.
4.NF.2 Make and assess conjectures about the identity property of multiplication as a strategy to recognize and generate equivalent fractions. Connect numeric strategies to visual fraction models. (Sk 7) - In the end should have they a correct conjuecture about how to use identy property to generate an equivalent fraction?
4.NF.8 is confusing. Where is says "compare two Decimals to hundredths," does it mean fractions in hundredths, or other decimals? Some clarification would be helpful there.
4.NF.2: If you use the Multiplicative Identity property to generate equivalent fractions, you are multiplying a fraction by a fraction, which isn't taught until 5th

grade. I'm concerned that teachers might think this standard means they should teach that algorithm before conceptual understanding has been developed.
Number and Operations–Fractions (NF) Extend understanding of equivalence and ordering fractions. Build on previous understanding of fractions to begin operating with fractions and ~~explore~~ demonstrate the relationship between fractions and decimals. Understand decimal notation to the hundredths. Denominators for fourth grade ~~are limited to~~ include 2, 3, 4, 5, 6, 8, 10, 12, and 100. 4.NF.2 ~~*Make and assess conjectures* about~~ Demonstrate the identity property of multiplication as a strategy to recognize and generate equivalent fractions. Connect numeric strategies to visual fraction models. (Sk 7) 4.NF.3 ~~*Construct, justify, and communicate clear and reasonable arguments*~~ Demonstrate ~~how~~ to compare and order fractions with different numerators and denominators. (Sk 4) 4.NF.7 ~~*Construct, justify, and communicate clear and reasonable arguments*~~ Make clear math connections when converting ~~to connect~~ decimal notation to fractions with denominators 10 or 100. (Sk 4) 4.NF.8 Compare two decimals to hundredths by reasoning about their size, and make an accurate comparison ~~*justify* the comparison.~~ (Sk 4)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

MG

4.MG.1--Why are we still converting between measurement units? The only major part of this work (achieve the core) is the multiplication portion of the standard. The measurement part is additional at best. We have more important standards that we should be going deeper with rather than spending our time converting between measurement units which no longer has any real application for our students.
4.MG.2--The way this standard is written is misleading and may cause 4th grade teachers to think they need to use all four operations when solving problems involvind simple fractions and decimals. We shouldn't have a standard written so vaguely that we have to rely on the core guides for clarity.
4.MG.1 Thank you for eliminating the need for students to memorize ridiculous amounts of conversion keys for measurements.
4.MG.2 What is meant by using four operations to solve one and two step problems. Is that with same measurement units, or mixed measures? Some clarification is needed there.
4.MG.5 When it says, "describe...the measure of angles in reference to a circle," is it talking about degrees out of 360 in a circle, or fractions, or both? Please clarify.
I have mentioned above that the grain size of the standards is either too big or not specific enough. I will give some examples. In grade 4: 4.MG.5 Describe and represent the structure and relationship of angles as geometric figures that are formed when two rays share a common endpoint. Describe the relationship of the measure of angles in reference to a circle. (Sk 1) . In the current version of the standards it is: Standard 4.MD.5 Recognize angles as geometric figures that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. Understand that 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 other angles. b. Understand that an angle that turns through n one-degree angles is said to have an angle measure of n degrees. While this standard is broken into two smaller standards the amount of detail about the mathematics is so different. The current standard is focused on the meaning of an angle and the mathematics behind understanding the meaning of measuring an angle. However, all of that richness that is essential for teachers to know and students to understand is stripped out of the new standard. The current standard is very explicit in what students should know and be able to do. The draft standard is vague and leaves it open to the teacher's interpretation of the meaning of measuring an angle and the relationship to a circle. If we want students to learn explicit mathematical concepts they must be given detail within the standards. I have read through many of the standards that the board commented on and many of the responses are it will be explained in the core guides. This is not sufficient. The core guides will come out 1 to 2 years after the standards, this means that teachers are left to their own interpretation of the standards and what they will teach to students. The standards should be explicit about the mathematics that should be taught and if the standards are not explicit students will be getting what their teacher thinks is important, not necessarily, what is important.
4.MG.7 Understand and demonstrate the additive nature of angle measures. Solve addition and subtraction problems to find unknown angles on a diagram in *real-world and mathematical problems*. (Sk 5) (Is there a need for more detail on this standard? For example adding 90 degrees, 180 degrees or 360 degrees angles)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

4.D.1 I have multiple issues with this standard. Firstly this standard will be difficult to measure, especially for our MLs. This standard leads to data analysis, but overall is more of an ELA standard based on the current wording. I do find it important for students to develop mathematical questions and to do research, but the current phrasing of this standard needs to be altered.
4.D.2 This standard is multiple standards squished together. Every action asked of the student could arguably be a separate standard.
4.D.4 This standard is a large jump from third to fourth grade. There is a lot of growth during fourth grade, but asking student to understand bias from a mathematical stand point seems unreasonable. The term will be completely new to some of them and has the potential to bring up some very heavy topics given the current political climate and community that some schools Canyons District serve. Bias can have a lot of meanings, but asking teachers to tip toe around the various definitions of term is unfair. Please change the wording, simplify and clarify the standard.
4.D.2--This feels really early on in the grade levels to start to discuss the ideas of the sampling process and sampling size.
4.D.3--4th grade students are not ready to consider the concepts of bias in data collection, representation and interpretation.
Grade 4 Data Science Strike existing data standards and replace: Data Science (D) Investigate and analyze situations with whole number and fractional data sets. Use operations to answer questions related to the data. Collect data related to experimental probability and accurately express outcomes of experimental probability situations. 4.D.1 Ask questions to investigate situations that will lead to generating, collecting and analyzing data (Sk 6) set using fractions and find mode, mean, and median.

4.D.2
Attend to precision and reasonableness when analyzing data by creating visual representations. Make and evaluate conjectures about how different visualizations might influence interpretation of data. (Sk 3, 7)
4.D.3
Using visual representation, solve addition, subtraction and comparison problems related to the investigative questions.
4.D.4 Summarize and display the results of probability experiments. Use the data to predict future probability events (coin toss, rain, plant growth, etc.). Express outcomes of experimental probability situations verbally and numerically. (2 out of 5; 2/5)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 5

Competencies

Grade 5 Competencies

- ☐ ~~Use numeric strategies to~~ ~~solve division~~ Use efficient algorithms to accurately divide problems with up to a four-digit dividend and one-digit divisor with a remainder. Communicate the meaning of the remainder. (NBT)
- ☐ ~~Build and use models to~~ solve addition, subtraction, multiplication and division problems involving decimals. (NBT) (Are we still scaffolding these problems for students?)

- ☐ ~~Use numeric strategies to~~ add and subtract fractions with unlike denominators. (NF)
- ☐ ~~Build and use models to~~ multiply fractions, whole numbers, and mixed numbers. (NF)
- ☐ ~~Interpret data to answer investigative questions, consider the impact of bias, representation, and sampling approaches. (D)~~
- ☐ Answer questions about data sets represented by percents and fractions when using visual representations and applying operations.
- ☐ Understand the impact of removing or increasing an outlier to the median and mean of a data set.

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

OA

See above (The standards for 5th-grade seem to omit order of operations and estimation strategies other than rounding. These are critical for student success in determining reasonableness of strategies and solutions as well as on RISE summative tests in their current format. In addition division with two digit divisors, three digit by three digit multiplication, and addition/subtraction to the thousandths are omitted which will also inhibit student success on existing RISE summative testing. It is also curious that fraction division is the only operation with regard to fractions that is not considered an essential competency. The addition of prime vs composite numbers in operations and algebraic thinking standards seems ill aligned, why not include the concept with finding common denominators and simplifying fractions where it could be embedded in context?

The standards that include adding and removing context don't really make sense. What does that mean? That verbiage is included in several standards, and it is confusing without further explanation. I have read the skill explanation, but it still isn't clear. 5.OA.2 Add context to make sense of multi-step problems using multiple operations that involve parentheses, brackets, or braces when given, and remove context to write and/or evaluate numerical expressions. Interpret expressions without evaluating to make sense of the expressions.
5.OA.3--Completely unnecessary. Feels like a standard that someone threw in so that the idea of properties of operations could be explored but contributes nothing to the OA strand. Should be taken out.
5.OA.1 ~~*Ask questions to explore the mathematical ideas*~~ Demonstrate the properties and factors of prime and composite numbers. *Describe and represent patterns* to *justify* whether a given whole number between 1 and 144 is prime or composite. (Sk 1, 4, 6) 5.OA.2 *Add context* to make sense of multi-step problems using multiple operations that involve parentheses, brackets, or braces ~~when given~~, and *remove context* to write and/or evaluate numerical expressions. Interpret expressions without evaluating to make sense of the expressions. (Sk 5) 5.OA.3 ~~*Make conjectures* about~~ solve~~ing~~ problems involving addition, subtraction, multiplication, and division by connecting properties of operations. *Justify* why the strategy will always work. (Sk 4, 7)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NBT

5.NBT.8-10 - separating the operations for decimal problems was so needed. These skills are completely different and shouldn't be lumped the way they were.
5.NBT.6 and 5.NBT.7 are both ridiculous. I just read them to several intelligent, well educated adult family members and they all were befuddled. Let's get back to basics.
5th grade NBT section states to hundredths and the next skill says thousandths. Shouldn't they learn all decimal material to thousandths?
5.NBT.8 - could it say make a conjecture, instead of "describe the process" which sounds very procedural
5.NBT.2 *Represent* powers of 10 with whole number exponents**.** ~~*Make conjectures about* and *justify*~~ attend to place value structure and patterns while using ~~-~~a decimal's placement when multiplying by powers of 10. (Sk 1, 4, 7) 5.NBT.7 *Add or remove context* to find quotients with remainders with up to a four-digit dividend and one-digit divisor. Select numeric strategies that demonstrate properties of multiplication and/or place value. ~~*Justify* and~~ communicate the meaning of the remainder. (Sk 4, 5)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NF

I feel that the 5.NF.2 standard, specifically the phrase, "whole represents a set of multiple items" is unclear and likely to cause confusion among some educators without a strong mathematics background.
5.NF.3 please clarify if mixed numbers must be multiplied by mixed numbers. If so, are there restrictions on size if students are expected to draw a model to solve.
5.NF.5 *Build and use models,* to divide unit fractions by whole numbers and whole numbers by unit fractions. *Add and remove context* to solve problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions. ~~*Make conjecture s about*~~ Clearly explain and demonstrate the relationship between

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

MG

5.MG.1 - requiring a measurement key for conversions is very helpful for the kids. There are so many units they have to keep track of, it can be confusing, especially with the standard system. The RISE tests need to include this key as well.
5.MG.3 - specifying using the formula to solve volume is great, and clarifying that both addition and multiplication are needed for finding the volume, although it doesn't say anything about composite shapes. It seems like the standard no longer includes composites, could use some clarifying there.
5.MG.1--Why are we still converting between measurement units? The only major part of this work (achieve the core) is the multiplication and division portion of the standard. The measurement part is additional at best. We have more important standards that we should be going deeper with rather than spending our time

converting between measurement units which no longer has any real application for our students.
5.MG.5--This standard should be focused on quadrilaterals rather than all two-dimensional figures.
5.MG.3 please clarify if this includes figures composed of multiple right prisms (additive volume) or not.
5.MD.3 - I don't see where it is defining center - is it still mean and median for 5th grade? Will that be explained in the core guide?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

5.D.2--Elementary students should be more focused on understanding, representing, and interpreting data rather than thinking about sample sizes and sampling approaches.
5.D.3--When we are talking about features of distributions such as center and range, is this standard suggesting that we are bringing measures of center (mean, median and mode) into 5th grade? Way, way too early.
5.D.4--Elementary students should be more focused on understanding, representing, and interpreting data rather than thinking about bias.
Grade 5 Data Science Strike Existing Data Standards and replace: Data Science (D) Investigate and analyze situations with different data points that include fractions. Interpret data to answer investigative questions represented as percents. Explore features of distribution and probability. Understand the impact of removing or increasing an outlier to the median and mean of a data set.

5.D.1 Ask questions to investigate situations that will lead to collecting and analyzing data sets related to fractions. (Sk 6) 5.D.2 Attend to precision and reasonableness when analyzing data by creating multiple visual representations and percent comparisons. Make and evaluate features of distributions such as center and range. (Sk 3, 7) 5.D.3 Explain the impact of removing or increasing an outlier to the median and mean of a data set. 5.D.4 Use fractions, decimals or percentages to represent probabilities. Apply probability outcomes to real-world situations and predict the likelihood of different outcomes in simple experiments.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 6

Competencies

Grade 6 Competencies: ~~Reason with and~~ Accurately solve one-variable equations and analyze the relationship between independent and dependent variables in a real-world context. (A)
There are too many standards for 6th and 7th grade. The students don't have time to get proficient before they're moving on to the next topic. Figure out what's most

important and cut the rest out so students can actually be proficient in math. It doesn't do anybody any good to cram this much Information down their throats. No wonder RISE scores are so low in this state!! Maybe if we gave them enough time to practice and build their confidence, we would have more students going into STEM fields. As it is, most students hate math which makes me really sad.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

A

6A.6- it might be necessary to specify two variable quantities.
First, 6.A.4 and 6.A.5 are the same. Obviously, one should be removed.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NS

6.NS.2 I appreciate that the standard algorithm isn't required. But why is it not explicit about decimal dividends AND decimal divisors. The limit doesn't make sense.
6.NS.2 *Describe and represent structures and patterns* to apply an algorithm to divide multi-

digit decimals flexibly, accurately, and efficiently. Limit to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor. ~~Determine and *justify*~~ Identify situations where estimation is appropriate. (Sk 1, 4)
Second, in 6.NS.1 on the 3rd line the word fraction should be plural. It should read “dividing fractions by fractions”
Third, 6.NS.2 the 2nd sentence should include a word after Limit to clarify what should be limited. For example, Limit tasks to a whole…. Insert the word tasks or problems.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

RP

6.RP.2 Ask questions about real world contexts involving rate, ratio, and percents. What does it mean the kids have to ask questions about it? This is the only place percents are mentioned in the 6th grade core. Do they have to solve any percentage questions? Do they need to be able to convert them?
In the 6th grade math standards for Ratio and Proportional Relationships, "percent" is only mentioned once briefly. I think it would be beneficial to teachers to know how much of percents as a ratio should students need to know. For example, do students at the 6th grade level just need to know that a percent is a part per 100? Do they need to know fraction, decimal, percent conversions? Or, do students need to also know how to perform calculations with percents? I think that the way 6.RP.2 is unclear.
6.RP.2 I feel that solving percent problems beyond limited benchmark percentages should be the focus in 7th grade. (maybe even all of percent). Ratios/rates is such a huge learning curve that seems like enough for 6th grade.

6.RP.1 *Clearly communicate and ~~justify~~* demonstrate understanding of ratio relationships including unit rates. *Build and use models* to represent real-world ratio relationships. (Sk 2, 4)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

Further, standard 6.SP.4 emphasizes displaying numerical data in plots. This is a valuable skill, but students today must also learn how to generate those plots using digital tools and spreadsheets. Adding sub-standards such as "Use digital graphing tools (e.g., spreadsheets or online platforms) to construct and interpret plots" would ensure alignment with modern data practices.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Skills

Grade 6-8 Introductions
In grades 6-8, students exercise mathematical precision and reasonableness in their communication, calculations and processes. They calculate flexibly, accurately, and efficiently, using clear and concise notation to record their work. students ~~can~~ apply this skill when adding, multiplying, and dividing multi-digit whole numbers and decimals, attend to the reasonableness of solutions when

solving multi-step, real world problems using positive and negative rational numbers, and when finding rational approximations of irrational numbers.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 7

Competencies

7th and 8th grade standards: I like that there are so many standards that lead to critical thinking, instead of just getting an answer. In general some of the standards seem vague. I look forward to seeing the core guides for more clarification.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

A

7.A.1 - How will "use tools strategically" be tested? Add the word "to" before linear expressions.
7.A.2 and 3 - Please clarify multistep or use example as the previous core, ie px+q=r and p(x+q)=r. Please don’t add solving with variables on both sides to our grade.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

EE

One concern with standards such as 7.EE.3 (solving real-life problems using numerical and algebraic expressions and equations) is that they often treat real-life examples as add-ons rather than central motivations. These standards could be rewritten to lead with context: "Using problems from finance, health, or technology, students will model and solve problems using..." This inversion invites students to experience math as a tool, not a hoop to jump through. Likewise, standards involving paper-based algorithms (e.g., multi-digit multiplication or long division by hand) should note the diminishing utility of those processes outside testing contexts and allow for tool-based alternatives that reflect real-life practice. Further, standard

- ☐ Feedback reviewed
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Justification provided here if needed...

RP

7.RP.1 is not very clear of what is asked. It seems like a lot of big words that do not really make it clear what the students really need to know here. The previous standards were clearer about the expectations for unit rate and percents. 7.RP.3 How is this one different than 7.RP.4? 7.RP.4 includes solving multi-step problems involving proportional relationships, so what exactly is different here?
7.RP.1 - How are we supposed to assess conjectures?

7.RP.2 - How are supposed to assess questions?
7.RP.1 - Are we only teaching percents to level 6th grade previously taught? If we are teaching percents as we have been, to include tax, tip, markup, markdown, please clarify. If we are not teaching tax and tip, please include it elsewhere as students need to know it. We did not notice it in any other standards.
7.RP.3 - What is the difference between contextualize and decontextualize in this standards vs verbal descriptions in 7.RP.4?
7.RP.2 ~~*Ask questions* about~~ recognize structures and patterns ~~and~~ when analyzing real world contexts to determine whether two quantities have a proportional relationship. ~~and~~ Use multiple representations to *construct, justify, and communicate clear and reasonable arguments* to support that reasoning. (Sk 4, 6)
In seventh grade, Standard 7.RP.4 is missing information that makes it incorrect. Now it says," Describe the structure and relationship between the points (0, 0) and (1, r) where r is the unit rate. However, the relationship is not between points (0,0) and (1, r). The relationship is between any point (x, y) and (0, 0) or between (x, y) and (1, r) where the r is the unit rate. The old standard read, "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." The new standard could be written as "Describe the structure and relationship between any point (x, y) of a proportional relationship in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate."

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

G

In 7.G.3, does this mean students will no longer be asked to memorize formulas? I'm in favor of emphasizing conceptual understanding over memorization, especially since it allows for more flexibility in problem solving strategies. My real question is: will they need to memorize the formulas for state tests, or will they simply be asked to solve those kinds of problems in their own way?
7.G.1 - Is the main focus supposed to be scale factor or construction? This needs to be two separate standards.
7.G.3 - Do these formulas need to be memorized? Volume of pyramids would fit better in a future grade. I thought the point was to simplify, not add more.
7.G.1 - We recommend deleting drawing and constructions and focus on scale. Our curriculum uses ratios and proportions to teach scale. Ratios and proportions are a major work of 7th grade.
7.G.3 - This standard is now really heavy combining circles, triangles, and surface area and volume. We are currently teaching that as 3 distinct, separate units. Also, please clarify to what extent we need to teach area of polygons.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

NS

7.NS.1&2 - "Build and use models." How will this be assessed? Are teachers supposed to force a certain model?
7.NS.4 Again, how do we assess this? This standard is very vague. What is it that you actually want students to be able to do? I am assuming students should be able to convert between fractions, decimals, and percents, but I am honestly not sure.
7.NS.4 We are reading this as the old 6th grade percent standard. If this is incorrect, please clarify.

7.NS.4 Describe and represent structures, patterns and relationships to make connections between fraction, decimal and percent representations of a rational number. Attend to the precision and reasonableness in by flexibly using the various representations of rational numbers. (Sk 1, 3)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

7.D.3 is the only drafted standard that seems unclear to me. I think shifting the wording around helps, but I'm not sure if I've changed the meaning with my shifts. Analyze data from random samples by attending to precision and reasonableness when creating multiple visual representations, including plots on a number lines, dot plots, histograms and box plots. Analyze data by interpreting numerical summaries for measures of center (mean and median) and measures of variability (inter-quartile range and/or mean absolute deviation). (Sk 3) Also, doesn't "plots on a number line" mean the same as "line plots"? Could "number line plots" be used to simplify the language while clarifying that number lines are the base of these representations?
In 7.D.7, should "simulation" be "simulations"?
7.D.1 - Huh? This needs to broken down into separate standards or at the very least, bullet points. I have no idea what the actual focus is supposed to be.
7.D.3 What does "plots on a number lines" mean? IQR and MAD are not developmentally appropriate for 7th grade.

7.D.3 - Per previous comment, we recommend removing creating multiple representations and focus on interpreting statistical models. Histograms, really? Histograms are actually very complex for students to understand. Let them worry about this in 9th grade
7.D.4 - Overall shape goes along with histograms. Can we take this out and take out histograms?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Grade 8

Competencies

Grade 8 Competencies:

- ☐ Flexibly, accurately and efficiently use operations with scientific notation (A)
- ☐ Solve problems in the context of bivariate measurement data, including interpreting the slope and intercept. (D)

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

A

This were the additional comments from Q5 and Q7. There were not comments for Q6 other than listing the standards. On Algebra A in eighth grade, we would like clarification on "radical and integer exponents"- will the eighth grade be teaching radical exponents, or radicals and integer exponents? "We strongly suggest that Scientific Notation be takes out of the eighth grade core. This is not an essential standard since the students use their calculators this year and from here on to accomplish this. Absolute value equations fall under this same understanding.
8.A.6.Absolute value of multi-step equations and inequalities should be distributed by 8th, SM1 and SM2. The concept is very difficult to understand for 8th graders as their brains are not fully developed for such an abstract and complex. It should be addressed with one or two steps, but not multi-step.
Another note on Absolute Value: 8.A.6 Should be separated into Absolute Value Equations with absolute value on one side, absolute value on both sides, and identifying extraneous solutions. It would be nice to keep the progression of Absolute Value being taught and reviewed in 6th and 7th grade, Absolute Value on one side being taught in 8th grade, Absolute Value on both sides and identifying extraneous solutions in SM1, while SM2 extends the idea of absolute value by graphing with parent functions.
8.A.7 Build and use graphic models
8.A. 7 Add in the standard what the essential competency says to be specific of solving systems by graphing only and not substitution or elimination.
Here are all my nit-picky spelling/wording of things: In the 8th grade standards, the Algebra introduction on page 3 says "include work with radical and integer exponents" and I think it should be radicals and integer exponents, as I don't think we want 8th graders working with radical exponents, rather radicals or rational exponents, but rational exponents are not introduced until later. I also think it is interesting that the document uses inter-quartile range instead of interquartile range, as I have never seen it referred to as inter-quartile range.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

F

8.F.2 Build and use algebraic and graphic representations

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

G

Transformations is retaught in High School and should be moved to their curriculum. Having to teach the transformations with coordinates adds quite a bit of work to our curriculum. "
Another example: 8.G.1: Clearly communicate about the general properties of dilations, rotations, reflections, and translations with and without coordinates. Use rigid transformations to establish a definition of congruent figures. Justify that two shapes are congruent through the use of rigid transformations. (Sk 4)" The current standard is: 8.G.1 Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. These two standards are fairly similar; however, this is where the writing group has tried to combine standards together and the meaning of the mathematics is lost. I can tell you based on multiple years of data collection that many teachers do not know the properties for geometric transformations, yet the new standard removes some of those properties that would help teachers

know what they should be focusing on as they teach the different transformations. I also have a problem with combining dilations with rigid transformations. Dilations have different properties than the rigid transformations, yet the writing group has grouped all of these together as if they are similar. While it may look like there are fewer standards, it really is that the standards have been stripped down of the mathematical content that is needed for teachers to teach the mathematics topics and concepts.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

8.D.3 Attend to precision and reasonableness
8.D.5 Construct, justify, and communicate clear and reasonable arguments Alot of these words are just AI justified. I feel there are better words that can be used. Build? why Construct? Those two words make me feel like a contractor and I need 3d materials to do that part of the standard. Design and or create a problem would be so much better.
Most specific standards overshadow the actual content/concept students should learn with a "mathematical skill." 8.D.3 doesn't get to what I would call mathematical content until the end of the first sentence. Neither does 8.D.6. The content should be at the forefront of the standard. If the skill is part of the content (like "construct arguments using data as evidence") then I think that's great. but if not, it's just distracting and as a teacher it adds words that aren't necessary.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

SEC 1

Competencies

Really minor, but In Secondary Math 1, in the Essential Competencies section, "Establish triangle congruence criteria which will be used to prove other theorems" is missing the (G). Would it be beneficial to briefly describe the main mathematical topics that were eliminated from the current standards?
Example: Secondary Math I (9th grade) – Algebra strand In the current draft, many of the higher-level expectations that used to set honors apart from regular courses have been reduced or removed. Important areas such as in-depth work with quadratic functions, algebraic proofs, and applied modeling have been scaled back. These are foundational skills for success in concurrent enrollment math and in STEM-related fields. I strongly encourage the committee to reinstate advanced-level content in Math 1 and Math 2 so students pursuing a calculus pathway don't lose critical preparation during these formative years.

☐ Feedback reviewed

☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

A

S1.A.4. No mention is made of what notation should be used when describing intervals. That is, should students use inequality notation like x < 4, or like -3 < x ≤ 6? Or should they use interval notation such as (–∞, 4) or (-3, 6]? There should

be made specific mention of which notation style is required by the state standard, if both then say so. Please consult the ACT and the Aspire so that the expectations and the standards are in agreement.
S1.A.2 Use models: why not teach them to solve linear equations?
S1.A.4: "Reasonable arguments" are literary tools. Sequences of mathematical equations ARE the argument.
Example: Secondary Math I (9th grade) – Algebra strand The standards remove many of the more rigorous expectations that previously distinguished honors from regular classes. For example, deeper exploration of quadratic functions, proofs, and modeling with algebra are minimized. These skills are critical for later success in concurrent enrollment and STEM pathways. I urge the committee to restore advanced-level standards to Math 1 and Math 2 so that students on a calculus track do not lose two years of preparation.
In the high school A.1 standard, it says "as being made of parts, like-terms and factors" in Sec 1, but emits the hyphen in Sec 2 and 3. I think the original intent was to say that an example of parts is terms and factors, not like-terms. Either way, I think it should be consistent.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

F

S1.F.10: This standard seems overly specific and feels like it could be generalized to talk about the ability for students to graphically understand linear transformations of functions. The progression of this standard as described in the Sec II and III standards feels similarly overly specific.
S1.F.4 Consider changing this to computational modeling. These kinds of equations are so foreign to the students and adults and as a result are confusing.

Using these equations in the context of a programming loop is a context that makes sense to the students.
S1.F.5, S2.F.1, and S3.F.1. When talking about the intervals over which a function is increasing or decreasing, or even just about the domain or range... specific mention should be made about the notation that should be used. Should the students use inequality notation like x>2 or like -3 < x ≤ 5? Or should they use interval notation like (2, ∞) or like (-3,5]? If there are multiple separated intervals over which a function is increasing, should the *set union* symbol be required to connect the intervals, as in for example (-∞, -6) ∪ (-1, 3) ∪ (5, ∞)?
If the *set union* symbol is to be required, during what grade should it be taught? Should it be taught along side a little bit of set arithmetic, with the *set intersection* symbol ∩ as well? I need clarity on this issue please. Please consult the ACT and the Aspire so that the expectations and the standards are in agreement.
S1.F.4: Recursive models should be delayed till Algebra 2 or Secondary 3. Recursive models are NOT needed at this level and cause only confusion when functions are barely understood.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

S1.D.1: This standard feels like it should come last in the list of Data Science Standards. Students should first gain experience exploring and collecting data, then explore probabilities, then explore inference. It also, perhaps, seems to be a standard that could be deferred to a later class, since students likely lack the statistical foundations to fully meet the goal set by this standard. This comment stems from my experience teaching intro data science at USU, where most

students who have completed Sec III still have no real concept of randomness/populations/samples/etc.
Secondary I Data Science introductory paragraph: “single variable” should be “single quantitative variable?” S1.D.1: What questions? S1.D.2: What question? S1.D.3: I feel like a lot of college students don’t even know how to interpret a histogram. Could something be in there about interpreting it? Maybe comparing a histogram and box plot of the same data? S1.D.4: Maybe add something about distinguishing the difference between strength of correlation and the slope of the regression line. That is, a highly correlated pair of variables won’t necessarily mean that the slope will be large. General Comment: I’d like to see something about normalization/per capita. For example, probably at the S1 level, students should be able to recognize that it would be inappropriate to conclude that the USA is more educated than Norway because we have more college graduates here. They should recognize that they should be comparing number of graduates per capita.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

SEC 2

A

S2. A.4-5 Why did you remove the language of clarifying which methods are used to solve?
The math standard S2.A.4, which states that students should "solve quadratics using tools," is frustratingly vague and lacks the precision expected of an educational benchmark. The term "tools" is ambiguous—does it refer to graphing calculators, algebraic software, online solvers, or even pencil-and-paper methods? Without clarification, educators are left guessing which methods are acceptable, and students may rely on shortcuts that undermine conceptual understanding. Standards should guide instruction, not leave it open to interpretation. This lack of specificity risks inconsistent teaching practices and uneven student outcomes across classrooms.
Why are all of the standards still so difficult to read? S2.A.5 As an example, what are you expecting? Do students need to know elimination? substitution? Matrix inverses? Their calculators? Graphically? etc. Does the standard mean that we have to teach everything that can possibly solve a system of equations involving linear and quadratics in two variables just so they can 'select and use tools strategically'? Teachers are told that best practice is to give students clear objectives, but so much of the core is left vague.
S2.A.3 Can this be more specific? Does this include solving linear inequalities?
Overall, I am wondering since the standards were condensed they actually now seem more broad in how they were written. Are the secondary core guides going to give more details in what exactly needs to be covered or will this be left up to teacher interpretation. For example S2.A.4 should teachers continue to teach the different ways to solve a quadratic or can they choose to only use the quadratic formula. Where does factoring come in? It could be aligned to S2.A1 and S2.A2. I can see without the details of the current standards there will be more left up to teacher interpretation unless more details are provided in core guides.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

F

S2.F.3 The language changed from graph to build (so what is expected of us--graph, table? etc.)
Another example at the high school: S2.F.4: Compare and contrast the properties of quadratic, linear, exponential, absolute value and piecewise functions (represented in different ways). Formulate and ask questions to highlight the similarities and differences between function types. (Sk 6). The current standards that I think are suppose to be taken up by this new standard are: F.IF.9 Compare properties of two functions, each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored. For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum. The current standard gives more detail of what should be taught for teachers. The draft standard is so vague who knows what teachers will teach. For example, What if teachers only teach the properties of max and min for these functions, and they don't teach things such as identifying with the function is increasing or decreasing, or they don't worry about teaching about whether the function is reflected over the x or y axes, will this be ok that some students don't get this mathematics content in Secondary Math 2? If you don't mention it then it will not be taught. If you are willing to have teachers make the decision for what will be taught and what will not be taught, then you can leave the standards vague. But if you want all students to have similar access to the same mathematics, the standards need to be much clearer.
S2.F3 The core is a bit wishy-washy with exponential functions. They are kind of in but not really.
S2.F.7 f(kx) should be saved for SM3, when they are learning that anyway. There is enough to learn about quadratics and their different forms. I do think that the

transformations should also be applied to an exponential functions. It is a good review from 9th grade.
S2.F.3 and S2.F.4 - please remove piecewise functions. Secondary II is already overwhelmed with topics, and piecewise is not essential at this level. Keep it in the Calculus Pathway for Secondary III.
S2.F.3 Does "build representations" mean graph? some more specific language in many of these standards would be very helpful!
On page 1 of Sec 2, the third major focus is "describe characteristics functions" and I think it should be "describe characteristics of functions".

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

G

S2.G.1 Is it honestly reasonable to do narrative paragraphs, flow diagrams, two-column format, and diagrams without words in this unit? I understand the importance but we don't have the time when geometry is a quarter, not a year. Maybe consider adding back a geometry class if you really want us to have this flexibility.
S2.G.9 Is it really necessary to introduce radian measure here? I really think that it will have to be retaught with the graphing of trigonometric functions in SM3. I don't think it adds anything here.
As opposed to the previous standards, these standards seem very general and non-specific. For example, S2.G.1 says "Construct, justify and communicate clear and reasonable arguments to prove geometric theorems... Proofs should focus on theorems about lines and angles, triangles, and parallelograms." Which theorems? Do teachers individually decide which theorems are important? Should we discuss

transversals, or is that somewhere previous? How is a teacher supposed to know which proofs to do?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

S2.D.1: This standard feels too vague, since there is no real basis for what it means to “ask a statistical
question” anywhere prior in the Sec I-III standards. What makes a statistical question different from a data
question, or just a life question? I recommend omitting this standard, or changing it to be focused on visual
interpretation of linear, exponential, and quadratic equations in a real data context.
S2.D.2 This standard is emblematic of, what I feel, is an excessive focus on tests of statistical inference
between two variables. The kind of data collection described in this standard occurs most often in an
experimental setting. More natural for students is to think about time series data from their own lives,
such as the time series data collected by their phones and watches every hour of every day. As such, I
would recommend teaching students about data collection plans using time series data because they have a
better frame of reference to understand that. They can then progress to data collection for an experiment
when they have learned more about probability and inference, which is another topic that I feel is generally

over-emphasized in data science curriculum..S2.D.3 A reference to “the correlation coefficient” seems to overlook the fact that there are multiple ways to compute correlation between variables. The most common coefficient, the Pearson correlation coefficient, is only relevant for linear associations. If Pearson correlation is what is mean by “the correlation coefficient”, then this standard incorrectly conflates linear associations with other types of associations such as quadratic and exponential. Perhaps there is an opportunity to amend this standard to discuss the possible variable transformations that can be applied to create a linear association between two variables of interest. Introduction (pg. 123) The sentence “Students will also investigate statistical questions by creating a plan to collect data for a non-biased sample from a population for primary data or ask questions about how secondary data was collected and whether it is useful.” perpetuates, in my opinion, and over-emphasis on hypothesis testing as the primary expression of statistics and data science. Most students, and perhaps most statisticians, will never randomly sample a population to create an unbiased (preferred term) sample for the purpose of statistical inference. That said, ALL statisticians and data scientists grapple with the representativeness of collected data and consider strategies to mitigate any bias that might be present in the measurements. I would amend this overview to talk more generally about how students will learn to to make plans to collect and scrape (from web sources) data to answer questions of interest and will learn to evaluate the representativeness of the data that is collected
Secondary II S2.D.3: Do we really need to spend time talking about exponential and quadratic relationships? Are they common enough in real data to justify it? Instead, could we talk about pairs of variables where one is quantitative and one is categorical and address bar charts?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

SEC 3 – Math For All

A

S3.A.1 - This is a good example of vague and broad. Because it lacks specificity. I wonder about factoring polynomials and rationals. This means I would need to teach factoring in all shapes and forms for polynomials including long division because I'm trying to identify parts of an expression that give meaningful structures for context. I'm sure this is not the intent of this standard but because it lacks specificity. I have no idea how much to read or not read into it.
We want clarification on S3.A.1, are operations included?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

F

S3.F.7 The phrase ”situations that can be modeled with...” is vague. It is not clear what is meant by situations. I recommend replacing this one word with a phrase such as ”real-world phenomena” or ”real-world problem sets” or something similar.
S3.F.7 There does not seem included in the standard the exploration of trig in radians with is vital to prepare for Calculus.

In Sec 3 Math for all, S3.F.3 reads "Compare and contrast the properties of these functions polynomial, rational, square root, cube root, exponential, logarithmic, and trigonometric functions." I think there either needs to be a colon or take out "these functions".

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

G

- S3.G.1 and S3.G.2: These two standards seem out of place, although I can't quite envision what S3.G.1 is aiming for, What "geometric methods" is it referring to? The point for the committee to consider is are these two standards "crucial" for all Math 3 students to learn? It's instructive that neither the Calculus nor the Data Science specific standards build upon these two standards. Are they just 'end of the line' standards then? I can potentially see S3.G.1 relating to optimization (a Calculus topic), so if that is why these are included should they be changed to Calculus standards?
Too much trig was taken out, we want radians and unit circle in our secondary math 3: Math for All.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

D

"My daughter with special needs is entering 10th grade. It's been a ton of work on our part as her parents to make sure she is up to date on homework and passing classes, especially with her many doctors' appointments. S3.D.5: This high school standard asks kids to create data questions and collect data. That's hard, especially for kids with special needs or English learners who don't fully understand academic words. Without special materials, teachers might not know how to teach this simply. The national standards have more resources to help these kids. I join thousands of Utah families who hope standards include ideas for simple ways to teach kids who need extra help."
- S3.D.7 and S3.D.8: I don't believe these concepts merit being "crucial" to all students. I think the concepts involved here are further down the Data Science pathway than what ALL students need. To some extent, I would even say these are so far down the Data Science pathway that they almost belong to an actual statistics class. I wouldn't be opposed to removing them from the standards all together (see final comment on my "specific grade band" for more on this)
- S3.D.5 and S3.D.6: These two standards require data collection, a process that can be quite time consuming. Neither of the two Math for All data science standards directly address data collection. Although to 'draw and justify conclusions' after carrying out sample surveys, experiments, and observational studies could imply that students are collecting said data. Could these be moved from Math for All to Data Science? They are certainly valuable, and part of me wants every kid to have a chance to collect data, but maybe the Math for All curriculum sticks with already collected data and drawing and justifying conclusions from that data where the Data Science standards can allow the kids to experience data collection. This specific comment is meant to address trimming down the Math For All material so that it can actually be taught in one semester (as that is an option as described in the introduction to the pathways concept).
Secondary III Intro paragraph and S3.D.3: I was initially skeptical of teaching conditional probability to students at this level, but maybe it's okay? Intro paragraph I'm more interested in the "draw and justify conclusions from

sample surveys…" and developing the concept of statistical significance informally than teaching probability. S3.D.6: Typo: "primary data related to an investigative. . . " S3.D.8: I like "appropriately communicate the interpretation of simulated p-values" very much. I struggle so much with students not taking interest in interpreting p-values and, instead, just plastering a "statistically significant" label on there.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

SEC 3 – Data Science

On page 129: Standard S3.D.4 is not written the same as the S3.D.4 standards on pages 142 and 152. On page 143: Standard S3.D.8 is not written the same as the S3.D.8 standards on pages 130 and 153.
A collection of faculty from the Data Science and Artificial Intelligence Center at Utah State University provided collective feedback on Secondary Math I - III standards. This includes line-by-line comments on specific standards available at the end of the report available at the following link: https://usu.box.com/s/o8rh6rnmrwgmz78534sf75nkrzrqlry5
S3.D.1, S3.D.2, S3.D.3 I believe these are being pulled out of Math 2 and placed in Math 3. I haven't looked at Math 2 curriculum (not enough time) especially with school in session. Are they also still there? Data Science was supposedly spread throughout the grade levels BUT this makes me wonder if there is no longer any Data Science in Math 2.

DS3.D.12 Again this one could go to a broad interpretation. Do I need to go on to transforming data with logs to make it a power model or exponential model? This helps make a more appropriate model.
DS3.D.13 Wow! There are a lot of ideas packed into this standard. Break them up.
DS3.D.14 It feels like two different ideas again! Modeling on the one hand and perhaps correlation. But then also bringing in Hypothesis Testing.
S3.D.2 The "Venn" in "Venn diagrams" is spelled incorrectly in a couple places, either by only have one n or not being capitalized.
S3.D.3, When using notation to indicate probabilities of compound events, should the students learn and use the *set union* symbol ∪ for "or" compound events, and should the students learn and use the *set intersection* symbol ∩ for "and" compound events? If so, this should be stated. If not, it should be stated that it is not required. Please consult the ACT and the Aspire so that the expectations and the standards are in agreement.
S3.D.1 I question the appropriateness of the “and trends” in this standard since it is focused on associationsbetween two categorical variables, for which trends could not exist if those categorical variables were notordinal.
S3.D.8 I would replace “statistical investigative questions” with “questions.”
Clarification of Applicability: Expand the language to reflect the wide-ranging applicability of Data Science beyond the listed fields (history, nursing, psychology, and social sciences), highlighting its relevance in business, engineering, technology, environmental sciences, and many others. Inclusion of Modern Data Collection Methods: Incorporate a stronger emphasis on modern data collection methods, particularly passive, large-scale data acquisition techniques that extend beyond traditional small-sample surveys or controlled experiments. Enhanced Definition and Focus on Modeling: Clearly define the concept of ”modeling” beyond the brief mentions (such as in S3.D.7). Explicitly introduce foundational modeling concepts like regression analysis, clearly illustrating what it means to build a model, the rationale behind modeling,

and the practical benefits derived from identifying and interpreting data patterns. Distributional Thinking: Broaden the treatment of distributional thinking beyond simply fitting data to a normal distribution (as in S3.D.4). Include explorations of other types of distributions and the reasons different distributions might be appropriate for varying contexts. Integration with Computer Science: Introduce intersections with computer science by incorporating simple algorithms and data structures. Practical tools like decision trees can effectively demonstrate the integration of mathematical calculations and basic programming, enriching students' understanding of the data science workflow. Foundations of Machine Learning: Utilize existing standards (e.g., S1.D.6's "line-of-best-fit") as an opportunity to introduce foundational machine learning concepts. Specifically, demonstrate optimization principles through calculus and algebra by exploring concepts like sum of squared errors and derivatives to find the minima of curves, thereby helping students recognize connections between Data Science and broader mathematical concepts. In summary, refining these areas would greatly enhance the proposed Data Science standards, more accurately reflecting the discipline's breadth and ensuring students gain comprehensive exposure to key skills and concepts integral to both Data Science and modern mathematical practice.
On page 136, within the Number System standard, the explanation for the prefix CS3 is not provided. It is provided with the other standards that it appears in. On page 129: Standard S3.D.3 is not written the same as the S3.D.3 standards on pages 142 and 152.

I know from talking/working with other teachers that the stats/data science unit is intimidating for many of them. I feel strongly about the usefulness of the material, but the reading of the strands needs to be approachable for them if they feel unsure of their skills so they will be willing to teach it! Anything that can clarify what is intended to be taught will help.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

SEC 3 – Calculus

Pathways

Please make sure that my kids will be totally prepared to finish calculus in high school just like their older siblings
We think too much has been taken out of Secondary 3 and put only in the Calculus pathway: CS3.A.6. And CE 1050 still needs a lot of the compound inequalities and solve rational and radical equations.
I'm a little worried about the Secondary III (Calc Pathway) standards, particularly SIII.CP.A.1, which focuses on limits and continuity—it's a solid start for calculus concepts, but I feel like it might not push advanced students hard enough to build the deep procedural fluency needed for college-level math without additional acceleration options. Similarly, for SIII.CP.F.1 on derivatives, while it introduces the idea well, the draft seems to limit the scope compared to traditional pre-calc paths,

which could leave kids less prepared for STEM majors and set them behind in competitive college programs. Overall, these standards are great for building a foundation, but I'd suggest beefing them up with more rigorous examples or extensions to ensure high-achievers aren't held back by the pathways structure. I'm really concerned about the idea of removing honors classes on top of advanced math classes, as it could seriously limit opportunities for kids who thrive with a challenge. Losing honors options, especially at the high school level like Secondary III, might mean even fewer students get the rigorous prep they need for college math, putting them at a disadvantage for STEM careers or competitive programs. The draft's focus on pathways like Calculus and Data Science is cool, but without honors tracks, it risks flattening the learning curve for top students, which could leave them less equipped to handle advanced coursework later. Adding honors options back could help ensure those eager learners aren't held back while still supporting the broader goals of the standards.
My focus is on Math III. With the development of the three pathways, I see what you are doing, but not all students fit in those paths. What about the students that have taken Math and Personal Finance or something Math related that gives them their third year of math but is more geared toward their learning. Some students are not math minded and I feel we are setting those type of students up for failure.
I have no specific comments on one specific standard, but I do have comments on the Math 3 curriculum as a whole. I do think it was a great improvement to separate the Calculus pathway and the Data Science pathway. Every Calculus student, if and when they get to college, is going to take a Statistics class, where they will have the opportunity to learn statistics. Trying to squish the relevant parts of Algebra 2, Trigonometry, PreCalculus, and on top of all of that, a lot of statistics all into a single year of Math 3 was never a good idea. This bifurcation is such a large step in the right direction. However, I don't think it was a step far enough. Because every Calculus student in college will also take a statistics course, eventually, the Data Science strands can--and SHOULD--be trimmed from the Calculus pathway. An appropriate Calculus

pathway for juniors should look, as much as possible, like a PreCalculus or 1050-1060 course. With the Data Science strand, it's coming out more like a 1040-1050-1060 course--but only taught in two semesters. This is still unfeasible. Every standard from 1040 that is kept means a 1050 or 1060 standard that is going to have to be left out, to reasonably fit into just a one-year course. With all the 1040/data science standards still in the Calculus pathway, what is being dropped? It's just unfeasible.
The All Students and Data Science and calculus options available will not prepare the students ahead of time for college. This is so very important.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Competencies

In Math 3, the calculus pathway has nineteen standards above and beyond the Math 3 for All standards resulting in five additional “essential competencies”. The data science pathway, by comparison, has only seven additional standards but those result in nine additional “essential competencies”. This seems counterintuitive on two levels: first, that the pathway with more than double the additional standards has roughly half the additional essential competencies; and second that data science has more additional essential competencies than it has additional standards. At the very least, the number of essential competencies for Data Science should be reduced to match the number of new standards, or preferably, like with the Calculus pathway, have the number of new essential competencies be about half of the new standards. I can see that perhaps this is a byproduct of the way the standards and essential competencies are designed. I noticed the additional Data Science competency “estimate areas under the normal curve” does not correlate with any additional Data Science pathway standard, but does follow along with the general S3.D.4 standard, therefore resulting in an

essential competency tied to an already established standard. The question then would be is this common between both the Calculus specific standards and the Data Science specific standards (to have essential competencies specific to those pathways that are based on general standards) or is it unique to Data Science? If it is common for both the Calculus and Data Science pathways, then so be it. But if it is only the Data Science pathway that has additional essential competencies tied to general standards then I would suggest breaking up those general standards so they don't include the Data Science specific essential competency.
My last annoying thing is the inconsistency with the oxford comma leads to some confusion. Example: page 12 of the sec 3 calc pathway, in the essential competencies bullets, half the lists have the oxford comma, half don't.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

A

- CS3.A.3: This concept of "closure" has been part of the core for a long time. But is it really necessary? How does it prepare kids for Calculus? The only time I ever remember needing to know about closure (or really learning it) was in college learning about ring theory. I don’t see the direct correlation of why knowing these functions are closed under addition, subtraction, and multiplication help potential Calculus students.
- CS3.A.7: Solving inequalities seems out of place. Why do Calculus bound students have to focus on this? Is it not covered in an earlier year of math? How does solving inequalities prepare students for Calculus?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

F

CS3.F.8-CS.F.13 These standards focus on building and using different types of models and expressions to represent mathematical relationships. I feel there should either be a standard related to building models and expressions that represent real-world problems mathematically or that these standards could be edited to discuss building each of the respective models or expressions in terms of a context or to model real-world phenomena. That would better connect them to all parts of Skill 2. Stronger treatment of contextualization throughout: It is unclear why only a relatively few set of standards include a mention of context. It seems that most of the skills will be enhanced by practice both in and out of context. Perhaps a note could be made that all standards should be treated both in and out of context.
Clarification of the Modeling: In many disciplines modeling refers to the representation of real-world phenomena using a modeling language or tool. However several standards, including S3.F.5 and CS3.F.8 discuss modeling to represent mathematical relationships, apparently out of context. Because of this, it may be confusing to some teachers what is meant by modeling. I recommend a clear connection back to context by describing modeling as a representation of real-world phenomena using data or functions. Then, revise the wording in standards with language similar to S3.f.5 and CS3.F.8 to accurately reflect what the model is intended to represent (i.e., real-world phenomena rather than mathematical relationships only). Preparation for Careers: In the introduction to the Secondary Mathematics Pathways, the calculus pathway is described as being preparatory for ”careers in business, biological and physical sciences, engineering and/or mathematics” The Data Science pathway is described as being preparatory for ”careers in history, nursing, psychology, and social sciences.” While I appreciate the inclusion and focus on careers not traditionally considered to be STEM fields, I fear that the exclusive language in these statements may limit imagination and perceived utility of mathematics outside scientific fields. I recommend making this

language more inclusive or more general to highlight the broad usefulness of both calculus and data science across a wide range of disciplines and emphasize its value as a general problem-solving paradigm to accompany other problem solving paradigms.
CS3.F.8 Feels like two separate standards. One related to parametric equations and another related to rational functions. I have no idea what you are trying to say about parametric equations and what you want us to do with them. The rational part makes more sense accept putting the part of clear arguments distracts from its meaning.
CS3.F.8 Specifically mentions parametric equations. That one word could easily be turned into several lessons over several days, maybe a full unit. What is the intention? A quick exposure. To what level are students to be taught parametric equations? And for what purpose?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

G

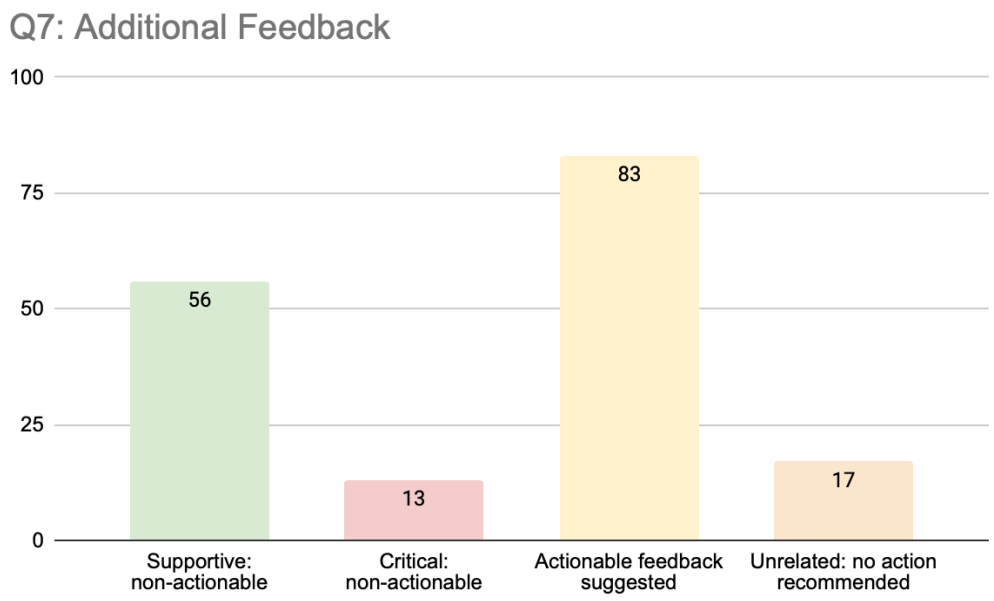
- CS3.G.3: I wish there was another place to put Law of Sines and Law of Cosines. It doesn't really seem to fit anywhere. It's not "crucial" to everyone (so no reason to put it in the Math for all standards) but it also just seems out of place for Calculus bound kids as they will never see those formulas after this. It's a "dead end" topic unless a new pathway that really focuses on geometry/trig is created. It almost seems like it would pair well with S3.G.1 and S3.G.2 as advanced geometric concepts.

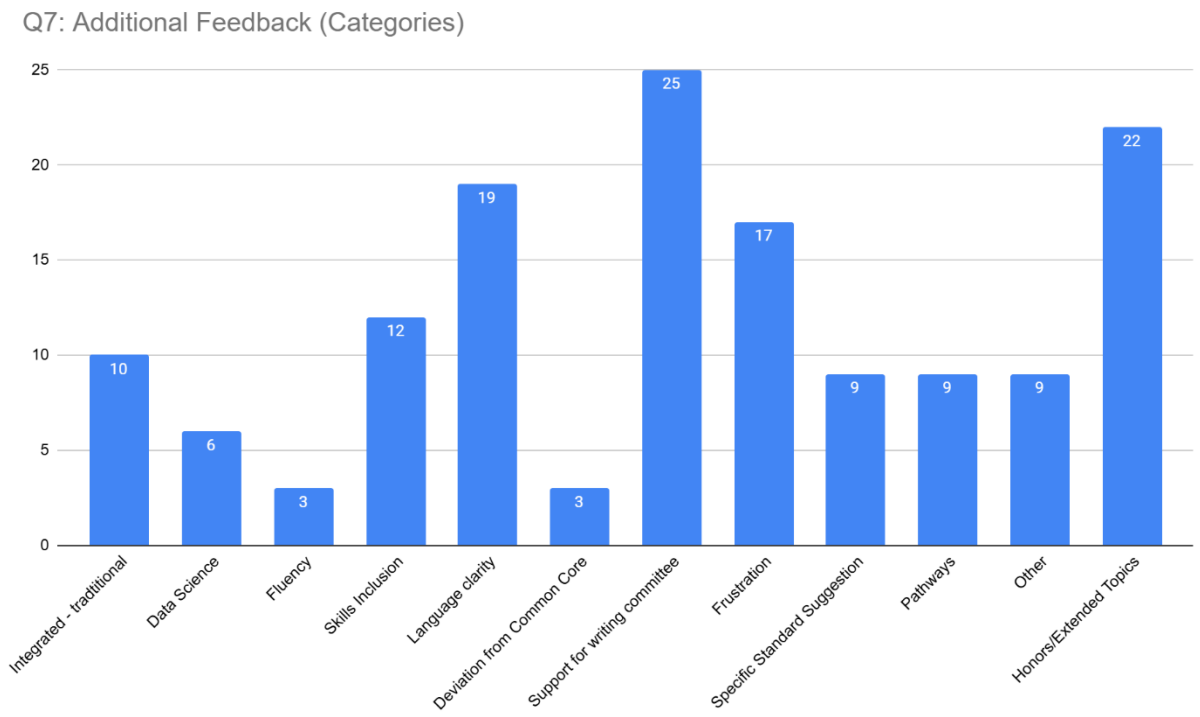
CS3.G.5 What exactly are you wanting here? Sounds like working with trig identities to help find values to solve problems, but do we need to? Calculators do that job for us, so what are you really wanting here? Again specificity.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

Question 7: Please share any additional feedback you have on the Draft P-12 Utah Core Mathematics Standards as written by the Mathematics Standards Writing Committee.





Supportive: Non-Actionable

Data Science

I appreciate the more precise standards, especially with the integration of skills and practices. However, I do wonder if they might be too open to interpretation. I think the core guides will be essential in ensuring consistency when teaching the standards.

I really like how the Data Science standards are mostly consistent across grades, while still building in skills that are age- and developmentally-appropriate. The progression from grade to grade flows smoothly overall, but I do see some potential gaps. For example, in 4th grade there's a focus on factors, but that concept needs to

be carried into 5th grade. Understanding common factors is crucial when working with fractions that have unlike denominators.
The inclusion of data science is a valuable enhancement to the math standards. Additionally, having fewer standards at each grade level makes the framework more concise and focused.
I appreciate the list of grade level competencies as well as the addition of Data science strands to all grade levels, while putting measurement and geometry strands together. It makes me wonder whether the Major work of the grade documents fit when we don't have Data science as part of any of the early grade major works.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Integrated VS Traditional

Thank you for not abandoning the Integrated Model of learning mathematics. Utah is leading the way with this forward-thinking model, and other states are taking notice. Although it has been about 15 years since we made this big change, I still haven't finished revising my curriculum to the point where I think it is perfect, or even good enough. I am so grateful that I don't have to throw out everything good that I've done and learned over the past 15 years to make huge revisions again, like we had to do in 2012. I really feel like these standards are innovative enough to be fresh and move us forward, without being drastic enough to cause uproar and revolt. The data science emphasis is timely. Thank you for doing what is best for students.
The integrated pathway supports student sense-making across algebraic and geometric concepts. I appreciate that Utah is leading the way in choosing and stocking with the integrated model.

I appreciate the work of the writing committee. I think the integrated standards should continue in Utah.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Language Clarity

These standards are so much clearer and really focus on important skills. I appreciate the deletion of line plots and double digit divisors and the addition of a conversion chart in measurement conversion.
I focused on the data science strands for secondary math. I like the move to condense wording and make it more readable/simpler for teachers to follow.
I appreciate the fewer standards and easier to read strands. The overall organization is clear, concise, and specific--much better than previous versions.
I think some stakeholders will read these standards and think they are not clear enough, but being involved in this project I know the core guides will add that clarity that is missing in this document. I also think that the essential competencies section is very useful and will be helpful in writing IEP's and differentiating instruction.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Other

I'm supportive of the new standards, the team working on them and the vision they have. It's critical we're taking bold and thoughtful steps to elevate mathematics education in Utah. That said, the rigor and scope of these standards will introduce significant demands on teachers, not just in terms of content, but in delivering instruction that promotes discourse, supports multiple representations, provides individualized feedback, and tracks mastery across strands. If we expect to see these standards implemented with fidelity, at scale, and in a way that truly improves student outcomes, teachers will need more than professional development and curriculum guidance. They will need a technology infrastructure that supports them in designing, delivering, assessing, and analyzing the instruction and learning associated with the new standards. Without that kind of instructional infrastructure support, there's a real risk that even the most well-intentioned teachers will struggle to keep up with the depth and complexity these new standards demand. The committee's vision is strong, ensuring that vision translates to classroom reality will require continued and increased investment in tools that are equitably accessed by every teacher in Utah if we want equitable access to high-quality math experience for our students. Keep up the good work!
I love the changes and the reasoning and sense-making built in. The way they are written now lends itself to better teacher understanding; however, the core guides will need to explain well what is meant, as some standards are quite short in length. Please make sure to include representations on the 6th grade core guides. Teachers will need help with the building of models as they have not focused on that in the past.
Much improved, well defined by what students should know and what students should do. There should be a focus in intentional teaching and quality practice. Nothing is more important than a good math teacher actually teaching math. I

appreciate the data science portion but wonder where the curriculum will come from.
The Essential Competencies section at the end of each grade level is fantastic!
I love how the standards seem to be much simpler and a lot of the statistics standards got moved around a bit.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Skills Inclusion

I really like how the mathematical skills have been integrated into the content standards--I think that will greatly increase the probability that students will receive explicit instruction in and opportunities to practice/grow these skills!
Thank you for your work. Glad to see the skills connected to the standards in such an integral way. The nature of this version of the standards will allow for continued improvements and progression as a state.
I like the repeated use of "justify" and its synonyms throughout the standards. We have computers and AI to do calculations for us, so we need to train children to be able to justify and reason with mathematics. I also like the retention of the integrated model of high school mathematics. This really does help students see how different mathematical ideas are connected, a skill that is vital in later careers.
I appreciate the focus on both skills and knowledge. I believe having the desired skills specifically listed will help eliminate confusion and increase a focus on the different topics to be taught, especially with the secondary standards.

I appreciate the integration of the skills in each standard. This helps with clarity and cohesiveness.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Support for Writing Committee

As a parent, I default to the professionals that wrote these. I have followed a few updates and know there is a lot of debate but ultimately, I trust those who teach math as a career over someone elected with party politics.
Your work is appreciated.
Nice work! Thank you for all of your time and effort to bring this together on behalf of Utah's students.
I disagree with the many changes that Board Member Earl would like to consistently change. I trust the committees that are composed of experts in the field and do not appreciate her trying to consistently impose her ideas when they aren't necessarily representative of the math community.
Good work.
They did a great job.
Your work is appreciated.
The writing committee has done a good job.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I trust the writing committee of experts to write the math standards that kids need to learn. I love the addition of data science and the modernized skills.

I support the standards written by local experts not the standards or suggestions written by a few elected board members.
Thank you for your work.
Thank you for the time and effort you put into making these standards easy to read and understand.
I love a lot of the changes -- the language reflects a push towards problem solving and thinking instead of just mimicking.
Good work
Well done, it is evident that the writing committee is very well versed with the expertise needed for this work.
Good work. Thank you for maintaining the standards we have had and working to improve them.
This looks good. I am glad we have a team of experts working on this.
Thank you for your work and efforts. I appreciate the thought and time that has been taken.
The work looks good. Glad we have knowledge people selected to do this as part of a writing team.
Thank you for your work. We have a great math education community in our state.
Wonderful. Research-based work that will help all students succeed.
Thank you for your work. Not easy to do.
Good work. I am able to understand them.
Good work, your effort is appreciated.
The authors commend the Utah State Board of Education for its thorough and thoughtful revision of thehigh school math standards. Across the committee's diverse perspectives, several common themes emerge that we believe are crucial to further strengthening the standards and their implementation.
In summary, the committee strongly supports the direction of the revised standards and offers these recommendations to ensure Utah's math curriculum prepares students not only for technical competency but also for the flexible, interdisciplinary problem-solving required in today's world. Strengthening the focus on context,

representation, integration, modern data science, technical clarity, and inclusive language will help realize this vision.
First and most important: it is clear that this document is the product of much effort and careful thought. Students that master these standards as they are currently written would be well prepared for many pathways (both STEM-related and otherwise) in college. I am encouraged by the very last sentence of the standard, which talks about how students can be empowered when they have the agency to pick appropriate modeling tools. In short, the overall spirit of the standards leaves me feeling very hopeful for the future of mathematics education in Utah.
Overall, I feel that the standards presented by the Utah State Board of Education in this document are comprehensive and thoughtfully considered. In particular, I am pleased to see a recognition of the value of mathematical methods for forming appropriate mathematical models based on different types of investigative and other real-world questions and on contextualizing equations and functions with real-world meaning.
No issues.
Thank you for your efforts.
I like that you added inequalities in there.
I support these standards.
Good work
Thank you for your efforts.
They look great! Thank you for all your hard work.
Overall I am pleased. Thank you for your hard work!

I really like the list of essential standards written at the end of SM1, SM2, and SM3. This is especially helpful for me when working with students who have IEP's or other accomadations to know what to really focus in on.
I just want to thank this committee for all the time and effort they put into writing these Standards. They are something to be proud of.
I like the rephrasing of of the 8 Math Practice Standards (the Skills now), and how one of these skills is integrated into each content standards.
I appreciate the work put into the writing of the standards, they are a good place to start but I think revisions are necessary
Apart from my concerns about SM3 mentioned above, I don't have any substantive corrective feedback. Thank you to the writing committee for their service to the students and families of Utah. This draft will guide the state well for years to come!
It's not perfect, but I think it is a step in the right direction! Much clearer than the ELA revised standards.
My overall feedback is positive with these standards. Thank you for your hard work!
I like that we worked to simplify the standards and remove instructional practices, allowing teachers to determine the best practices for ensuring equitable access to the standards. It’s important to ensure we are able to equitably assess every student on each standard and that our state assessments reflect mastery of the standards. Standards and state assessments need to be correlated.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Critical: Non-Actionable

Deviation from Common Core

I do not think we should change the core. Utah is not a big enough market for most Curriculum companies to write curriculum that is specific to utah state standards. Teachers will need to piece together curriculum, rather than using a systematic proven program or set of materials. You are making teachers jobs harder and causing issues with instructional coherence across schools and districts.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Frustration with Math/Standards in General

Put succinctly, the Mathematics Standards Writing Committee should probably all be fired for wasting time and money on making the standards as difficult to understand as possible.
This is all a joke. The standards are a big waste of time, the way that they are being created/changed so regularly. Math is math. Let's word the standards and teach them in ways that help the students learn and be successful.
These standards are complicated and confusing. When students are taught multiple methods and then forced to master every single method, this creates a shallow understanding as their attention and time is split between various methods and they can't get a strong foundation. These standards shoehorn them into merely regurgitating methods instead of actual comprehension. Instead they need to be shown a handful of methods and then encouraged to master the one that makes the most sense to them and their learning style. The current standards also miss

out on the very important skill of critical thinking and application of that knowledge. Please consider adopting the California Math Standards of 1997 which are simpler and clearer.
The standards, as currently framed, risk preserving a seat-time and procedure-first model of instruction that is increasingly out of step with student needs and future workplace demands. A more flexible, outcome-driven framework -- one that encourages interdisciplinary projects, data fluency, and the use of emerging technologies -- could transform math from a compliance subject into a tool of empowerment and creativity. Our team has developed a multi-year mathematics curriculum structured to support independent learning, online tools, and applied problem-solving. We encourage Utah’s standards to promote similar structures that prioritize fluency, application, and innovation over static procedural drills, deprioritizing the "daycare" role that public schools still rely on far too much for the well-being of students' academic and professional careers.
Cut some standards out!!
What evidence do you have that these standards are age appropriate and can be mastered by all the students in the state? I have not found any empirical studies. The proficiency data with low percentages suggest that what is prescribed is not possible. Can you get data that the essential competencies are possible for all students and discover what beyond those are realistically achievable so we are not setting up our teachers and students for failure and anxiety? In my experience as a practicing teacher and the research I have studied, teaching all the standards in a given year rarely happens and getting all students to mastery levels in all the standards is not possible. When standards exceed what is possible and expectations prioritize teaching all the standards, teachers move on when most students have not mastered the procedure or had time to do the much needed reasoning and sense making. This leaves our children in chronic failing, helpless conditions they cannot change. As a result students become passive (not lazy), anxious and poor behaviors emerge. When children are given more complex math relationships with longer procedures without prior skill development and understanding, they are incapable of doing the necessary chunking needed for working memory to function and reduce the cognitive load. This makes learning the concepts significantly more difficult than necessary. The latest studies have found

that 93% of adults have some level of math anxiety and elementary teachers often have elevated math anxiety levels. This empirical information brings to light significant aspects of the burden of responsibility you take on when considering standards changes. Make sure what is prescribed is something all students and teachers can successfully achieve so children are not left in helpless conditions and math anxiety no longer exists.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Pathways

The bifurcation of college preparatory math into data science and calculus is artificial and harmful. College-bound students should be exposed to both calculus and statistics. If we want our students to be competitive with the best in the world, they need both. Margeret Thatcher had it right over 20 years ago when she said, “In the world of the future it will be mathematics that we need--the hard, specific knowledge of mathematical formulae, you see.”

Moreover, *all* students should be exposed to the basics of statistics. In particular, hypothesis testing, the fact that correlation does not imply causation, and the many instances where intuition is wrong should be covered. All too many of our students don’t know how to evaluate whether claims made regarding – say – the efficacy of some remedy can be trusted. Too many trust influencers over rigorous evidence, and are fleeced by quacks.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

- ☐ No revisions made after writing committee review

Justification provided here if needed...

Language Clarity

Many of the standards are ambiguous.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Other

I am not very articulate in writing, but I have severe and serious concerns about the new core. I can not emphasize enough how concerned I am about the proposed core. I think it is a step in the wrong direction, I think it is significantly worse than the current core we have and I think it should not be released without considerable changes.
The whole thing seems very generic and quite general in nature. It doesn't correspond to any previous core guide, and it is difficult to tell the differences between the current core and this proposed core. This will create a significant amount of work for teachers to prepare materials for this change.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

My comments focus primarily on the ideas of contextualization and modeling. As an instructor of upper-
class undergraduate and graduate students from all disciplines at USU, I am concerned about two trends
among these students: 1) Students from non-STEM disciplines tend to treat math as a something they
must endure, and once they complete it, they stop thinking about math completely. They fail to recognize
its utility as a problem-solving tool to accompany and be used alongside other problem-solving tools such
as logic, reason, or evidence-based analysis. 2) Students from STEM disciplines, who often have advanced
training in mathematics, often view mathematics only as a process for solving narrowly-bounded technical
questions rather than a tool for describing, analyzing and addressing a variety of problems across disciplinary
boundaries. In short, students treat math as a subject that only has relevance for a narrow set of technical
topics rather than a general problem-solving tool that can be applied across domains and disciplines. They
have not learned how to utilize it beyond the contexts that they are directly given in high school or their
degrees.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

These standards seem well planned, with steps from preschool to high school and a focus on problem-solving. But they're very different from the national Common Core standards, especially with the Data Science part and the eight math skills (like finding patterns, Skill 1). Since Utah's a small State, I'm worried companies won't make books or apps for our standards. Teachers might have to create their own lessons, which is hard, especially for kids like my daughter who need simple, clear teaching. Kids learning English are already behind, and these standards might make things harder without extra help like translated materials or simpler words.The standards feel too complex for many Utah students, especially those with special needs or learning English. My daughter needs less complexity in her life, not more, and I bet other parents feel the same. The national standards have lots of resources, including for special needs kids and English learners, but Utah's might not.
I like the way the document is organized. I find it to be clear and easy to follow. I did like how the old standards label strands and standards. I think that makes it easier for newer teachers and parents to understand the way things are organized.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Unrelated: No Action Recommended

Deviation from Common Core

Why are we rewriting the same standards. Why are we not on National Standards. I feel that we have lost a lot of the old standards and kids are not prepared when they get to the upper grades like they used to be. I feel that standards need to be looked at often, but why are we reinventing a wheel that is not broken.
Thank you for your efforts. I know this is not an easy job. I'm worried that the intent of the common core was to make it so we were all on the same page, BUT I'm worried we are becoming less on the same page with other states. Most states stuck with the AGA common core, so we are already in a small group and now with these changes I feel we are going into a group of our own. That worries me. We already have problems placing students from other states and they end up with gaps in their understanding. I worry we may make it worse.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Frustration with Math/Standards in General

The RISE assessment, and any other state assessments, should reflect these changes. Many of these new changes aren't supported by the RISE assessment.
The only feedback I have is that under no circumstances should any math problem be used to push political propaganda or sexual/gender related topics. Stop sneaking in topics or positions that parents disapprove of and teach math without controversial topics, propaganda, and harmful ideologies in the problems.
How can we evaluate "more details" if the core isn't updated until the standards are adopted? We can't approve something we don't have.

It would be nice to teach the kids math they’re actually going to use in life; talking about 9th grade and up. When are most kids going to graph an equation? When are kids going to have to use y=mx+b??? Seriously! They need applicable math.
All I have to say is the math is way too hard for the students in secondary school. It starts get really difficult in about 8th grade. These kids are being taught math they will probably never use. Most kids are just trying to “get by.” And their parents can not even help them. We have so many kids failing math because they are lost, do not care, get no support at home, or our teachers teach too fast.
Will a set of rubrics for the standards be provided with this new set? If we as a state are to all use mastery grading, it would make the most sense for the state to establish a breakdown of the standards on a "Mastery, Near, and No Evidence scale". Especially since all students are then tested on a final standardized test across the state. Giving teachers autonomy to create their own rubrics is not favor, it is a challenge. It is like saying "You must drive this circus across the country, pick from these ten vehicles. We won't tell you which one is the best one for the job, and the only feedback you will receive is your time compared to others at the end. You won't know if it was the engine, the wheels, the passangers, the traffic, or your own driving that prevented you from getting there as fast as the others". In other words, it makes us create something that should be standarized, so we can more clearly judge our own teaching expectations and approach related to content.
We still don't have, in the core, anyplace for useful, modern mathematics of the type that has been pulled into 1030 courses in CE and in college: Graph Theory (the basis for google maps, computer networks, etc., and an entry into one of the most important open problems of the day: P v NP), Voting Theory (Arrow's Impossibility Theorem, in particular is such a foundational result that should inform every voting politic: that in planning elections or voting systems, there are NO solutions, only tradeoffs; the perfect voting system doesn't exist, so the choice of a voting system can only ever be a policy choice based off of preference, never a principled choice of mathematically maximizing fairness--because Arrow showed that was impossible), and Cryptography (absolutely vital for the digital era, and while it gets very deep and complicated very quickly, the moorings are nevertheless understandable and appropriate for a 1030-level student).

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Language Clarity

I'm guessing there will be an additional document with specifics and details? Some standards are general.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Other

Make sure that the standards you are writing match up to the skills that you are having tested in accordance to the Acadience math. I have noticed some major discrepancies in the skills taught and the ways they are taught and the straight forward application of math only on the acadience test that you are using to determine if the younger grades are proficient.
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY

GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!
It seems as though a similar thing happened in science courses in the state a few years ago and led to less students taking advance science courses such that less advanced courses were generated to still provide students an option for college prep science coursework.
Thank you for all of your effort on this. I'm sure there are parts of it that are really good. Unfortunately, I don't know what those good parts are. You need to redo this whole survey so that I can actually see what the changes are by bullet point list and I can vote them up or down. In the meantime until parents get something that is not 160 pages long, we have to say no to all of these changes. If the assessments based on these changes are written as poorly as the survey, obviously the whole curriculum is doomed!
This survey was obviously created to be confusing and discourage feedback rather than allow the average parent to weigh in. It is disingenuous to give the notion of wanting feedback but then create hurdles through difficult and poorly constructed surveys.
If school districts decide which math curriculum they use to teach core standards, do parents have any say in this selection process? If not, why?
I feel like I'd need more time look it over and talk with teachers in the upper grades to see if it feeds downward correctly.
The opportunity to participate in this project has been beneficial.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Actionable Feedback Suggested

Data Science

Overall, the addition of the Data Science standard adds a lot of clarity and intentionality, but still needs a lot of fine tuning. It is appreciated that skills are built upon one another from grade level to grade level, but please ensure that linear progress is reasonable from skill to skill and grade level to grade level.
The standards are too vague, and I don't think making the core guide more detailed is the solution. I think it's okay to drop minor standards instead of combining them, as these standards still feel a mile wide and an inch deep. I also think that the concepts should be the center of attention rather than the mathematical skills. The data science feel like they are purely statistics standards. Younger grades, "data science" is really data literacy, and if you are going to call it "data science" in upper grades, there need to be computer science skills outlined too. That's a huge part of data science. They don't need to be complex things like Python but low-code programs like Desmos, excel, sheets, and using data bases through Codap are all so valuable to modeling situations using data. Right now that's a pedagogical decision but it needs to be a required concept or skill.
4. Modernization of Data Science and Statistics ContentThe inclusion of data science is praised, but concerns remain that its scope is portrayed too narrowly asan extension of statistics and as preparatory mainly for social sciences. The committee urges an expansionof language and content to reflect the broad, interdisciplinary reach of data science—including its compu-tational, modeling, and algorithmic elements—and its relevance to fields such as business, engineering, andtechnology. This includes updating standards to address large-scale and passive data collection, distribu-tional thinking beyond normality, and foundational concepts in modeling and machine learning.
I appreciate the Utah State Board of Education’s effort to modernize and diversify mathematics pathways in secondary education, particularly the inclusion of a Data Science pathway. However, I have some concerns regarding the framing and content of this proposed Data Science course. Specifically, describing Data Science

predominantly as preparation for careers in history, nursing, psychology, and the social sciences (page 121) risks misrepresenting the broader applicability and significance of Data Science across diverse fields and industries. Furthermore, there seems to be an incomplete distinction between Data Science and Statistics within the standards. While Data Science inherently includes statistical methods, limiting its description primarily to statistics understates the interdisciplinary and computational elements essential to the field.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Fluency

I'm concerned about moving procedural fluencies for addition, subtraction, multiplication, and division of whole numbers to 6th grade instead of having them as essential fluencies for the end of 5th grade.
Again, High School homework is no joke. One very simple way to reduce the amount of time students are spending on homework in high school is to have them do timed math tests in second and third grade. Being able to do the simple arithmetic quickly will cut the time spent on doing math homework by half (my estimate based on watching my children do their math homework). Less math homework = more time to complete other homework and increased likelihood of completing the math homework as well. Yes, they can use calculators. Yes, they understand the concept. But do a problem without using a calculator and then try it again having to type everything in on the calculator and remember to still write it out for the teacher to

see your work. I'm betting that you will be faster doing it without the calculator much of the time. Now imagine doing it yourself taking as long as using the calculator because you never memorized the basics. That is where the kids are today. Please make them memorize the basics again. Thank you for considering this.
I have one concern and one suggestion: in the introduction to the document, it outlined that there were success criteria - however we are nervous about the vagueness of the new standards. We are assuming there will be specific examples and success criteria to come? Also, I would love to see a shift to allow 6th graders to use multiplication charts on the RISE testing. We are allowed a calculator on some pieces of the test but not all. However, next year and every year after, they will have a calculator the entire time. It seems that math fact memorization may hold some students back from demonstrating competency with more complex calculations/concepts. If a multiplication chart allows them to successfully meet the standard in 6th grade, they would be more than ready for the the next steps of each concept with the implementation of calculators in 7th grade. This accomodation available to all students would represent a much needed step forward in allowing students to use tools to support them in solving more complex problems.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Frustration with Math/Standards in General

Please return to using the California Math Standard of 1997; we feel it provided clearer processes and encouraged the critical thinking skills our students need.

There are too many standards. Because there are so many, students do not have the time to fully master one standard before moving onto the next. It’s frustrating to teachers, students, and their families.
Students aren't given enough time to truly master and retain knowledge on a practical everyday level. The standards still cover more than can be covered in a year. If you really expect students master math, look to see what is developmentally appropriate.
Please do a major revamp before adopting these standards. There was not a clear way for teachers to identify the changes. I spent hours just do this side-by-side comparison of one grade level. I wonder how it is for the other classes, but also you are expecting us to take a lot of time just to figure out what has changed--provide documentation that easy for readers to see the differences.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Honors/Extended

It seems like this rework of standards in effect eliminates the existence of "Extended Topics" in Sec 1, Sec 2, and Sec 3. For example, the topics matrices and vectors are nowhere to be found searching. I have serious concerns about the perception of public education by parents who care about their children's academic achievement. First, "Honors" was eliminated in Mathematics. Now Extended, which was a lousy name and doesn't celebrate students' desire to achieve more, will be gone. So students have no way to pursue an advanced path to demonstrate their diligence and industry. When there is no path to excellence in public schools, this sends more parents to other schools - charters, private, etc. and continues the flight from public schools. I understand the

importance of equity, but the objective needs to be raising the bar for everyone, not lowering it. In several states - Virginia, for a recent example - they have switched to "Algebra for All" in 7th/8th grades to get more students accelerating in math and more minority students enrolled in advanced classes. Or they switch to an "OPT OUT" system, where everybody does more advanced math unless parents/students opt out. Obviously there are concerns with students who are struggling in mathematics and this needs to be addressed, but this set of Standards appears to eliminate the possibility of for many secondary students who otherwise would choose an "honors" pathway in high school.
Removing Secondary 1 and 2 Extended curriculums is A TERRIBLE, HORRIBLE IDEA!! People say "just do extension activities for your advanced students in regular classes." Such a statement displays a major disconnect from the realities of both teenage attitudes AND teaching. VERY FEW teenagers enjoy "extension activities". Instead, they percieve being given extra work as compared to their classmates to be a punishment. So they HIDE their abilities, and don't grow. However, when they take an honors/extended course, they perceive the course as a whole to be a challenge that will help them grow. Removing extended/honors courses will be a massive disservice to students that are doing well in math and are looking to excel. In a classroom of honors students, I can cover twice the material of a regular class with good student comprehension. In a regular classroom, I cover half the material and STILL have students that need supplemental support. As a teacher, it is ALREADY extremely taxing to try to individualize learning for students. Mixing such varying levels of comprehension together is going to make this job even tougher. Overall, the quality of teaching will decrease. I CANNOT speak to my regular classes the way I speak to my honors classes. My honors classes have higher literacy levels. If I spoke to my regular classes the way I speak to my honors classes, many of the students wouldn't comprehend ANYTHING. By combining these students together you are doing ALL students a disservice.
Detracking Math 1 and Math 2 will take the rug out from the proposed Calculus track of Math 3. This new core proposal will lower the expectations of students in

the name of a more equal, and lower, standard. It is not helping students or teachers to propose a mixture of Math 2 students spanning those who do not understand what variables are to those who are ready to solve 3x3 systems with matrices. The upper level students will be triaged. Those experts pushing detracking studies will sell their books and mathematical education will suffer, much the same as when the anti-phonics movement profiteered from a generation of lower reading scores.
There should be more levels and more under courses, not less
Without honors options we are not preparing our children.
The future curriculum draft is not a "merging" of honors and non-honors. Many current honors topics are simply removed. Honors classes are important just as non-honors. Students all learn at different speeds and have different plans for their futures. Trying to merge them all to the same path is really going to stunt the preparation of the students who are seeking futures in math and engineering. They are not going to be prepared for the jump into the advanced classes when they FINALLY will be able to take them. They will not have had the time to cover all the material they will need for their future classes. Math is a step by step process. You can expect these students to be stunted in their material coverage and then simply be able to jump to way more complex problems. Math is hard if you do not get through ALL the material! Another benefit of creating honors classes adds challenge to some students who need challenge to enjoy school and be invested without getting bored. Those students who would otherwise not be in advanced or honors math classes are just going to lose even more confidence when having to be classed with students who learn math at an accelerated rate. Honors classes benefit both those in them and those who are not in them. Math is an amazing skill. I have tutored many students starting with elementary students all the way to college age students. Having a class that works at the same pace as them builds their confidence and makes math a less scary and hated subject. Please do not get rid of separating skill levels and the curriculum that comes with those different classes. I beg you as a mother of children who thrive in math and want and need those advanced classes for their desired futures and universities. I also beg you as a instructor of those who struggle in math.

It makes no sense to me that you would remove the honors math skills and still offer college math in high school. You are taking away the steps to prepare for these college courses that will benefit them greatly. The students will not succeed in courses by skipping steps
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
My son benefitted from taking honors math in both junior high and high school, and it has left him better prepared for college.
Please continue having honors math classes starting in 7th grade. You are hurting Utah children by taking out honors classes.
I fundamentally disagree with doing away with separate honors topics. I think the upper level students will be unable to excel at the necessary rate to be properly prepared for STEM fields in college. I don't know why we keep lowering the standards for our students and expect better results. It's a mistake that will have dire consequences. Test scores will continue to drop and students will continue to be unprepared for higher education.
As a math educator with classroom experience, combining all students into a single classroom, regardless of their proficiency, is a disservice to their educational growth. The vast achievement gap between struggling and advanced students makes it nearly impossible to provide meaningful instruction that meets all their needs simultaneously. I am concerned that the pace of instruction will inevitably be slower to accommodate those who are struggling. Upper level students will be held back, their potential for deeper learning diminished. This will likely lead to fewer students being prepared for challenging college-level and AP math classes, ultimately impacting their academic trajectories and future opportunities. Furthermore, lower level students risk being intimidated as they watch their peers grasp concepts much faster. Rather than benefiting, they may feel rushed, leading to increased frustration and a widening of the academic gap.

I also fear that there will be unrealistic demands on teachers with lack of resources, with the standards going into effect so soon with no trial or testing to be done. Differentiating a curriculum for such a wide range of abilities requires significant time for planning, training, and materials, which are not adequately provided. The expectation to create a tailored teaching plan for every student is unsustainable. It adds a huge administrative burden and increases the risk of teacher burnout. Additionally, the push to move all students at once, without adequate preparation, is likely to negatively impact overall test scores. This is a predictable outcome of failing to meet students at their individual levels.

The attempt to make a "one-size-fits-all" classroom will ultimately fail all of our students by not addressing their specific academic needs.

As a concerned parent, I am writing to express my strong opposition to the proposed 2026 Core Math Standards. My concerns are grounded in the belief that these changes will ultimately lower the standards for Utah students, putting them at a significant disadvantage for future academic and professional pursuits, especially in STEM fields. While proponents of the revised standards, such as those at the Utah State Board of Education (USBE), claim that the changes maintain rigor and offer new pathways, I believe that the reality on the ground will be very different.

The proposed changes will put students at a disservice by not adequately preparing them for future success, especially in high-demand STEM fields. In the past, Utah offered advanced (honors) math classes that gave students an edge when applying to competitive colleges and universities. The new standards appear to place less emphasis on advanced topics, which could hinder our students' ability to compete with their peers from other states and countries who have more robust math backgrounds.

As a parent, I am deeply concerned that the proposed changes to the Utah Core Math Standards will lower the academic bar for our students. While the USBE claims to have considered the concerns of parents and experts, the potential negative

impacts of these changes on our children's futures cannot be ignored. I urge the board to reconsider the proposed standards and prioritize a math curriculum that will adequately prepare all students of all levels for success in a wide range of academic and professional fields. Thank you for your time and consideration.
honors math is good for people it’s optional it should still exist with the same curriculum
Please give students options to learn at an accelerated speed and offer honors classes for math prior to high school.
My opinion is that high school math should focus on real world problems and the skills students need to successfully navigate them. Students that want to learn about imaginary numbers etc can take additional math classes. I also want to express my support for honors classes. My children enjoy the atmosphere and extra challenge honors classes provide. It enriches their school experience.
I appreciate the effort that went into this revision, but I strongly oppose eliminating honors courses at the 9th and 10th grade levels. Utah’s students deserve both access and challenge. Equity should mean giving every student the opportunity to rise to their potential — not lowering the ceiling. Please preserve honors distinctions in early high school so that students are adequately prepared for concurrent enrollment, AP, and college-level work. Removing them will reduce opportunity, not expand it.
Again!! Our high school students NEED honors math classes to be prepared for college. The document states, “These basic knowledge, skills, and competencies increase in depth and complexity from year to year.” This is true but many students are looking for more than the basic knowledge and skills. Many of these students want to go into careers that involve math and engineering and the basic level in high school cannot prepare them adequately.
I value the work that has gone into these revisions, but I cannot support the removal of honors classes in grades 9 and 10. Students in Utah need both broad

access and meaningful challenge. True equity means lifting every student toward their potential, not flattening expectations by taking away higher-level options. Honors pathways in early high school are essential to ensure readiness for concurrent enrollment, AP courses, and college-level math. Taking them away limits opportunities rather than expanding them.
I am very concerned about eliminating honors math courses in grades 9 and 10. Why would we purposely eliminate content that prepares our high schoolers for higher education???
I am very concerned about eliminating honors math courses in grades 9 and 10. Why would we purposely eliminate content that prepares our high schoolers for higher education???
Please DO NOT remove Honors options from class courses.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Integrated VS Traditional

Requiring all students in 9th grade to begin in Secondary Math I is not equitable. Having taught Secondary Math I for over a decade, there are too many students who do not have the capacity to be successful in Secondary Math I based on their previous years of experience, or lack thereof. The requirement that the lowest possible class for success and credit in high school begins with Secondary Math I is a pigeon-hole principle and extremely difficult to execute in the classroom. 9th grade students are unique. A one size fits all approach in math is not best practice in math. The removal of other applied math classes and requiring all students to take a version of Secondary Math III works well in an ideal setting, but we are far from

ideal. Secondary Math II is difficult for so many students, and has been a stumbling block for some in graduation. Requiring another level for these students of rigorous, abstract mathematics will make classroom teaching and student experiences much more difficult. Other options, outside of Secondary Math III, would be great. The integrated model of Secondary Math I, II, and III is awful. Please consider switching to the traditional pathway of Algebra 1, Geometry, and Algebra 2.
Please switch to Algebra 1, Geometry and Algebra 2.
I strongly believe we should return to the AGA model. After reviewing student progress in other states, it is clear that many of our students lag behind. Students transferring into or out of Utah face significant disadvantages because our sequence does not align with the national standard, making accurate placement difficult and often resulting in students being placed in lower tracks that limit their progression. Furthermore, students in Secondary Math 3 Extended Topics are not receiving a true pre-calculus experience, as time must be spent covering topics not yet taught. This leaves them at a disadvantage compared to peers in other states who are further along due to a more traditional instructional sequence.
Go back to traditional math
I would recommend looking at standards that have been implemented in the past and that have worked. Utah had very logical and coherent standards in 2007 that Fordham Foundation said were "exceptionally strong" with the high school content. CA 1997 and MA 2000 standards were rated an A+ by Fordham. I'm unsure why we need to reinvent the wheel. "Because California set up its 1997 standards to prepare all students for Algebra I in eighth grade and because it attempted to place all those who were ready into such classes, the biggest beneficiaries of this effort were ethnic-minority and low-income students. While the whole cohort success increased by a factor of three, the rates of success jumped by factors of five for African Americans and six for Latinos and low-SES students—double the rate of the whole cohort." (https://www.hoover.org/research/californias-common-core-mistake) If the goal is to make mathematics accessible to all students, let's see how it was done in the past and duplicate that. Those standards are in the public domain and would cost us nothing to adopt.

Please go back to the Algebra-Geometry-Algebra 2 format for the high school grades! Because Utah uses an integrated core, many textbooks/curriculums/resources do not fit with our standards. This makes it incredibly difficult to find good curriculum. Our students are being short-changed because the best instructional materials for a topic may or may not fit with the Utah scope and sequence because it is so different from every other state. Our students deserve the best and the Secondary Math 1, Secondary Math 2, and Secondary Math 3 path prevents them from getting that.
Go back to algebra I, II & Geometry plz!!

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Language Clarity

Thank you for the opportunity to review the proposed Utah Math Standards. While I appreciate the effort behind the draft, I'm concerned that unclear language and a move away from direct instruction may hinder effective teaching, especially for our youngest and most at-risk learners. Clear, concise standards and research-backed practices like explicit instruction and use of the standard algorithm can support more consistent, equitable learning.
This might not be avoidable, but some of the standards are very broad, encompassing enough content to cover an entire chapter (for example, S3.F.5, which would include everything about the structure and patterns of logarithms and radical functions, plus other inverses and their applications), while others are very direct and brief (for example, S3.D.3). A bigger issue, the broad standards encompass so much that it necessitates the discretion of the teacher how much to cover. While I love the flexibility this provides,

how do we ensure students are getting the all aspects of these topics deemed essential and that important aspects aren't overlooked?
This does not simplify the core at all. What you guys call "simplification" is just merging standards. 3rd grade and up will still have to teach just as much, if not more, material. The problem we've seen in recent years, is there is so much to do in each grade level, that kids arent getting the time to practice and solidify the skills. Its teach, test, move on. While there is some very specific wording (like must know from memory) most of this is more vague. What does "add and remove context" mean? Adding the skills words to the front of the standard does not make it clearer. Do the guides have more detail about what is to be included? For example do 2nd graders need to be able to subtract over zeroes? Do 3rd graders need to FIND equivalent fractions or just know the basic ones like what is equal to 1/2? Which grade does decimals in the quotient?
I do not understand how the SM3 set up works. How has SM3 been widdled down to basically nothing? SM3 Calc pathway feels like a normal SM3 course with a sprinkling of honor topics.
There is a need for more explicit vocabulary and examples for teachers to understand exactly what they teach. For example: 7.D.8 eludes to Theoretical Probability but does not explicitly states it. (Similarly 7.D.9 eludes to Experimental Probability but is unclear) The Essential Competencies are wonderful, but if provided, must be reinforced through testing. For example if students are competent in the Essential Competencies students should be able to get a 3 (Mastery) on end of level testing with the other standards providing data towards earning a 4 (Advanced).
Some standards are rather vague. It is fine to help students learn to think deeply about concepts/principles/skills and fully understand where formulas come from, etc. The concern, as teachers, is fully understanding what concepts/principles/skills the students need to understand.

It's too wordy.
Almost all of the standards are unnecessarily wordy and confusing. There was obviously more emphasis placed on using a specific vocabulary to describe, than there was on describing standards clearly and accurately. You have to re-read them multiple times just to try and figure out a sense of what kids are supposed to know or be able to do. Even then, when we got to the essential standards section there were ideas listed that we didn't even know were hidden in the standards somewhere.
I feel like the clarity has been removed by combining standards and just grouping things together. This is not helpful to us who want to know what to teach specifically. I feel like probability and trig have disappeared from the standards but these are some of the biggest topics on standardized tests like the ACT. How are we supposed to prepare these kids for those items if we are not given direction on how to do so in our curriculum?
It looks like we're teaching less because all the standards got grouped together. It's the same standards from before, but just grouped together without any real details on how we are supposed to go about it. For example, on solving quadratics, we are not told how to solve quadratics... factoring, completing the square, quadratic formula, etc etc. It's too much left o the teacher to try and figure out. It's all a mess. How do you never say factoring in any of these standards?? Also, where did all the trig go? And where are you pulling these standards from? I'm just really confused how you guys are coming up with these standards... and who is on the committee. Honestly, as a teacher, this is really frustrating to look at.
I greatly appreciate the essential competencies list. This is the level of simple and precise each standard should be. Can we use the essential competencies as the standards? Why are we writing such wordy and complex definitions when that simple bulleted list outlines exactly what should be taught and what students should master? Simplify!!! We do not get bonus points for big words, we do get bonus points when teachers can clearly see what they are expected to do and can easily follow it!

A document that is meant to be read and understood by administrators, teachers, and parents should be readable and understandable by those people. As a teacher, I wouldn't share these standards with a parent because it would take too long for me to interpret what they mean. I like the shift and focus on mathematical practices, but the wording of most standards seems to be working to make the writer look smart with fancy/vague vocabulary instead of ensuring that we are crystal clear about what knowledge and skills our students need to succeed. If the goal is to get us on the same page, then simplify the language so that anyone who reads the document knows what page that is!
It’s too long!!!! Too wordy and detailed. More simple draft, please. Go back to traditional math.
They are very sparsley written which is nice for concise but that can leave a lot of unclarity in expected depth for teachers. Is there going to be further resources to provide more clarity and expected levels of proficiency?
Parents need much more clarity. Please do not make these changes to the math standards. The math teacher says that our students will not get the preparation. They need for classes like calculus.
1. Emphasis on Context and Real-World ApplicationCommittee members widely agree that mathematical learning is most effective when grounded in real-worldcontexts and problem-solving. While the current standards reference application and context, this languageis often too vague, potentially leaving instructors uncertain about expectations. The committee recommendsmaking references to real-world problems and contexts more explicit throughout all standards, ensuring thatstudents learn not only to interpret existing mathematical models but also to formulate mathematical ex-pressions from authentic scenarios. Greater clarity and emphasis on contextualization would foster students’ability to apply mathematical thinking beyond the classroom and across disciplines.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Other

Separation of the standard to the essential competencies is hard to follow. It is helpful to see what is essential in the standard with the actual standard.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

I know it is uncommon and a long shot, but I would love to see something written into the document to address building student confidence. As both a parent and a school counselor I regularly hear students fears around Math. I do not think the standards are too hard for students, I do think teachers speak about the standards as if they are too hard or too challenging for students. This creates a barrier to success. Teachers need to remind students that it is the teachers job to teach the standards, and if students don't master them, that it is still the teachers job to remedy that. Students have too many fears and worries about their performance in Math and I believe that needs to be addressed. I do not see the same behaviors and talk of concerns when students discuss reading or writing.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

While "Ideas" are often discussed, it is the consistent and intentional teaching of math concepts that leads to mastery. Math is work, and when taught by a

competent educator, it becomes rewarding, fun, and applicable. My suggestions in the document aim to balance higher order thinking with solid math teaching practices. I want to ensure that the core standards remain focused on grade-appropriate learning and teaching, without any diversions.

Many elementary educators struggle with teaching math effectively. Some research suggests 25% of our educators have difficult teaching math. With this in mind, I know the writing committee consists of experts in the field of math, I would encourage the writing committee to consider changes like “apply math concepts or knowledge and demonstrate” in place of “justifying and conjectures" in the early grades. For educators already struggling with teaching math to their students the clearer the standard the more effective an educator will be.

My recommendations are intended to eliminate ambiguity and emphasize precision—such as training teachers and students to focus on “questions” in specific standards. This skill should be used daily throughout math instruction, not limited to a few standards. With the skills attached to standards they have the appearance that only some focus on questions while others focus on other skills. I know educators are encouraged to use all of the skills but when we assess the standards if the skill is attached it is where the assessment will be focused. Some things are a natural by product from excellent teaching and learning and are not meant to be quantified.

Data science- I appreciate the idea of starting small like a classroom and expanding to larger communities when gather data. However, this detail isn't necessary in the standards. Sometimes, educators get sidetracked by such details, leaving less time to focus on the main math concepts.

I have visited many successful classrooms around the state from Title 1 schools to wealthy schools. What I observed was intentional teaching with clear expectations. Math language was consistently used and there were high expectations for all students.

I have had several parents ask me if students will be required to learn several ways of solving problems before they have mastered an efficient algorithm? I honestly can't tell. I can't tell if numeric strategies will be 5 ways to consider a problem or if it is clarity on numeric processes. This is an area where many parents are frustrated, especially when they can't assist students because the content is new and changes.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

The standards seem very clear. The document is easy to navigate. I do wish a sequence of topics, even just as a suggestion, could be given.

It would also be helpful to include example problems on the side, because sometimes knowing exactly what is meant in the standards can be difficult to determine. (Taking something from academic language to a concrete problem.) For example, many places in the document emphasize visual modeling. Examples of this could be helpful. My department has argued many times over what exactly these types of statements are supposed to mean when we teach the topics, so having clarifying examples would be very helpful.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Defining what the authors mean by “tools” for each standard throughout the document. The competencies at the end seemed redundant.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

It would be great if the introduction or Preschool Age 3 section could include reference to the new Utah Early Learning Standards for Birth to Age Three (at least the Cognition domain that houses the sub-domains of Reasoning & Problem-Solving and Mathematical Thinking). These new standards were written to align Utah from birth to graduation so inclusion in this document would highlight the alignment.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

I’m not sure if the links to the description details should have something attached to them, but they don’t. I can’t see it at least. I think this will be a great tool for teachers, but should definitely only be a recommendation and not made to be a required methodology.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Pathways

My focus is on Math III. With the development of the three pathways, I see what you are doing, but not all students fit in those paths. What about the students that have taken Math and Personal Finance or something Math related that gives them their third year of math but is more geared toward their learning. Some students are not math minded and I feel we are setting those type of students up for failure.
We need alot more information and clarity on what exactly you are referring to with the change in High School Pathways. We need to know what the intention is for the other math courses like personal finance. We need to know what exactly the curriculum will be for Data Science a with example at the right rigor level or profiecency scales. The secondary math is deserving of the same clarity and resources are the elementary. The science has also created wonderful assessments for teachers to use. Where are these for Math?
The standards listed in Secondary III are NOT "for all," nor should they be. Not all students need to learn the level of math included in Secondary III. In addition, the Math Pathways need to start in Secondary Math II so that not all students need to learn about quadratic equations and functions in order to graduate high school. Please consider why you feel it is necessary for students to understand quadratics to get their diplomas. Students who go on to take College Algebra or Calculus should learn quadratics in high school, but students who take Statistics or Contemporary Mathematics do not need quadratics as part of their background knowledge - not to mention the MANY students who choose not to pursue a college education. Why are we stopping these students from succeeding in math and earning a high school diploma because of quadratics? I urge you to consider restructuring Secondary II to include pathways.
I believe that too much was taken out of Secondary Math 3. I don't know if we'd actually change our secondary math 3 course at all because students would need topics in there when they take 1050

How do these standards then fit with the pathway of going into Concurrent Enrollment Math or AP Precalculus. Just because a student take the SM3 Calculus pathway, does that mean that student is ready for AP Calculus.
High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn't universally necessary. Students who plan to pursue advanced math will do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.
While solving systems of equations (2x2) is in Secondary Math 1, and solving nonlinear systems is in Secondary Math 2, it seems as if solving systems (3x3) has been eliminated completely. This is a skill that my AP Calculus students need to be able to solve certain Calculus problems, such as finding coefficients that would make a function continuous. Matrices has been removed from the Utah Standards completely, as far as I can tell. While that might not be a hugely important topic, it is one that I think Universities would expect students to have some familiarity, if they are going into a stem field. I am very concerned that under this new Pathways system in Math 3, that schools are going to have a very difficult time preparing students for Calculus. If you actually asked any high school math departments about the current course Secondary Math 3 Extended, most high schools are teaching that course as Precalculus. We have to if we want our students to be successful in AP Calculus. I don't think students will be ready for Calculus if they are just taught the standards in the Secondary Math 3 Calculus Pathway. They need greater depth, and some additional topics. There also does not appear to be an extended or honors or accelerated option available to students. It is not fair to students to not have those sorts of options

available. Last year I taught both Math 2 Extended and Math 2 regular, and those classes are insanely different. The sorts of questions that students ask in Math 2 Extended would just confuse many students in Math 2 regular, and to go at an appropriate pace for Math 2 Regular would bore the Math 2 Extended students to tears. Students need options. It would also lead to social issues if there wasn't an option for an extended/honors course. Students don't mean to bully, but sometimes they say things without thinking or the sigh when someone asks a question and they are ready to move on. It's like little microaggressions that are a lot less common when students are placed in a class that is within their ZPD.

The high school math standards need a better level of clarity about what the expectation is for students to understand and be able to do. When the current standards came out around 2013, we were given little to no clarification about standards. The textbooks were all terrible and hodpodge. We were given a rough draft of some guides on the standards, but honestly they were at best a rough draft, mostly unclear still. We were promised better standard guides, but those never materialized. The proficiency levels that the state provided were also generic, like a really bad rubric, where the columns of proficiency levels just had different adjectives. If Utah wants to see more consistency across schools and better results throughout the state, there needs to be clarity about the expectations. Math standards can be read many ways by different teachers, and the level of depth/difficulty has never really been clear. The state needs to be more transparent about what is expected in Math courses. I don't now if this is a problem at younger grades, when standards I think are more clear and less open to interpretation. But the high school standards are pretty ambiguous. There is no consistency across the state, and expectations are very unclear. We are told "don't look at the Aspire questions! That would be bad! Just guess what you are supposed to teach! Hopefully you'll interpret what the standards mean perfectly!" Should we teach the students to simplify radicals with variable radicands? Who knows! Some teachers say yes, that's part of this standard, some teachers say no. It's frustrating!

I get that the state wants more statistical thinking and topics brought into high school math, but it kinda feels like we are shoving it in at the cost of precalculus. We

do have some students who want to prepare for an take Calculus, both in high school and in their first year of college. I'm not convinced any of these pathways will prepare them for that.
Where are Precalculus and other classes?
Will there be an extended pathway for Secondary I and II?
I think opening a new pathway for high school students and developing and refining our own mathematical practice (skills) standards was a good idea as the state. Can spacing be fixed before it is published? For example, 7th-grade ratio and proportional relationships are on one page, and the following material is on a new page. Secondary I Data Science is the same, and has a large gap in the material.
6. Inclusive Framing of Mathematical Pathways Finally, committee members recommend broader, more inclusive language describing the career and academic pathways supported by both the Calculus and Data Science tracks. This will help convey the wide utility of mathematical training and encourage students from all backgrounds and interests to see mathematics as relevant and empowering.
Is there a way that along with the rewriting of these standards and with the update of course progress for SM 3 that LEAs can be allowed to teach Math 1010 BEFORE students enter SM3? Math 1010 is a GREAT course that helps students summarize all of their learning from SM 1 and 2 before deep diving into the concepts of SM 3. If this cannot be allowed, can it at least be allowed to be offered after students have completed a one semester SM 3 essentials course?

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Skills Inclusion

A lot of detailed wording has been removed from the math standards. It seems like the goal was to add the mathematical processes into the wording of the standard to make them more noticed and more visible. However, in doing that the detail of what and how to teach it has been removed in many cases. This makes the standards less direct and harder to understand. I feel like the core guides need to be really explicit because if there is too much left to interpretation the standards aren't standard. I like the idea of making the practices more included in the wording, however the detail still needs to be there. When I go into the core guides and use them it's to find out exactly what and how I'm supposed to be teaching a standard. I go to the document for detail. One specific wording that feels odd in many places is "add and remove context." I think the purpose is to indicate that the students should be able to use context to solve real world problems. However in some places where it says "add and remove context" I found myself asking, "What does that actually mean here?" especially when thinking about removing context.
I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.
Take the mathematical skills out of the standards. They are too difficult to assess and muddy the standards. The mathematical skills are important, and teachers will absolutely still be teaching and encouraging the mathematical skills, but pulling them out of the standards will clarify what the students are actually supposed to learn. Standards are too vague, difficult to assess, and address too many areas. Do we want students to have a solid mathematical foundation, or do we want to throw as many concepts as possible at them and hope that something sticks?
I would ask you to reconsider the feedback from "JE" regarding the explicit inclusion of the "skills" in the language of every single standard. I've seen the writing committee's response to why they did not incorporate that feedback and find it unsatisfactory. In many cases, the use of this unnecessary language buries the

mathematical heart of the standard until halfway through the text. As a math teacher, I should be able to look at a standard and see what it's about at a glance, without filtering through redundant and unnecessary "buzzwords." As a professional, I know that these "skills" are the mathematical practices touted by NCTM for the past couple of decades, which are overarching, guiding principles for how we teach mathematics as a whole. I do not need you to tell me which ones to emphasize when, nor do I need you adding to the wordiness of the standards with these repetitive phrases. Keep the citation at the end of the standard such as "(Sk 1, 5)" if you'd like, but let the standard itself be a clean, direct statement.
The standards are worse to read now. The intention of weaving through the mathematical practices is nice in theory, but is really difficult to read through in practice. As a teacher I need these to be easy to pull the content out so I know what to teach. I weave the mathematical practices through my teaching already. Having them in the standards just makes them worse to read.
I disagree that the term mathematical practices has been changed to skills and with them being integrated into the standards. This is putting a focus on these practices, with a disregard to the details of the mathematical content. These mathematical practices are something that all mathematics teachers know about, they learn about them in their pre-service education across the United States as well as internationally. If a simple google search is conducted on mathematical practices, you can see that every state, and professional organization are talking about the same mathematical practices. To then change them in our standards document and call them skills seems problematic if we are hiring teachers from out of state or trying to connect with professional organizations. While I can see that some of the skills are not the same, these practices are not skills that you just do over and over. These are practices that we want all students to use as they are solving any type of problem. I don't want them only being precise sometimes when the standard says to, I want students to be precise in all of their mathematical work. The students in Utah have made substantial gains in their understanding of mathematics since the release of the common core standards in 2010. It took teachers about 5 years to unpack and understand the standards. This draft of standards for mathematics is very vague on the specific mathematics content that

should be taught. I worry that students understanding of mathematics will decrease with the use of this set of standards. This is a harsh comment, but I think we are capable of having a set of mathematics standards that specify what mathematics our students need today for future jobs and the current set of standards will not prepare our students for the future and it will be much harder for our teachers to teach the specific mathematics content because the standards are too vague.
As I have talked with secondary math teachers about the draft standards and we looked at the proposed skills, most of the questions that have come up are about what Skill 5 represents. I don't know if there is a way to make this more clear, maybe by giving an example of what exactly this skill looks like.
Utah State Mathematics Standards Revision Committee, My name is Kathryn Clark, and I am a Utah educator. I have an elementary math endorsement, I have taught 4-6th grades, worked as a math specialist and instructional coach for grades K-8th, served on a RISE Math Item Writing committee, and am pursuing a PhD in Mathematics Educational Leadership from Utah State University. My research emphasis is in early grade mathematics. I am happy to contribute to the public comment for the Utah State Mathematics Standards for grades PK-12. First, I would like to share some specific strengths I see with these new standards. I support the additional emphasis on data science throughout the grades, as this is an emerging need in mathematics education. I appreciate the addition of some language that strengthens the building of conceptual understanding for students. An example of this includes standard 2.NBT.2, where the words ‘making conjectures about counting patterns’ add to the understanding of ‘Count within 1000 and skip count by twos, fives, and tens’. Additions such as these support teacher efficacy and will lead to better conceptual understanding over rote memorization. I appreciate the list of things students should be able to do at the end of each grade level. These support intellectual planning to make the standards accessible and operational for students and teachers.

I do have some concerns that I would like the standards committee to consider. My observation is that there was an effort to simplify standards and reorder them for what I assume is a desire for clarity and autonomy for teachers. This, however, I think may not come with the desired results.
For example, the 2nd-grade standard on telling time removes 'with analog and digital clocks'. By not putting that boundary in, there is no direction for using clocks as a foundational idea for other math concepts. Analog time telling can be foundational for understanding fractions, angles, degrees, and patterns. I think it would be stronger to include the direction of analog and give examples of how pattern discussions could be stronger by explaining the purpose of that boundary. Additionally, the 2nd Grade standard about shapes removes the boundaries of what shapes should be included. Not including those boundaries increases the likelihood of teachers either teaching with less rigor or beyond the mark.
Overall all I see many explanations and boundaries removed that add helpful guidelines for teachers, and while the intention might be to put these guidelines into core guides, I think removing them from standards will be detrimental to teachers and, in return, students.

I am concerned with the reordering and the combining of standards, and the change in language in the mathematical practices. Over the last 50 years, the history of mathematics in the United States has been marked with well-intentioned and qualified groups creating recommendations for mathematics education that were then either ignored, partially implemented, or implemented and then reversed before they had a chance to show all their benefits. I am concerned that this is happening in Utah with the changes suggested in these standards.

The National Council of Teachers of Mathematics, a respected mathematics advocacy group in the United States, has worked since 1989 to build a pathway for strong mathematical instruction with many important recommendations. Utah has followed these recommendations with the standards adoption cycles since 2010. This has been a great advantage for Utah teachers and students because there has been common language and resources for teachers, both through curriculum and instructional practices with other states. There is strength in numbers.

The mathematics scores in Utah have shown strength as well. Utah NAEP scores for 4th and 8th grade place Utah in 4th place compared to the other states, all of which are funded at a greater level than Utah. I believe the consistent use of common standards for more than a decade has played an important role in Utah's success. Standard numbering and mathematical practices have easily aligned with a variety of high-quality curricula and professional learning resources made possible by the large number of users across the United States. Utah alone would not have been able to create or incentivize the creation of these resources on our own.

With these new standards, there will be additional and confusing work for teachers to do standards crosswalks with the previous Utah standards. This work is fairly light with our current standards, but will become much more difficult with standard numbers being reordered, with wording alterations and eliminations, yet with minimal substantive change for many standards. The creation of a whole new way of naming geometry and measurement, and data science standards, will add to the confusion.

This difficult work of unpacking the new standards will be magnified for the new Math Skills compared to the previous Mathematical Practices. While the elements are mostly still included, the new ordering and language will be different enough that common resources will not work. I don't feel that the new language is powerful enough to warrant a break from the old language. The change in mathematical practices would create new materials from the state that would be different from the materials teachers see in their curriculum and from respected national resources. This will cause frustration for teachers and likely increase the possibility that teachers will ignore them.

I am concerned that the new structure of the standards will be a disadvantage to teachers, especially in the early grades. Elementary teachers in particular have been asked to be experts in many content areas. We should not be changing pieces in the standards that will make their job more difficult. Removing examples and boundaries, reordering and renaming standards, does just that.

My plea is for the writing committee to consider what is being given up by unaligning Utah's standards with other standards and how the gains that are envisioned could be made with intentional additions to supporting current documentation, such as core guides and explanatory materials.

Sincerely,
Kathryn Clark
1995 W 4600 S
Roy, UT 84067
801-710-0057

pg. 24 -- K Skill 4: "Students also begin to compare and contrast their strategies and solutions to others'." -- This skill seems too advanced for P-K. This is the stage when students should be learning the basics of math. There must be a foundation built before students can be expected to defend their arguments, and compare different strategies

pg. 24 -- K Skill 6: "ask questions" -- Is this a teacher led or a student led model? Learning happens best in teacher led models with lots of scaffolding, direct instruction, repetition, and praise for correct answers.

pg. 25 -- K Skill 7: "their thinking helps students develop confidence in problem solving" -- I doubt these methods would promote confidence. Confidence is best produced through direct instruction, practice, and lots of praise for correct answers.

pg. 32 -- 1st Skill 7: "Providing students opportunities to revise their thinking helps students develop confidence in problem solving" -- I strongly disagree with this statement. Students need to learn that math is a subjective discipline. There is absolute truth in math, and they should be taught the best methods for doing math, not left to their own devices to conjure up some solution by trying different things. This will not develop confidence but instead result in confusion and frustration.

These skills run throughout all the grades and so I would submit the same feedback for the other grades as well.
2. Balance Between Skills in Representation and CalculationThere is a shared concern that, in practice, the emphasis on calculation—particularly in advanced courses—mayovershadow equally important skills in mathematical representation and interpretation. The standardsshould safeguard instructional time and focus for developing students' ability to represent, visualize, andcommunicate mathematical ideas, not just perform calculations. Ensuring that representation is emphasizedthroughout all course levels will support students' readiness for diverse post-secondary pathways.
I appreciate that Skills 2 and 5 in each set of secondary math are a step toward addressing this. How- ever, I have two main concerns about how context and connection to real-world problem sets are discussed throughout the standards. First, mathematics is only relevant insomuch as it is used to solve real-world problems. This makes an explanation of context fundamental to understanding how and where to use mathematics. The importance of context is not adequately reflected in the Essential Competencies for Secondary Math I, II, or III. In each of these sections, the use of mathematics to address or solve real-world problems is only hinted at with somewhat vague references to distinguish between situations that can be modeled with certain types of functions, contextualize results, interpret results, or interpret parts of an expression in terms of a context. In my opinion, these references are too vague. For example, it may not be clear to instructors what ”situations” ”interpretations” or ”contexts” means in these statements. I recommend making this language more explicit to talk about, for instance, distinguishing which real-world problem sets can be

modeled with certain types
of functions or interpreting mathematical results in terms of the problem set that it represents.
Second, the connection described in these standards between expressions and the problems that they repre-
sent is, for the most part, one-way. The standards discuss interpreting expressions or parts of expressions
in terms of a context, implying that students start with an existing expression and analyze it relative to a
context. In my view, this is backward. In many cases, practitioners start with a real-world problem and
must formulate a mathematical expression for the problem that they then solve to gain insight or solve
part of the problem. In my experience, most students never learn to do this. If we think of math as a
language, they learn mostly the grammar (computation, calculation skills), and may learn some vocabulary
(connecting mathematical symbols & parts of expressions to real-world quantities), but they can't form their
own sentences (useful expressions) because they don't know how to construct them. I would like to see more
focus on developing mathematical representations of real-world problem sets rather than just interpreting
them based on a given context.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Specific Standard Suggestion

On page 141: misspelling of the word “ven-diagrams”

On page 154, the header “Essential Competencies” is bolded where as its sister headers on page 130 and 143 are not.

On page 143, the bulleted items are not capitalized whereas its sister headers on pages 130 and 154 are

On page 155 the essential competency “draw and justify conclusions from sample surveys, experiments, and observational studies. (D)” is not listed, where it is listed in the Math 3 for All and Calculus pathways.

On pages 155 and 144, it would be helpful to the reader to have any essential competencies that are specific to the Calculus or Data Science pathways (and therefore do not show up in the Math 3 for All competencies) to be highlighted somehow (similar to how the prefixes CS and DS were used in the preceding standards).

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

We strongly suggest that Scientific Notation be takes out of the eighth grade core. This is not an essential standard since the students use their calculators this year and from here on to accomplish this.
Absolute value equations fall under this same understanding.
Transformations is retaught in High School and should be moved to their curriculum. Having to teach the transformations with coordinates adds quite a bit of work to our curriculum.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

I would like to offer some feedback regarding the list of math competencies outlined for Grades 1 and 2. I noticed that there is no explicit mention of time or money in the listed competencies. While I understand that these topics are included in the curriculum strands—and that each is represented by a single learning outcome—they require a significant amount of instructional time and are notably different in nature from the other competencies. I'm wondering if their omission from the main list is due to the fact that these skills will not be revisited in future grades. Although the introductory paragraph makes this point, the wording leading into the list may lead some, especially new teachers or members of the public, to focus solely on the competencies that are explicitly stated. As a result, these essential topics might be unintentionally overlooked.
Please explain how teachers teach how to "remove context to solve real-world mathematical problems involving...." Examples 3.MG.6 and 3.MG.3 I am unclear on what that means specifically.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

Overall, these seem like great ways to reorganize the math standards. I am disappointed that nothing seems to have been done about 4th grade having a much larger load for math standards than any other grade, while third grade has the least.

Addition and subtraction should be solidified up to the 100s place as a priority in third grade. Please add it to their essential competency.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

Empson and Levi (2011) indicate that three types of word problems should be presented to children in order for them to construct an understanding of multiplicative nature of fractions. Those types of problems are partitive division with whole numbers divided by whole numbers that result in fractions less than or greater than one, measurement division with whole numbers divided by fractions less than one, then multiplication with a whole number times a fraction less than one. Their research, and our experience at BYU, clearly indicates that such problems can be presented to children as young as grade K. There are more details about the appropriate number combinations that should be used in each grade level contained in their research.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

I teach consolidated 8th, Secondary Math 1, general and Honors at Pine View Middle School in Washington County.
I wasn't sure how or where to give input on the Standards so if I can I'll give my two cents here and you can pass it along to the right people.
The Essential Skills/ Standards list is really long! One thing I would remove is the

recursive part of Algebraic and Geometric Functions. This is nice but not essential to understand, justify arguments, and compare linear and exponential functions.
I would leave in the explicit equation but remove the word “recursive “.
Thank you,
Melissa Jackson

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

I am overall happy with this core, and think it is doable. I am worried at the additional emphasis on proofs especially for my ML students. In the past the SM2 curriculum has been extremely packed and hard to teach everything in it.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

3. Integration and Connection Across Mathematical TopicsSeveral comments note that the current organization—by discrete topic (Algebra, Geometry, Functions,Data Science)—can obscure the critical connections between these areas. The committee encourages re-visions that explicitly promote the integration of mathematical concepts, for example, by contextualizinggeometry within function modeling or by connecting statistical methods to real data collection experiences.Facilitating

interdisciplinary connections will deepen student understanding and better prepare them fordata-rich, interconnected fields.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

5. Clarity and Technical Precision Multiple reviewers identify opportunities to improve the precision and clarity of language within individual standards, particularly regarding statistical and modeling terminology. Specific feedback suggests removing or clarifying ambiguous terms (e.g., “situations,” “percentages,” “the correlation coefficient”) and ensuring that all standards accurately reflect current practices and concepts in modern mathematics and data science.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

My comments focus on opportunities for change, though I hope that does not overshadow my overall admiration for the body of work. My comments stem from my general concerns about the practical implementation
of so many standards.
This is especially true in the Secondary III - Calculus Pathway, which seems to have an excess number of standards relative to the time available for teaching. Something will naturally have to
give, and my comments try to ensure that skills in mathematical representation are

not sacrificed in favor
of by-hand mathematical calculations on functions and problems lacking compelling context.

In Secondary I, I am pleased to see the emphasis on the skill of mathematical representation. My concern is
that this skill, while emphasized in the standard, may get overshadowed by excessive focus on mathematical
calculation in practice. The large number of standards likely means that some topics will be overlooked, and
I worry that the representation standards will be the first to go. This concern is amplified by what appears
to me to be an ever-increasing focus on calculation in the progression from Sec I to Sec III. I think students
would be better served to use mathematics if the focus on representation increased, rather than decreased
from Sec I to Sec III, which is not something I see in the way that the standards are currently constructed.

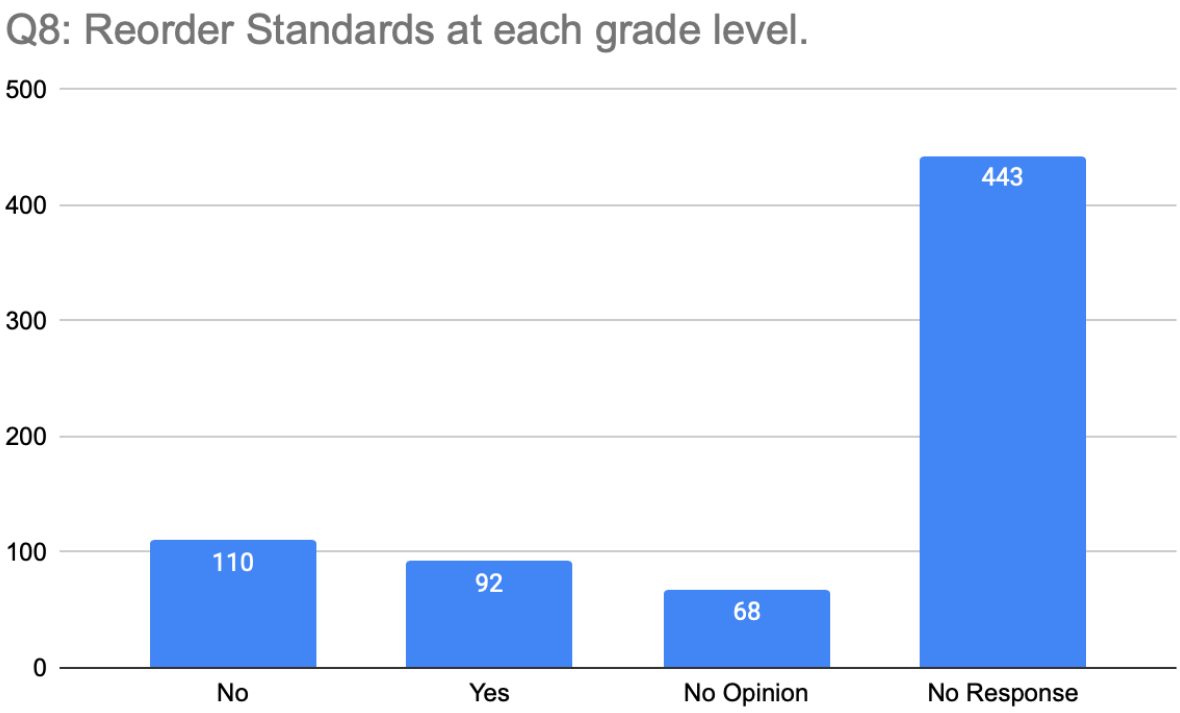
While I understand the need for the decomposition of the standard into different topics (Algebra, Functions,
Geometry, and Data Science), I worry that the current organization of the standard unintentionally hides
the critical connections between these topics. For example, the geometry standards in Sec I seem to be
focused entirely on shapes without context. This seems to be a missed opportunity to think about geometric
representations of functions as applied to real modeling scenarios. For example, having a student formulate
a function, then plot that function, then think about a linear approximation of that function at a single
point to make inference for nearby values of x. Certainly a teacher COULD combine standards in this way,

but I do not feel that the current organization of the standard facilitates or encourages such fusion of topics.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed.

Question 8: Recommendation: Reorder standards at each grade level: introduction, competencies, standards, math skills. I support this recommendation made separately by several USBE members.

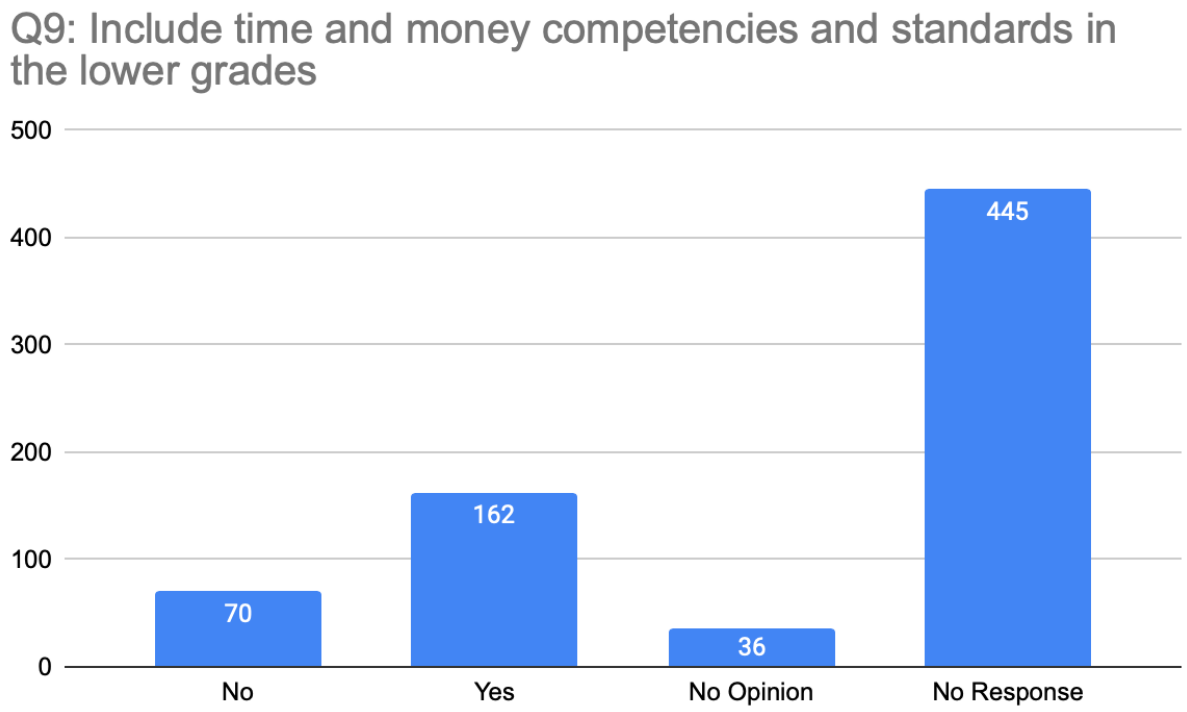


- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

Question 9: Recommendation: Include time and money competencies and standards in the lower

grades. I support this recommendation made separately by several USBE members

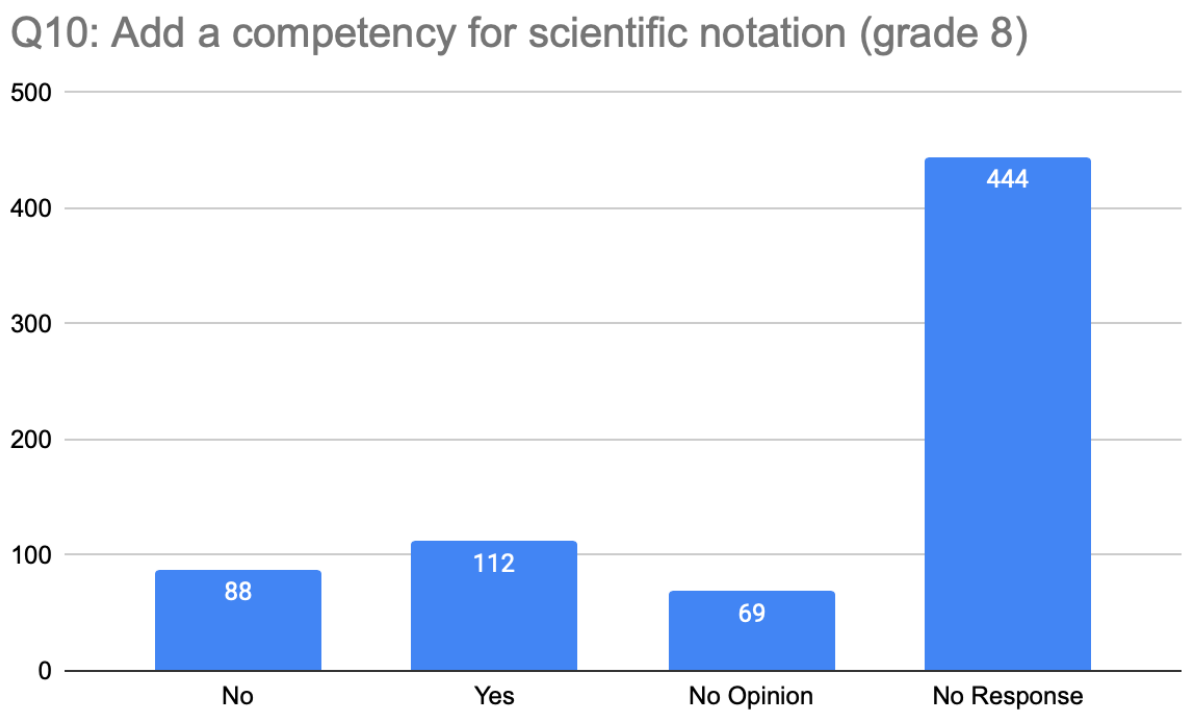


- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

Question 10: Recommendation: Add a competency for scientific notation (grade 8). I

support this recommendation made separately by several USBE members.

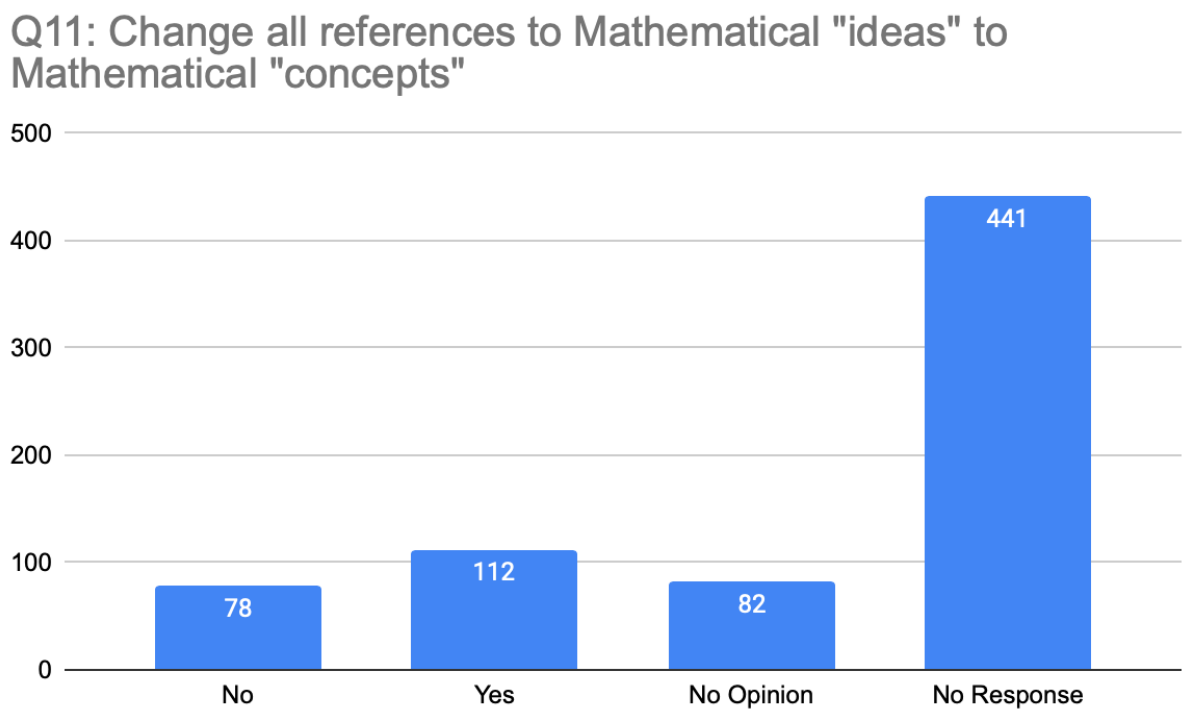


Paste response here

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 11: Recommendation: Change all references to Mathematical “ideas” to Mathematical “concepts. I support this recommendation made separately by several USBE members.

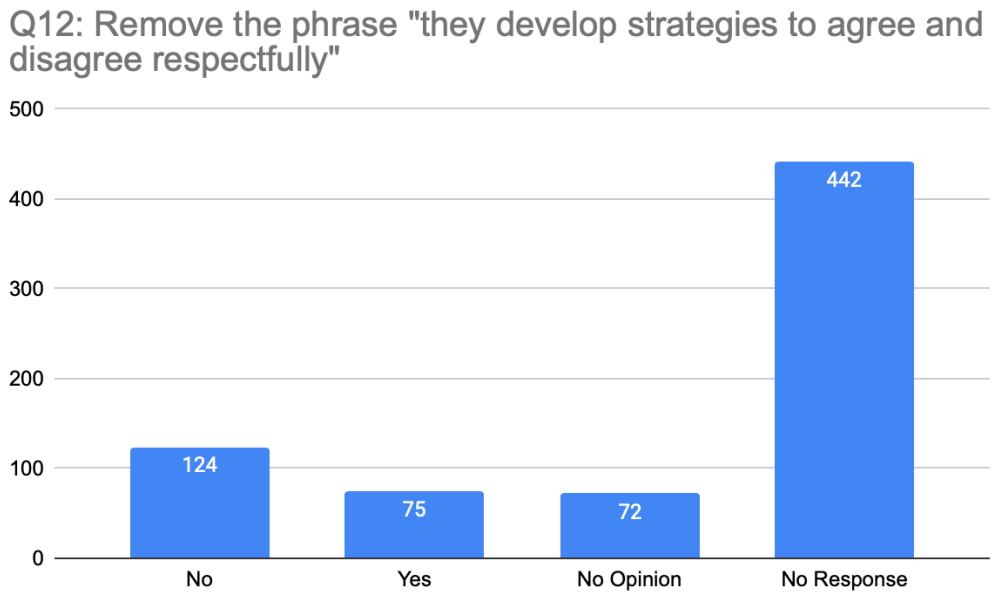


Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed…

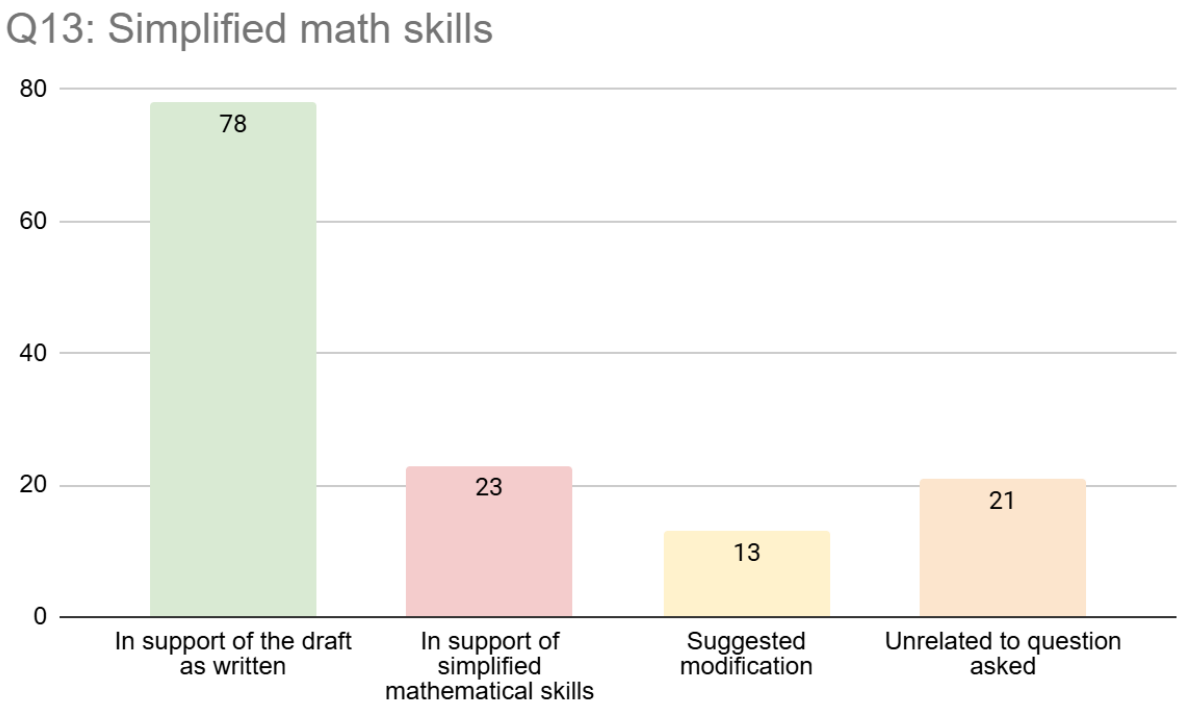
Question 12: Recommendation: Remove the phrase "they develop strategies to agree and disagree respectfully." I support this recommendation made separately by several USBE members.



- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 13: Recommendation: Include the alternative "Simplified Mathematical Skills" for public feedback. Alternative Simplified Mathematical Skills--Recommendation Made Separately by Several Board Members. Please share any feedback you have regarding the "Simplified Mathematical Skills" recommended by several USBE members



In Support of Draft as Written by the Writing Committee

I don’t think non-math experts should be writing standards and do not support this.
Not needed, we shouldn't be watering down the language used in our standards, it opens up alternative misunderstandings by teachers and parents as to what's required.
Why are we simplifying them?
The writing team is made up of experts and partitioners that have thoughtfully considered the mathematical skills across many months, not to mention their many years of experience and I would advise that we go with the list of skills provided by the collective body of the writing committee rather than the suggestion of a board member.
I default to the writing team identified skills
Why are we proposing a different set of skills when you know that top professionals from the field have worked for thousands of hours as part of the writing team. There isn't a need for board members to undermine all of that work and expertise.
The writing committee's work represents many, many hours by a large number of professionals from across the state. The skills list they created and wrote into the standards should be honored and the change desired by some board members is not necessary.
"Simplifies" by removing important context and words. Or worse - Completely changes the meaning of sections. Also, why does it reorganize the structure? That adds an extra complication to a supposed simplification
I disagree with the recommendation. It is beneficial to have the more elaborate explanations currently included in the standards to clarify the intent of the skills. the simplified skills are too watered down and lose the desired impact the mathematical skills should have (I say this as a mathematician, not an educator).
I prefer those written by the math writing committee.
This list is not as complete and well developed as the other list.
This list is not that different so I don't see a need to make this change from what the writing committee has proposed. Let's go with what the team of writers is proposing.
I would not change what has been written by the committee.
I support the current draft document as created by the writing committee.

Let's go with the work of the writing committee. They have a nice list that is already written into the draft standards.
Stay with the skills the writing committee provided. They are already carefully connected with the content standards in the draft.
I like the ones provided by the writing committee. They are incorporated into the standards well.
Stay with the skills as proposed by the writing committee. The draft already has them written in and they are a solid well informed set of skills.
I'm not sure what this would mean. Good teachers already make sure their students understand the foundational skills before they teach more advanced math concepts.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I think the committee of experts should be trusted over the opinion of a couple of board members who may or may not have ever taught or studied mathematics.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
I value the expert committee more than the few elected board members who are making these suggestions.
Fine either way.
None
The simplifies version has too many skill chunked into one. I prefer the original
Doesn't seem necessary.
No, and this is a strong no. I watched the state board meeting and the discussion that spawned these recommendations. First, this entire section is misleading. It was NOT "several board members" that wanted these recommendations or the inclusion of these recommendations to the review process. It was one board member. Period. The standards writing committee has done a great job with the standards. I find it laughable that a board member takes it upon themselves to completely rewrite their work.
Identifying specific skills will encourage best practices with teachers, across grade levels for improved vertical alignment.
Let's stick with the skills provided by the writing team. They are already in all of the standards.

No, thank you
The standards need to be created and approved by the teachers on the writing committee, not by board members who may not have the educational expertise and are not a part of the writing committee.
Selecting tools/strategies is a critical mathematical skill that is missing from this list.
Simplifying the 8 mathematical practices is fine as an alternate document for the general public. However for teachers and educators, the 8 mathematical practices are fine.
Please maintain the integrity of the writing committee and not allow one person's opinion to override an entire committee. This is why a committee was established. If one person's opinion outweighs an entire committee, why have a committee?
DISAGREE
I think USBE Board members need to keep their nose out of things and trust the experts. USBE need to provide more than "opinions of constituents" in order for me to trust their recommendations. I don't teach math and trust the committees that do.
I don't love it. It reads opinion piece to me.
Go with the expertise of the writing team.
I prefer the mathematical skills as they are currently written in the draft over this simplified alternative.
Let’s keep what the writers have. It’s already embedded and well connected with the standards.
I don’t have feedback on the skills a group of board members created because I think we should go with the work of the experts on the writing team. The writing team has already done an awesome job of including skills in every standard let’s use that.
I trust the opinions of Math Educators more than USBE members.
Maybe I am reading it incorrectly, but the final paragraph seems to make implications that students must master procedural fluency before they can problem solve. That thinking is not in line with research and not the message we should be sending. Keep the original draft.
Why are board members doing this? Let’s stick with the work of the expert writing team.
Stay with the work of the writing committee. They have put in a great deal of thought and are all experts in this field.
The writing team has a good set of skills that are already connected across the standards.

I don't think we need the "Simplified Mathematical Skills" the skills in the document provided by the writing team works great, and it is already incorporated into the standards.
We don't need simplification. We need fully adjusted standards. Dumbing down the curriculum does not serve special education students well, and instead adds yet another layer of "less than."
I find is strange that the board is not aligned with the writing committee. Why are board members trying to replace or substitute something for the well done work of the writing committee that is working on their behalf as well as the behalf of out state? Go with the work of the writing team.
Why? There aren't really any big issues with the draft of the writing team.
No need to do something different than what is in the draft. The draft already has a good list and they are incorporated nicely.
I don't see the necessity for the simplified version - the original is easy to understand
Not sure why there is a second list. The draft is good.
No need for this, the skills in the draft are well done and incorporated well.
Why propose this to the public separate from the draft provided by the writing committee? The board should work in alignment with their own chosen standard writers. The draft is good.
Why is this part of the survey even being shared with the public? The draft of the writing team is good. Why aren’t board members happy with their own writing team?
The skills in the draft from the writing team are solid and already embedded nicely. I don't think this "simplified" list is necessary.
No feedback because I like the skills provided by the writing team better.
These simplified math skills don't seem to get to the rigor of the math skills provided in the draft.
It's unfortunate that USBE members, who are not mathematicians or math educators feel that changes need to be made. USBE should trust the time, talent, and devotion of the committee to do a thorough job rewriting the standards.
No need, I think we should go with the work of the writing team.
Why are board members proposing something different from the writing team they commissioned? Go with the work of the writing team.
The writing team has a great draft. Use what the writers are proposing.

I believe these simplified mathematical skills do not support the need for students to be able to discuss the why of math. Math is more than just "observing and focusing." If we are going to have students that can communicate clearly, they must do this as they learn mathematics.
These standards are missing key elements of mathematics that are important for todays students (such as skill 8 from the proposed standards "Select and use tools appropriately and strategically". These are things our students need to learn to do. Math isn't just about solving problems on paper. They need to understand when to use GeoGebra, or Desmos, or a calculator, or a pencil and paper, etc).
I think this seems like dumbing down the curriculum since we are leaving out things to just do essential topics and again doesn't seem to push kids towards advanced mathematics
I don't think these are well written. These do not encapsulate the full skills listed in the draft - they remove/change too much of the meaning. It's fine to explain things in more simplified language, but keep the title of each skill the same, and ensure that each part of the skill is still represented in the simple explanation.
What is the purpose of this simplified list? It seems unnecessary, and like it could open the door to inequitable treatment (e.g. lowering standards for students with disabilities). I reject these in favor of the originally proposed mathematical skills. I take special issue with the final paragraph in the simplified skills document: "Justification and arguments are used when foundational math concepts and student procedural fluency have been mastered. Practices that require novice learners to discover or explore problem-solving methods prior to being taught foundational mathematics concepts are inequitable and consume valuable time and resources within the learning environment." -- This paragraph appears to be an expression of personal opinion in opposition to mathematics education reform, and does not belong on a standardized list of skills. -- Personally, I disagree with the opinions presented in that final paragraph. I believe justification and argument lie at the heart of mathematical activity and can and should be used all the time, appropriate to each student's current degree of knowledge and fluency. I also believe that activities which invite students to "discover or explore problem-solving methods" (which necessitates attempting problems before being shown a solution) can be productive learning experiences when implemented well. In my experience, if such practice is unproductive, it is more likely the teacher lacks training than the activity is ill-suited to learning.
It is confusing that one board member dismisses the work and process of the rest of the board and to advance their personal, unproven, angenda

The document does not seem well-written. There's a sentence that seems to be missing a subject in the first skill. I would just use the skills given in the draft standards.
I do not support simplified math.
No
Being able to add or remove context is an important skill it is not mentioned or explained in this simplified mathematical skills.
I strongly oppose the inclusion of “Simplified Mathematical Skills.” This lowers expectations and dilutes rigor for all students. Simplification does not serve advanced learners, who need acceleration and challenge, and it also fails struggling learners, who benefit from strong but supported instruction, not watered-down content. A one-size-fits-all “simplified” model ultimately weakens outcomes across the board and reduces preparation for college and careers. Students deserve the chance to rise to higher standards, not be shielded from them.
I am firmly against adding “Simplified Mathematical Skills.” This approach reduces expectations and weakens the rigor that students need. Advanced learners lose the challenge and acceleration that help them grow, while struggling learners are not helped by watered-down material — they need solid support with real content. A one-size-fits-all simplified model ends up harming everyone, leaving students less prepared for higher-level math, college, and career readiness. Instead of lowering the bar, we should be creating pathways that encourage every student to meet high standards.
The skills represented here seem stripped bare of important detail and context to understand fully on a first read. Without having read the original draft, I don't feel I would have as clear an understanding of the meaning and intent wrapped up in each skill. I like the draft by the committee better.
These “simplified” skills create more confusion than clarity. Do our state board members truly believe that educators and students are not capable of engaging in more than just simplified math practices? Lowering expectations risks sending the message that we do not believe in our children’s potential. Instead of narrowing standards to basic computation which can be done by asking Siri or Alexa, we should affirm that all students are capable of engaging with rich, rigorous mathematics and have the opportunity to become problem solvers and critical thinkers. Our students are eager for real math—the kind of meaningful, challenging mathematics encouraged by the proposed standards developed by the writing committee.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft

☐ No revisions made after writing committee review

Justification provided here if needed...

In Support of Simplified Mathematical Skills

I support including the “Simplified Mathematical Skills” draft for public review. Presenting a more streamlined, clearly worded version of the standards could make them more accessible for families, educators, and curriculum developers—especially those operating in independent or alternative learning models. The simplified format offers improved clarity in many areas, and its focus on practical skills may reduce confusion around overly abstract or redundant competencies. However, simplification must not come at the expense of real-world application, technological integration, or conceptual depth. In today’s world, math skills must go beyond procedural repetition and support digital fluency, problem-solving, and interdisciplinary relevance. Any simplified framework should be thoughtfully integrated with tools like spreadsheets, calculators, and AI-assisted platforms students already use in daily life. Clear guidance on tool use, modern contexts (finance, data, STEM), and learner autonomy should accompany any pared-down skills list. I encourage the Board to make the simplified version publicly available for further input and to consider combining its clarity with the applied, future-ready goals of the full draft.
Simplification is needed in this space. This is a great recommendation. Thank you board members.
They are less convoluted!
This is so KEY. I highly support this (I notice there is no YES/NO bubbles for this question, unlike any other). I am specifically referring to these sentences: "Justification and arguments are used when foundational math concepts and student procedural fluency have been mastered. Practices that require novice learners to discover or explore problem-solving methods prior to being taught foundational mathematics concepts are inequitable and consume valuable time and resources within the learning environment."
I like the simplified mathematical skills—it makes it easier to dissect the core standards.
This is a good idea.
Simplify them for everyone!
Yes

I agree with the recommendation and think numbers four and six could be simplified even further.
I think we should simplify whenever possible. Right now the entire document is way too wordy.
This is fine.
I fully support these suggestions. I think they make the math standards stronger & more developmentally appropriate.
These changes make sense & I support them.
This is an excellent document and should be used for the official standards. Thank you for simplifying!!
Anything to make it similar for the public to understand is worth it.
Don't just include the simplified mathematical skills...replace it. Why would anyone read the wordy, complicated version that doesn't make sense?
Students should not be arguing about math when there is one right answer, the agree and disagree part does not make sense. They can be encouraged to share and method for their pathway to that correct answer. Elementary students should not have to waste time agreeing and disagreeing on answers when that time is better spent relearning and practicing more math until they are good at the concept.
The simplified mathematical skills are in a more parent and student friendly language, I also like that they give the why behind each of the skills. My question is are all of the 8 skills in the draft covered in the simplified skills, I didn't take that deep of a dive into them.
I like the improvements!
Yes!!! These are SO much better than what is in the proposed standards.
Looks good
I like this. ;)
I think the Alternative Simplified Mathematical Skills is easier to read and more clear. I think it is more specific which is important for math. I would take out the word "inequitable" in the last paragraph. One - what is meant by that? and Two

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Suggested Modifications

I think you should exclude the word 'simplified' as it sounds degrading.
The phrase "attend to" throws me off. I hear "try to"
I like calling them "mathematical practices" because it focuses on the idea that we "practice" mathematics, the way professionals "practice" in their respective fields. Overall, I like the focus, though I think "Attend to Precision and Reasonableness" should also include an emphasis on the appropriate use of estimation: very often, "close enough" is good enough in many common real-world contexts (cooking comes to mind, and building structures whose maximum load capacity exceeds the likely common use of the structure), while exact measurements are necessary in other real-world contexts, such as surgical procedures and architectural designs.
I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.
Most of the "Skills" seem to be the Mathematical Practices with more specific alignment to grade levels. This "Simplified Mathematical Skills" document appears to be Board Members trying to reduce skills to something other than practices. I don't love the use of "skills" in either context actually - "practices" or "dispositions" felt better, but as specific to this document: there is a conflict between presenting a skill and justifying it's inclusion for example, the SKILL portion of #2 is simply, "Students build and use verbal, contextual, visual, symbolic, and physical models to understand relationships between quantities and make sense of problems"... there is no need to say all the other stuff about why this is needed. Same in #3, the first sentence is sufficient. If we think we have "simplified" anything with this document, we have not (other than going from 8 to 6 statements).
none
I feel that these changes would remove the mathematical practices too far from the original standards and national discourse of what it means to do mathematics. Further, the changes, in general, simplify some of the mathematical practices too much and do not represent the rigor needed to do mathematics in our modern world.
These are at the beginning of every. single. standard. If you have a separate document with these skills please take them out of the standards.

The "mathematical skills" are essentially a re-baked version of the NCTM standards for mathematical practice, and I don't think either the draft version or this alternative simplified version really makes any meaningful improvement on what already exists and is well-known among math educators.
I think that the 8 mathematical practices should be defined how they are in many publications as to not change what teachers are being told from national organizations.
I don't care for the name change. They mirror the math Practices that are nationally known and referred to. Why the change??
The Standards for Mathematical Practice as in the current standards and the common core is just fine. Why do we need to reinvent, reword, change. You haven't said anything here that is new or simplified.
pg 24 Students also begin to compare and contrast their strategies and solutions to others'. This skill seems too advanced for P-K. This is the stage when students should be learning the basics of math. There must be a foundation built before students can be expected to defend their arguments, and compare different strategies ask questions Is this a teacher led or a student led model? Learning happens best in teacher led models with lots of scaffolding, direct instruction, repetition, and praise for correct answers. pg 25 Providing students opportunities to revise their thinking helps students develop confidence in problem solving I doubt these methods would promote confidence. Confidence is best produced through direct instruction, practice, and lots of praise for correct answers. I strongly disagree with this statement. Students need to learn that math is a objective discipline. There is absolute truth in math, and they should be taught the best methods for doing math, not left to their own devices to conjure up some solution by trying different things. This will not develop confidence but instead result in confusion and frustration. pg 32 On page K.CC.3 of Utah Kindergarten Counting and Cardinality Guide there is a strong de-emphasis of handwriting of numerals. This is a grave error. This skill is fundamental for math literacy. A student must learn how to write numbers properly. Learning how to write numbers is a big part of the foundation of number concepts. This is very troubling to me. pg 40 story context Story context could be problematic if the story lends itself to ideologies educators intend for indoctrination

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Unrelated to Question Asked

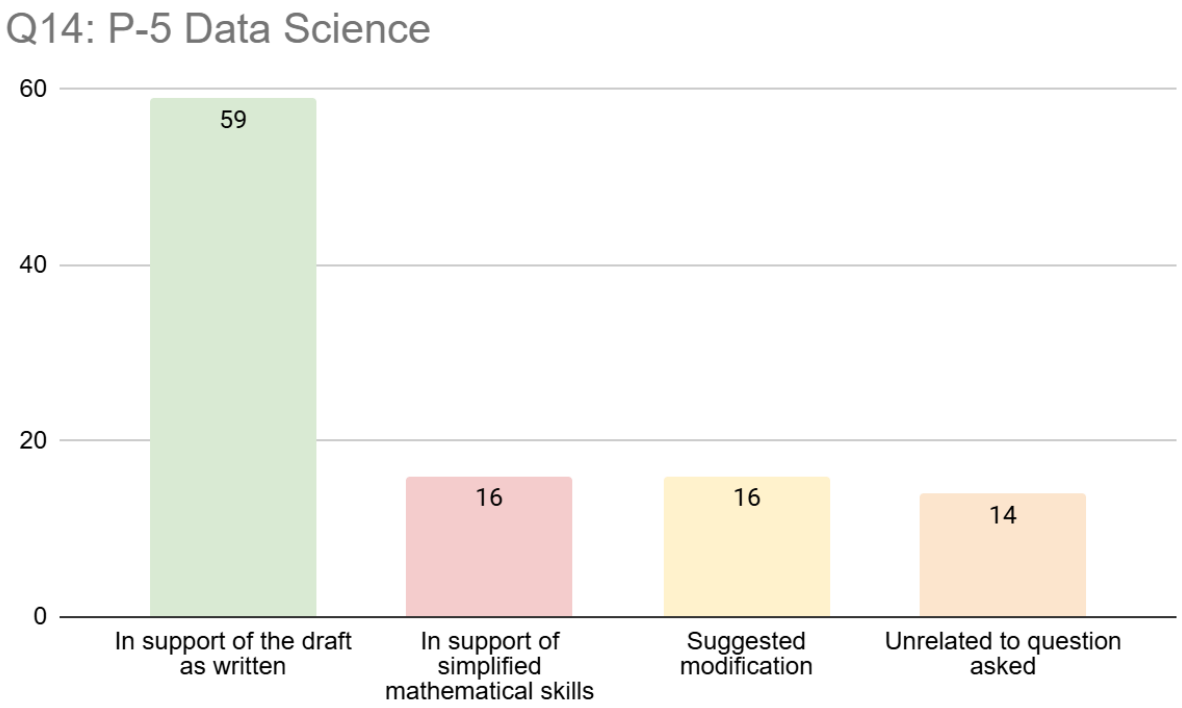
Not sure what this means but as stated before teaching 2nd graders to add together 100s before ones and tens is so wrong
Public input for public education is always a good idea. Lots of stakeholders.
Get back to teaching the fastest way to solve a problem and wait until kids are older to introduce multiple ways to view and understand math.
The final paragraph in this document...Practices that require novice learners to discover or explore problem-solving methods prior to being taught foundational mathematics concepts are inequitable and consume valuable time and resources within the learning environment. PLEASE Explain that more clearly so that teachers do not misunderstand. Does this mean that 2nd Graders should not be taught mathematical equations for Multiplication without learning FIRST about models of groups of, repeated addition, arrays, skip counting on a numberline? I have seen yearly second grade teachers asking kids to memorize Multiplication facts without the rhyme or reason as to why things work for seeing the concepts that Multiplicaiton represents.
The whole document should be simplified, not just this section.
no opinion
None for the time being
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!

It's too wordy.
This is ridiculous paper pushing.
I don't understand what the change is. You should really have a "redlined" version, like the legislature does, where you can compare the new with the old in the same document.
By having no honors we are doing a hurting our children's education.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
honors math is good!
It’s too long!!!! To wordy and detailed. More simple draft, please
It’s too long. It’s hard to understand. It’s a lot of copy and paste. I would go back to traditional math.
Absolutely go back to the simple and clear math that I learned. My kids have had huge problems with the way it has been taught.
I don't know what my feedback is. This survey needs to be redone. I have to say no to everything until I can actually make sense of what you're trying to do here. If this is the part where the honors classes are made to resemble the regular classes, then I am not in favor of it for sure.
N/A
Go back to algebra I, II & Geometry plz!!
I like the language of math one.
n/a
No feedback at this time.
I literally do not know what this is even asking or stating.
I have no clue what you are asking.
I like both versions.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 14: Recommendation: Include alternative P-5 Data Science Standards for public consideration. Alternative P-5 Data Science Standards--Recommendation Made Separately by Several Board Members. Please share any additional feedback you have regarding the "Alternative P-5 Data Science Standards" proposed by several USBE members.



Supportive of Draft as Written: Non-Actionable

I don’t think non-math experts should be writing standards and do not support this.
As a third grade teacher I don't want to include mean, median, and mode for my students yet. We focus on solidifying place value, addition and subtraction, and laying the foundation for multiplication and division as well as fractions as numbers. Leave the mean, median, mode for 4th grade when they have more experience with multiplication and division.
Not these, rather stay with the standards as proposed by the writing committee.
This seems to add a lot and seems to overlap or not flow well with the other ones.
Again, the professionals on the writing team have put in a significant amount of time. There are many, many, many of them and they know what they are talking

about. Why are board members attempting to undermine their work? This makes no sense. Support the work of the professionals that have been commissioned by the State Board to put in so much time and effort.
The work of the writing committee that was commissioned by the board should be honored. Why are board members undermining the very process that they themselves have in place? As a board you have a process that includes the creation of a writing committee that includes many, many experts and professionals from across the state. Why do you desire to undermine the work of that committee and change it?
Overly simplified. Removes skill contexts, and removes the space for asking questions and students having unique ideas in class.
I prefer those written by the math writing committee.
I don't think these are as well written and appropriate as the other standards provided by the writing committee.
I think the standards writing committee's work should be honored.
I would not change what has been written by the committee.
I support the current draft document as created by the writing committee.
These alternative data science standards are much more vague, both related to context and specific skills. For example, in the original 3.D.1 "Identify whether the question asked will result in quantitative or categorical data." is an important skill. In these alternative standards we see "ask and answer questions." What kind of questions? For what purpose? These are important distinctions that elementary teachers will have a hard time capturing without the nuances in the original standards.
I like the work of the writgin committee better. Let's go with the work of the committee.
I prefer the standards the way the writing committee has done them.
Keep the standards the way the writing committee wrote them.

Go with the writing committee's work. Why do you have a writing committee if you are going to propose something different? I would hope that there would be board members that recognize and respect the work of experts in the field.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I think the committee of experts should be trusted over the opinion of a couple of board members who may or may not have ever taught or studied mathematics.
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
not needed
No, and this is a strong no. I watched the state board meeting and the discussion that spawned these recommendations. First, this entire section is misleading. It was NOT "several board members" that wanted these recommendations or the inclusion of these recommendations to the review process. It was one board member. Period. The standards writing committee has done a great job with the standards. I find it laughable that a board member takes it upon themselves to completely rewrite their work. Specfically, in terms of the alternative data science standards, the ideas of bringing in statistical analysis (range and mode in 2nd grade, range, median and mode in 3rd grade, etc.) is a terrible idea.
This will build a bridge between science and mathematics, to push for a more integrated STEM approach in classrooms involving the analysis of data.
Stick with the standards as proposed by the writing team.
No, thank you
The standards need to be created and approved by the teachers on the writing committee, not by board members who may not have the educational expertise and are not a part of the writing committ
3rd graders don't have the division skills necessary to calculate a median that might result in a decimal value. Probability is more appropriate for middle grades;

anything that requires using percents needs to wait until 6th grade when ratios are introduced, since a percent is a ratio.
Please maintain the integrity of the writing committee and not allow one person's opinion to override an entire committee. This is why a committee was established. If one person's opinion outweighs an entire committee, why have a committee?
ALREADY ADDRESSED IN ADOPTED CURRICULUM
Go with the expertise of the writing team.
Let’s trust the work of the experts. They have experience and expertise with what these things should be.
No feedback. I think the writing team has more experience with this then me.
Keep the original draft.
We really should trust our expert panel and not make this confusing.
I trust that the writing committee has knowledge in this area and has provided quality standards. Not appropriate for elected officials to over step and change.
I would go with the writing team. It’s weird that board members are providing something different to the public. The board should trust the work of their own appointed writers.
Not sure why a board member is writing alternative standards. Shouldn't they be working with the writing committee and providing feedback to them? It really is concerning when elected officials start to push their own things as though they know better than the field of experts that have been appointed to do the work.
I am confused by these, as mean isn't taught until 6th grade, but is assessed in 5th grade in these standards.
Again, don't see a need to do something different from the work of the writing team. Why are board members suggesting this? Seems strange.
Again, why change from the draft? Go with the draft.
The draft looks good, we don't need to do something different.
What is in the core is better than the alternative standards - the core builds well into using data in meaningful ways
Why doing a separate set? The draft by writing team is good.

Say with the work of the writers. Their draft is good.
Trust the work of the writers and work with them to address this. Why is this going out to the public?
Again, shouldn’t the board and writers work this out before presenting this to the public? Feels like there are some board members out of line attempting to undermine the work. Why?
The draft of the writing team looks good. Why are board members promoting something different from the writing team they appointed?
No feedback because I think we should go with the work of the writing team.
No need, we should go with the work of the writing team.
Again, why are the board members doing this? Follow the process and support the writers. They have expertise.
Why doesn’t the board support the work of the writing team? The draft provided is good.
I feel like we might be introducing some topics too early (such as median, mode and range in 3rd grade). The standards should be appropriate to the student level and these don't feel like they are.
I prefer the draft Data Science Standards. The alternative data science standards have a strong focus on computation and students in elementary school are still working on their computation skills. Data Science is not just about finding measures of central tendency. It is more about representing, interpreting, and analyzing data sets. It is determining if the data set is representative of the question. These are the skills our students will need in our world where they come in contact with data everyday. What is the research behind each set of standards?
I prefer the more precise wording of the originally proposed standards to the alternative standards. Alternative standard K.D.2's "Interpret data by using math language" seems especially imprecise.
The alternative standards are not as good as those in the main document. I especially don't like that they remove the standard in 3rd grade where students start learning about how to ask statistical questions. Keep the ones in the original draft.

No I don’t support alternative standards.
No
I do not support adopting alternative P–5 Data Science Standards. The early grades should concentrate on building a solid foundation in the basics — arithmetic, number sense, fractions, and problem solving. Introducing data science at this stage risks pulling time and attention away from the core skills students must master to succeed in algebra and beyond. A strong grasp of fundamentals is essential for all learners, and bringing in data science too soon undermines the preparation of both advanced and struggling students.
These Alternative standards seem to just smoosh all of the Proposed Draft standards together to create fewer standards with much of the same content. Why are we not wanting to trust the writing committee composed of math experts? Elected politicians are not math experts just because they attended math class.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Supportive of Alternate Standards: Non-Actionable

I strongly support offering the Alternative P–5 Data Science Standards for public consideration. Early introduction to data skills—such as interpreting charts, identifying trends, using digital tools, and making evidence-based decisions—is essential in preparing students for a world where data literacy is foundational. These proposed standards align well with the modern shift in mathematics from manual calculation toward data analysis and applied reasoning. By integrating visual literacy, basic statistics, and real-world datasets into early instruction, Utah

can help students build critical thinking skills and better understand the world around them. It is important that these standards remain developmentally appropriate and encourage exploration through digital tools and real-life connections—not just static data representation. I also recommend that they include optional cross-subject applications (e.g., data in science, civics, or health) and clear pathways to tool-based learning (such as spreadsheet software or graphing tools). This is a forward-thinking initiative that recognizes how mathematics is evolving. Public feedback will be invaluable in refining and implementing these standards effectively.
I agree, since standards are not intended to direct pedagogy or content delivery, but rather, the topics/skills to be taught. Removing "With prompting and support" is appropriate.
Yet again, these standards are less convoluted and will require less explaining at parent teacher conferences! They make more sense.
Good
I like this, as I believe the ability to understand and interpret studies and data is very important in todays time. I think we don't give it the time it deserves when it is hidden with measurement.
The data science standards are very important! I strongly support this.
I like these
This is fine.
I fully support these suggestions. I reviewed them side by side & the changes are common sense & focused on the learning concept being taught.
Having compared them, I support these changes as well.
I like them.
More options are a good option

Preschool Age 3 - Prefer the original Preschool Age 4 - Prefer alternative Kindergarten through 5th Grade - Prefer alternative
Yes. I don't think having a separate strand of data science is necessary, but if we're going to do it, these are better.
I also like this ;)
I think that is a great idea. Students are exposed to graphs and data in society from very young ages. It can be beneficial to help them understand and start noticing patterns early on about what they are seeing when they see data represented.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Unrelated: No Action Recommended

who is creating all the materials for ELs and SpEd students? Please don't forget that they need standards, skills, steps all broken down.
How about we just leave it alone for a few years.
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!

They need to support teachers by giving them resources.
It's too wordy.
This is ridiculous paper pushing.
Removing honors math courses for 9th and 10th grade students so inclined to take them, makes NO SENSE. The courses help prepare students for the more difficult course work ahead in 11th and 12 grade and college. Especially those interested in pursuing STEM fields. PLEASE do not remove them!
honors math is good!
It’s too long!!!! To wordy and detailed. More simple draft, please
Go back to traditional math
Absolutely go back to the simple and clear math that I learned. My kids have had huge problems with the way it has been taught.
Again, I have no idea what this change entails. I need a bulleted list of what the curriculum was before, the motivation for why it's being changed, and the method for changing it. That is the only way I will ever say yes to a curriculum change in math.
Doesn't apply at the moment so I haven't looked into i
Again, I don't understand what the change is. You should really have a "redlined" version, like the legislature does, where you can compare the new with the old in the same document.
Since these all pertain to the elementary grades, where as my area of emphasis is the high school pathway, I will defer to others here.
How can you have standards and requirements P-k when students aren’t required to attend those grades, maybe suggestions , but students still come to school without preschool and some kindergarten? Implemendation just puts kids behind before they start.

☐ Feedback reviewed

- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed..

Actionable Feedback Suggested

Data Science

If you want to bring in measures of center (mean, median and mode) I think you want to do it more generally, identifying which measure happens the most, or which measure seems to balance the data set. This would be more of an inform introduction to measures of center.
I do not support the adoption of alternative P–5 Data Science Standards. At this stage, students should focus heavily on mastering the fundamentals — arithmetic, number sense, fractions, and problem solving. Adding “data science” too early risks distracting from the core skills students absolutely need as a foundation for algebra and higher-level coursework. Strong fundamentals must come first. Introducing data science prematurely weakens preparation for both advanced and struggling learners.
I believe that this could be a good standard to add. The Alternative P–5 Data Science Standards offer a very structured and transparent roadmap for early-grade data literacy. They could serve as a meaningful resource—especially for building foundational fluency in data. Meanwhile, the Draft P–12 approach reflects Utah’s vision of data science as a core, pervasive competency. The difference lies in visibility: one stands out as a separate domain; the other blends in across all content. I feel like data science is important enough to have its own strand.
Though some of the DS standards have some consolidation, which could be beneficial, the benefits seem minimal to me. Adding statistical standards in grades

3-5 is an interesting idea to add, but it may not be sufficiently supported by the other mathematical standards to allow the needed flow for instruction. Any statistical standards would need to be within the purview of the current standards, so as not to add an unnecessary diversion from the flow of the current standards (which could lead to jarring changes to instruction).
Data Science Why are we changing names.... Statistics and Probablity Please go back to the OLD words
There is a heavy emphasis on collecting data. So much data collection is passive and happens automatically on our phones, watches, fridges, cars, etc. I would suggest amending these standards to focus more on how to recognize data in its different forms and how to use existing data. You can still teach data collection, but recognizing existing data seems under-emphasized in the existing document.
I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.
I don't think it is appropriate to the actual definition of 'Data Science' as that field requires Calculus! I would suggest: Data Analysis Standards maybe or Data Programming Standards, Data Development Standards, Statistics and Analytics Standards, all of these are more accurate to the curriculum provided.
I like the first two standards (4.D.1 ND 4.D.2) presented here, but the latter two (4.D.3 and 4.D.4) feel redundant or not developmentally appropriate for fourth grade. I think there is a balance with these recommended standards and the previously presented draft.
You want to start mean in 4th grade? The reason it is currently in 6th is so they can use calculators. I think the data standards should be mostly how to read a graph in 3-5
Third Grade hasn't done: 3.D.4 tasks previously Find the median, mode and range of data sets and use addition and subtraction to

answer questions related to the representations of the data.
Adding the Data science standards in P-5 is challenging, as it is already so challenging to teach the standards that we already have within a school year. If adopted teachers would need additional materials, support and training.
I like these alternative standards better than the other data science standards—I would most prefer to keep the standards including data as they are because they are more specific (I know to teach picture graphs, bar graphs, and line plots). These are more vague and introduce range and mode which I don't know if those will be entirely relevant or meaningful to my 2nd graders.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Integrated VS Traditional

Go back to algebra I, II & Geometry plz!! Get rid of comon core. Please teach our elementary kids how to add, subtract & multiply!!r

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Language Clarity

They're fine. The mathematical skills need to be removed from the beginning of each standard.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Skills Inclusion

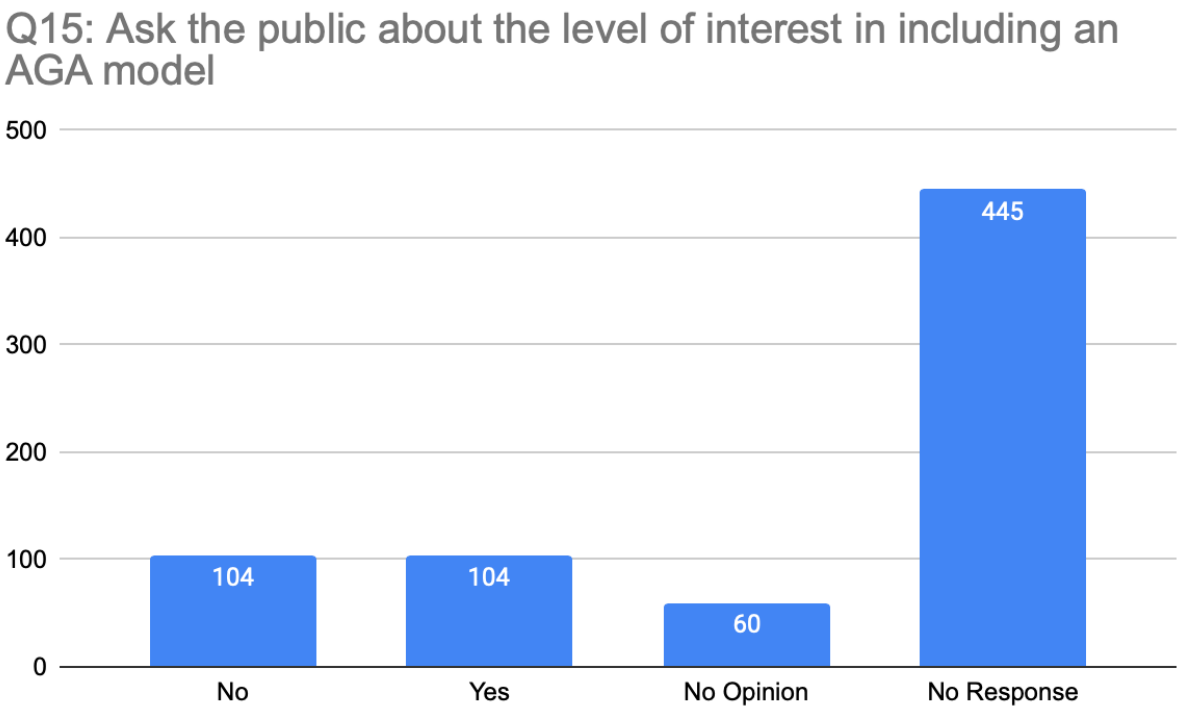
They're fine. The mathematical skills need to be removed from the beginning of each standard.
I think the math practices skills should remain separate instead of being put into the standards because all the math practices should be taught in all math standards, not just what someone else decided should be put in a strategy at least for the lower grades. The way the standards are written now(current) and don't need to be changed. It keeps things clear and concise especially for any parent who looks at the standards.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 15: Recommendation: Ask the public

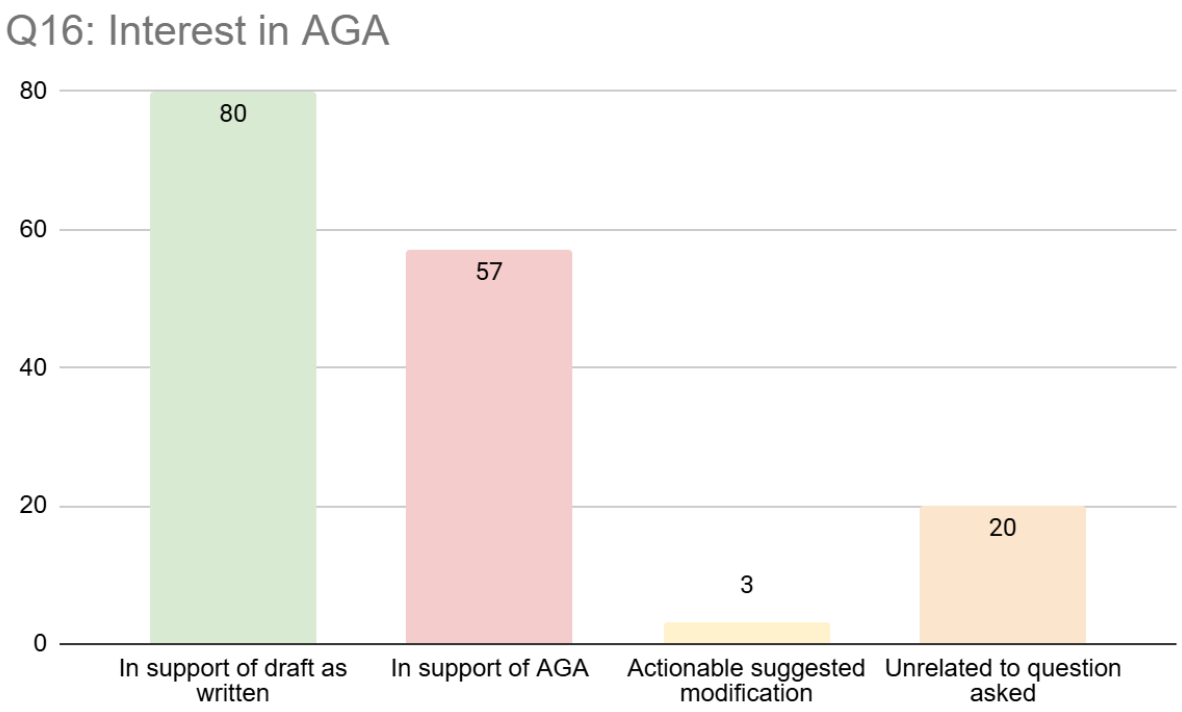
about the level of interest in including an "Algebra 1, Algebra 2, and Geometry" model. I support the recommendation made separately by several USBE members.



- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Question 16: Please share any additional feedback you have regarding the recommendation asking the public about the level of interest in including an "Algebra 1, Algebra 2, and Geometry" model.



In support of the draft as written

I don’t think non-math experts should be writing standards and do not support this.

The integrated sequence of courses promotes coherence and connection. In my experience students are better equipped to make sense of mathematical concepts in a meaningful way as connections are more easily made between content strands. The disjointed sequence of Algebra 1, Geometry then Algebra 2 isolates content and creates gaps. Integrated courses promote coherence, connection, and meaningful learning progressions. Students achieve at higher levels as a result of an integrated set of courses. There is data to support the improvement in student achievement since we moved to an integrated set of courses. https://www.schools.utah.gov/curr/mathematics/_mathematics_/2007MathematicsPerformance.pdf Utah has also been recognized for mathematics education for scores on national and international assessments. NAEP scores from recent years https://www.kuer.org/education/2022-10-24/utah-a-bright-spot-in-a-gloomy-post-covid-national-math-and-reading-report-card and PISA scores (PISA is an international comparison assessment) https://schools.utah.gov/publicrelations/_publicrelations_/_2023_/2023December13.pdf In an ever increasingly global market place we need to maintain our trajectory and support students with meaningful coherence and connection rather than a choppy and content isolating experience.
I don't think calling out the name matters. If students can learn math without it being divided into a title I think more kids will feel confident and not feel like they were good until a certain class name. My older kids definitely got intimidated by the name geometry. I think it makes more sense to build the concepts and skills.
We have a quality system of courses and don't need to disrupt that.
If this option were to be recommended the writing team would have brought it to the board as part of their proposal. Let's stay the course and stay focused, which includes staying with our current courses.
I don't think it should be up to the public to decide if there will be standards for the upper division mathematics courses. This is a decision that should be made by USBE and teams of educators to ensure consistency, not a matter of public opinion. Just create these models.

Our model is working well. We have seen a lot of growth in math and have spent a lot of time training our teachers on the model we are using now. It seems ridiculous to change course when these standards are just being released.
The coherence and focus that integrated courses bring is significant. For this reason pretty much every other country in the world uses an integrated sequence of courses. It makes more sense to keep our focus on integrated courses that bring coherence and well developed connections to our students.
The Algebra 1, Geometry, Algebra 2 progression creates gaps and lacks coherent connections. The Geometry course creates a disconnection.
Integrated is so much better to connect ideas throughout the years.
I support the current draft document as created by the writing committee.
Integrated has been in place for many years now and it makes way more sense! The coherence with integrated is way better. The opportunity to make meaningful and timely connections with integrated is much better. Stay the course with integrated and keep the focus on the quality connections. Help those that thing Algebra 1, Geometry and Algebra 2 is better to get educated and up-to-date.
The whole world, excepting for places in the US, teaches math in an integrated manner. This allows for natural connections to be made between all math topics and it also creates better learning progressions. Keep integrated and stay focused on improving teaching practices. Whoever is behind the push to move to Algebra 1, Geometry, Algebra 2 is really asking for us to regress and go backwards in our progression and improvement as a state.
We have seen great results in using the integrated model for the past 15 ish years. I do not support offering a different pathway.
I think the integrated approach of Sec Math I, II, III are more useful today in mathematics. Algebra and Geometry seem so 'old school' - not needed until Calculus. Also, not holistic to how industry is functioning today. Please contact me if you have any questions. Jodi Haller sunstonegr@gmail.com or 650-714-4263
Stay the course with what has been happening in the state. We are making good progress don't disrupt it by muddying up things with additional options. When teachers and students meet to work on math let's have them maintain a

consistent conversation as they have been for the last several years. Everyone else in the world follows an integrated sequence of courses, let's stay globally competitive.
Geometry could potentially be separate into its own model at a later grade level, but algebra is woven through all of math and should remain so.
I think the writing committee of experts should be honored over a few voices on the state board of education. Please weigh the committee expert recommendations over the voice of a couple of elected officials.
I love integrated math
I support the standards written by local experts not the standards or suggestions written by a few elected board members.
Outside of general public comment, seek out comments from a variety of buisness owners and higher educators. Be sure to use/define school jargon
Integrated math is better for Utah students
Depends on the grade level. No at elementary
Respectfully, the public doesn't know the best way to teach mathematics. They will rely on how they were taught math, which was most likely the Algebra 1, Geom, Alg 2 model. Just because they aren't familiar with the Integrated Model doesn't mean we should switch back to that terrible way of teaching math. I have learned math both ways. I have taught math both ways. I cannot find a single compelling reason to switch back to the Alg 1/Geom/Alg 2 model, but I can list multiple excellent reasons to stick with the integrated model: Students get a better 'big picture.' Students have opportunities to succeed every year, even if they aren't great at one of the isolated subjects. Students make connections across all of mathematics and become fluent at multiple representations. It is easier to incorporate data science and real-world situations into the integrated model. Every other country in the world teaches mathematics with the integrated model, except for the United States, and the US isn't exactly leading the test scores.

Mathematics isn't a set of disparate, unrelated ideas that can be taught in isolation. Integrating the various branches of mathematics at every grade level is essential to helping students develop well-rounded mathematical understanding. The current integrated mathematics model, with Secondary Math I, II, and III, has not been around long enough for our communities to see the effectiveness of the shift: the oldest students who were taught in integrated mathematics classes are just now becoming parents, and it is their children who will likely benefit the most from the integrated curriculum. Let's not allow a generation that "was never good at math" to pull instruction back toward the same systemic structures that didn't work for them because it taught them to think of math as hierarchal and elitist instead of something with multiple access points that allows for the success of the general public, not just those who intuitively picked up on the connections between the strands.
Didn't we move away from that for good reasons? Why go back now? I think a more holistic approach to math education, where topics from algebra, geometry, and data science are blended, is critical in our modern age. This move seems like a step two decades backwards.
Students need to learn algebra, as is specified in elementary grades through high school. Calling a class "Algebra 1/2" takes away from that intent. The same goes for a "Geometry" class. Students learn geometry standards starting in kindergarten.
I like that geometry is integrated into the other mathematical concepts. I think it is appropriate.
Stay the course don't go to something different. You can see that we doing well and should stick with it https://www.abc4.com/news/local-news/utah-school-system-ranking-wallethub/. Don't move the focus to something else, keep Utah at the top by trusting the experts on the writing team.
No, thank you
sounds like a step backwards
The idea of courses labeled as such is old school and has no place in todays society. I would not ask the general public about this. I would defer to those that have a background in mathematics education. The general public should not guide educational choices as such. Utah should keep the integrated math model because

it builds connections between algebra, geometry, statistics, and data science, mirroring how math is used in the real world. Unlike the traditional Algebra 1 → Geometry → Algebra 2 sequence—which creates year-long gaps, causes skill loss, and teaches topics in isolation—integrated math reinforces key concepts every year, deepening understanding and improving retention. It aligns with Utah's draft P–12 standards, supports modern career readiness, and keeps pathways open longer for all students, promoting equity. High-performing countries and several U.S. states use integrated math successfully, proving it better prepares students for college, careers, and problem-solving beyond the classroom.
I think this model of math was more complete and in depth examination of the topics vs brief cover of the topic over three years
No! No! No! Please do research into the levels of mathematics students are currently taking now compared to pre integrated standards. Statistically analyze the impact integrated has had on Utah's mathematics course taking patterns other. I have personally seen after implementing integrated math, calculus offerings skyrocket, more students take the AP Calculus exam, more students enroll in Stats 1040 and Math 1050 at the high school level, and USBE issued a press release a while back showing how special ed students had higher gains with the integrated standards. Also consider the cost of moving back to the old system: New textbooks, additional trainings, realignment of graduation requirements, etc. There was large backlash when moving to the integrated standards for the cost aspect, why incur those costs again? A change like this has a huge cost burden in personnel and dollars. Adding the traditional standards as an option for districts to select also creates problems as students move from one system to another. Students who have taken Algebra 1 in one district, if they move to another district, have not seen all the content in Integrated 1. However, they have seen enough that integrated 1 would feel like a repeat (and potentially affect graduation) and they are placed in Integrated 2. This potentially creates gaps in learning (unfortunately blamed on the integrated system), and the reality is that movement between the two pathways is difficult and does not provide students a seamless math experience. The committee considered the suggestions of the board and moved forward with the integrated standards. Why does one or two board members opinions outweigh

the work of the committee? Why have a committee if the board members are going to override every decision. We need to trust the people we ask to do the work. Trust is not expecting they do what we say, trust is doing what is best for the community.
WHY?
Just because it's how we did doesn't make it right. My students have only participated in learning math using the current standards and integrated courses in secondary schools. My students are incredibly better than I am at math and that's good enough for me!
Go with the expertise of the writing team.
This doesn’t make sense. We have been integrated for over a decade and there are so many great connections within the integrated set of courses. They are more coherent as a group. They are aligned with the rest of the world. Let’s keep preparing students for a global society so they can compete rather than turning back the clock to antiquated courses.
We have had integrated courses for a good number of years. The connections and flow have increased student achievement. It would be crazy to shift away from integrated and regress from the progress that has been made. The Algebra gap is well documented and we don’t have that issue with integrated courses. Let’s keep the current work moving forward.
Sometimes people want to "go back" to the way things were, but that doesn't mean they were better. I much prefer the new language around secondary math, especially the pathways, over the class names that were used when I was in school.
The integrated model is the superior model for student learning. Choosing AGA would be a major step in the wrong direction.
We need to stay consistent and not derail things with another set of courses. Stay the course and trust the experts.
Stick with what we have been doing. Let's stay away from muddying the messaging and the work that is happening. Why are board members over riding the work of the expert writing committee that their office selected and appointed to do the

work? This seems really strange, an overreach on the part of the board and unprofessional.
We should keep things as they are now. Students are getting a good education. There have been headlines about the quality that Utah students have in math. https://www.abc4.com/news/local-news/utah-school-system-ranking-wallethub/amp/
We need to stay with the integrated set of courses. The integration allows for students to have a more coherent math experience. Connections across strands are more readily able to be made, and we don't have a disruption with all of the Geometry siloed into one school year. Integrated courses support progressions across all strands every year, rather than a one year being heavy in geometry and creating gaps in other strands.
We have seen good improvements since using integrated courses. I don't see why we would go back to course structures that are less coherent and didn't provide as good of a result. There is data to support integrated so why suggest something that is not as good for students? With integrated courses the strands progress nicely across the grades. And, again why aren't board members willing to support the expertise and work of the writing team that is working on their behalf and the behalf of the state?
Why change this? It hasn't been this way for a while. I trust the work of the professionals that draft the standards.
Stay with what we are doing. It has helped us improve and we have made progress. Don't change it all up. Integrated courses are better for connections and learning progressions.
My kids have good course content now, let’s stick with it.
The current courses are serving us well. It is ridiculous that the board is posing this question when there is data to support the integrated courses and the expertise of the writers suggests that we stay with integrated courses.
Stay with integrated courses. Teachers don’t need the crazy amounts of extra work course changes would require. Integrated is better anyway.

Integrated is more sensible, it’s how the rest of the world does math courses and I want my children to be globally competitive.
Our state has made significant progress over the last several years. Let's keep the momentum and keep moving in the right direction, which is integrated courses. Having a different set of courses will distract from the efforts being made. Keep the focus and resources dedicated to the integrated courses and keep the momentum going.
Keep what we have. Utah is doing well in math. Keep doing the work as the professionals in the field have done.
It's again unfortunate that a small group of folks feel that the AGA model is best, when the overwhelming evidence (research based evidence) for the international model demonstrates the long-term functionality of the international model. If anything, USBE needs to take into account the TIMSS study.
I do not share the board member's concern about the integrated model leading to anything resembling summer learning loss. That has not been my experience at all in the past dozen years teaching with the existing standards. On the contrary, algebraic or geometric concepts get revisited at various times of year as we make connections, and from year to year as well. I've seen less forgetfulness of concepts, not more. "The public" still largely consists of people who grew up (as I did) under the traditional Alg 1, Geo, Alg 2 model, and many will push for a return to that simply due to familiarity, not any actual knowledge of the benefits of the current integrated course structure.
There is data that shows Utah at the top when it comes to math. Stay the course don’t change things that take us backwards.
Stay with current practice and don’t lose the momentum and progress that has been made.
Utah is making progress, unlike some other states. Let’s keep the progress going forward and not distract from that.
I do not support this. Splitting the model is very divisive and leads to unintended consequences for students when they move from one school to another.

Honestly, I think switching is a terrible idea, as integrated studies help our students contextualize and remember material from year to year (and higher performing countries in math like Canada use integrated models of mathematics instruction to great effect). However, this switch would personally benefit me, as I prefer teaching all Algebra, which would be my assignment if this change happened.
I like the integrated model.
I like the integrated math model. Unless you're talking about extension course standards, if that's the case I'm on board for it.
Integrated math classes have been shown to be better.
Teaching math topics in isolation like this often reduces the topics to computation and copy & paste math rather than using math to interact with the world and make sense of the world.
Along with asking the public, you should absolutely share with the public the data from before and after the switch to the integrated core. I know that for the past few years you have switched to the ACT assessment (which is not at all an authentic assessment of our curriculum) instead of a state standardized assessment so you (conveniently?) don't have the most recent years' data, but the data you DO have of the years both prior to, and after the switch to the integrated core should absolutely be shared, compared, and allowed to be commented on.
It's too hard to go back to that model after all the work that we have done to integrate!!!!!
I have taught both the Algebra/Geometry/Algebra 2 and the Integrated model. I would definitely stick with the Integrated model. It better prepares our students in developing the skills and dispositions in portrait of a graduate. In the Algebra/Geometry/Algebra 2 model the focus is heavily on applying a procedure to get an answer. Everything also seems to be compartmentalized and students do not easily made connections across the different branches of mathematics. The integrated model provides students the opportunity to better make connections. Math concepts are spiraled so there is better retention. Utah now consistently ranks among the top states for math scores so why would we go back? I was not always a fan of the integrated model. It was hard to transition to it,

especially since available curriculum was limited. It took a few years to feel like I truly understood the vision behind it. Now I would not want to go back. There are too many benefits to students with the integrated model that you do not find with the Algebra/Geometry/Algebra 2 model.
My experience of teaching students when we had algebra 1, 2 and geometry and compared to our newer integrated classes has shown that the integrated model better fits the mathematical skills that we have as a priority as students are better able to see the connections between the geometry and the algebra as we explore the concepts together visually, algebraically and in tables. Integrated has been a better experience for our students understanding.
The integrated model does much better at showing the integrated nature of mathematics. The algebra/geometry model artificially disconnects topics that are actually connected.
I think the integrated is a better model.
Right now the integrated math in high school is still following the blueprint that is happening in elementary school and middle school. The blue print being learning some algebra-numbers, some geometry-shapes, and some statistics. So the pro to keeping it integrated is to continue that way of learning all the way up. While changing it back to Algebra 1, 2, and Geometry seems better, it will put ALOT of extra work on teachers and staff to implement these changes. There are studies that show that the classrooms who use integrated math are ahead of those who do not.
I don't think a shift will move us in the right direction. We will experience an implementation dip before we see a rise in scores, and there is no guarantee we will see a rise in scores.
I am concerned that this survey presents these recommendations as being supported by “several” board members. After watching the state board meeting in June, it appeared that one specific board member, who teaches math at a private school, may have a potential conflict of interest, which raises additional questions about the recommendations’ objectivity. As an educator with 22 years of classroom experience, I feel it is important that

decisions impacting statewide math education reflect broad, unbiased input and prioritize what best supports all students in Utah. Here are my thoughts on the matter:

A Case for Maintaining the Integrated Math Pathway in Utah

As a math teacher with experience teaching both the traditional Algebra, Geometry, Algebra II (AGA) sequence and the Integrated Math pathway, I have observed firsthand how the structure of a math pathway affects student understanding and engagement. The Integrated pathway offers clear advantages in fostering mathematical connections, continuity, and sense-making.

1. Integrated Math Supports Connections Across Topics
In the AGA pathway, each course is often perceived as a separate, disconnected course. Algebra, Geometry, and Algebra II are treated as distinct subjects, which can make it challenging for students to see connections between concepts. In my own classroom, I observed that students to transfer knowledge from one course to the next, limiting their ability to deeply understand mathematics.
By contrast, the Integrated pathway weaves algebraic, geometric, and statistical concepts together across years, allowing for a deeper dive into mathematics and more connectedness across concepts. Just last week, students in my Secondary Math III class commented that current topics felt familiar, noting how concepts flowed naturally from previous years. A comment like that never happened when I taught mathematics on the AGA pathway. In fact, the opposite happened. Continuity of the integrated pathway enhances students' ability to make sense of new material, engage in deeper reasoning, and see math as a coherent whole rather than isolated courses.

2. Utah Students Perform Strongly in Mathematics
Utah consistently ranks high in national measures of math achievement. According to the Deseret News report on WalletHub's 2025 "States with the Best School Systems", Utah is second in the nation for math test scores, even while spending relatively less per pupil than other states. This suggests that the current Integrated

Math approach is effectively preparing students for rigorous assessment and learning outcomes. 3. ACT and SAT Performance Reflect Participation and Preparedness Data from the World Population Review and PrepScholar indicate that Utah students maintain strong ACT performance, especially when accounting for full participation. Utah's average ACT score is high compared to other states, and students benefit from a pathway that emphasizes conceptual connections across courses. 4. Sense-Making and Long-Term Retention The Integrated pathway's structure supports sense-making, long-term retention, and transfer of learning. Students are able to see how concepts build on one another, rather than viewing each course as a discrete set of procedures to memorize. This approach aligns with research on effective math instruction, which emphasizes the importance of connected understanding and coherence in the curriculum. Conclusion Maintaining the Integrated Math pathway in Utah allows students to experience mathematics as a connected, meaningful discipline. It builds on their prior knowledge, strengthens conceptual understanding, and prepares them for success on national assessments. Shifting back to the AGA pathway risks fragmenting student learning and limiting the natural progression of math concepts. This would be a step back for Utah. Based on both classroom experience and statewide performance data, the Integrated pathway is the stronger choice for Utah students.
Integrating geometry throughout the courses gives students a visual and physical context that they can all relate to and explore to write and solve equations. Geometry standards included throughout the grades give us another opportunity to apply the algebra standards when working within geometry.
I think it is unnecessary, just because that is what used to be done it is not necessarily better. Parents may like it because it was what they had in school, they

like what they are familiar with. Does any research show that AGA pathway is more effective? Until then, leave it.
I don't really support a change back to Algebra 1, Geometry, Algebra 2, but this progression honestly might be better than this Math 3 Pathways thing that is proposed.
The last question is not clear that if you answer "No," you do not want to move to AGA. How is asking the public about the level of interest in including an AGA model a Yes/No question? I have stated above my support for the integrated model as well as my reasoning. I do not want to move back to the AGA pathway. I do not see that as beneficial for MOST students in Utah. And I believe that Utah is too small a state to open up choice to LEAs in this area. Please do not consider AGA as a viable option! We have been recognized recently as a successful state doing great things in mathematics education. That includes the integrated pathway! Let's keep moving forward and not go back to AGA.
The integrated model is the way mathematics should be taught P–12. Change may be challenging, but it is essential if we want to see real improvement in both teaching practices and state math outcomes. Outperforming some national averages does not mean our students are truly succeeding; fewer than half demonstrating proficiency on RISE is clear evidence of that. Tradition alone is not a justification for maintaining the status quo. In every other profession, such as medicine, we expect practitioners to use the most current research, practices, and tools—even when it requires additional training or resources. Why should we expect anything less for our teachers and their instructional practice?
I actually like the SM integrated model we currently have. However, I think public opinion might give more insight into best practice for students.
While I think there are some schools that may do this, I don't think that it is a good idea because then many schools will go to this. I think if a district wants to move to the algebra, geometry, algebra 2 they would need to take the standards and

separate them into the courses based on the district. This would not be a state guided activity.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

In support of asking the public about including an AAG option

This is strongly needed and should have been done years ago!
I support the recommendation to ask the public about including a traditional "Algebra 1, Geometry, Algebra 2" (A–G–A) model as an optional pathway. While integrated math offers curricular coherence in theory, the A–G–A sequence remains widely recognized and preferred by many educators, parents, and students for its clarity, college prep alignment, and widespread familiarity—especially in homeschooling, private school, and credit-transfer settings. Offering both pathways—or allowing for crosswalks between them—could accommodate diverse learning environments without forcing a one-size-fits-all structure. Many families rely on clear, trackable sequences when selecting online, competency-based, or dual enrollment options. Additionally, standardized exams, transcript formats, and external learning tools often align more naturally with the traditional model. As long as conceptual depth and real-world application remain priorities, flexibility in course structure should be encouraged. Gathering public input on this matter is essential and overdue.

Please, please ask the public. Put it on the ballot if needs be to reach as many individuals as possible. This will help parents and teachers in so many ways. Utah teachers, students, and parents have painfully endured the integrated model for more than a decade. Moral is ultra low. Relevancy is questioned almost daily. At least rename the courses to what parents traditionally know so that the name of the class is not a pain point. How will this be shared with the public? If it is only shared by word of mouth and email, then polarized groups are likely the only ones who will speak up or even know of the question. How can more people be made aware that a change from the integrated model to the traditional model is even an option? This will be critical.
Lot's here about various topics: I don't know how the public will feel, but as a 32 year veteran math teacher, I find the integrated high school curriculum to be choppy. It lacks a cohesiveness within each discipline that helps student see the big picture. Geometry is basically lost as little individual tidbits, as opposed to a whole, beautiful, connected subject. I've much preferred teaching Alg 1, Geo, Alg 2. I think the students understand and retain more. I'm also wondering where the extended or honors has gone? I'm hoping you aren't expecting one calculus-focused S3 year to prepare students for Calculus. I understand "data" shows that "everyone" learns more when students are not tracked. Remember that's in the most structured and trained types of classrooms with highly skilled teachers who know how to leverage every task to differentiate instruction to benefit all learners and with students who will self-extend. What percentage of teachers can do this? I'll tell you...pretty much just a few. We all try our best, but the training, time, and other resources are lacking. Also, If the "math for all" S3 pathway is the "lowest" option for Juniors, where is the

class that will truly prepare students for just the next level of math...1010, 1030, 1050? If the calculus pathway is to be "honors" enough to get them ready for calculus the following year, it will be too rigorous for the average student who simply wants to progress toward college. And the data science pathway may not interest all students. The "math for all" pathway will become the class where things will need to be watered down so they can pass, so that won't prepare them for college either. Again, we can show that with the most high qualified, talented, and trained teachers, we should be able to differentiate instruction to meet the needs of all learners in the "math for all" pathway, but the truth is that we lack the training and experience to pull this off statewide. The "math for all" pathway could be this class that prepares students for college if there was a fourth option like our "math decision making for life" that could teach the students who are not going to college these relevant life-math skills. Please carefully consider these pathway options.
Please, please let the public have input. Buy-in and ownership from stakeholders is very desirable.
Moving the math curriculum, back to separate levels of: Algebra 1, Algebra 2, Geometry and up is much better than the way we have it set up now in the secondary math categories. Most parents cannot even help their child with math. This is why so many kids are failing math every year.
It is a great idea to put math back the way it was, and truthfully, the way it is in most states: pre-Algebra, Algebra 1, Algebra 2, geometry and up. Instead of lumping all terms together in the secondary math classes. Several 8/9 graders do not even know their multiplication tables, but are expected to know how to graph an equation on a line. So many kids fail math for a number of reasons, and one of the biggest reasons is because they “just don’t get it.” So they give up and just fail, because it’s too hard and doesn’t make sense.
Parents want the Algebra 1, 2 and Geometry model back.
As a teacher, we need to either stick to an integrated model or stick to the AAG model. I'm not opposed to seeking feedback, but if the result is for schools in Utah to offer either/both then I would be opposed. I don't care which model we follow, but the logistics of handling both throughout the state would be a nightmare.

It has been my experience that most people who have an opinion on this are unaware of what content is included in the current Math I, II, III standards. Once they realize that Secondary Math I, II, and III include the same standards, just organized differently they are fine with it. In fact, I find many prefer having geometry spread out throughout all three years. I see no problem in asking the public about this as long as they are well informed (I am never a fan of asking the general public--who is often ill-informed--about things with the intent of using it to dictate policy. Popular opinion is worth knowing, but it shouldn't necessarily be how decisions are made)
I have taught both integrated model and the Algebra 1, Algebra 2, geometry model. I prefer the Algebra/Geometry route because those moving into Utah are at a disadvantage when they have had no experience in the integrated model. There are gaps that cannot be filled in by just going along with the current program. There is tutoring support that must be made available and it always lands on the teacher's shoulders to provide the extra tutoring sessions. But also using academic books prepares students for future academic studies. The students do not know how to read and utilize examples. This is a disservice for them.
Students don't have a strong foundation in Geometry anymore because sprinkling into the integrated classes with a little here and a little there doesn't allow the foundation that a year long course allows for. Plus, Geometry helps reinforce Algebra 1 skills, so students who struggle with Algebra get another year to work on solving equations within the Geometry context before continuing onto Algebra 2. The Algebra 1, Geometry, and Algebra 2 made lso allowed students to accelerate if they wanted. Students can talk both Geometry and Algebra 2 the same year if they want and be just fine mathematically.
If the state does not want to return to the traditional model, then Geometry should be offered as an elective course. So much Geometry gets cut in the integrated method. It is really difficult to teach a proof related Geometry when you don't start at the beginning and work through all the theorems and postulates. As it stands you have to get students to try and remember all the theorems and postulates that they may have learned in previous classes. It just doesn't work for continuity.
I absolutely agree that we need to go back to the alg 1 alg 2 geometry model!

I think this would align us more with the country and allow students who want to "get ahead" or have a passion for math double up on math classes such are geometry and algebra. Furthermore, it would enable access to the new AP Pre-Calculus class, which currently isn't of interest since it doesn't replace Secondary Math 3 as well as not push those students who are on the college path as far into algebra that never end up needing it. Also, I think parents are still more used to these pathway.
I have not been able to study up on everything that has been inputted. My time to teach and prepare for my classes does not allow me to. What I see teaching all levels of math (math 1, math 2, and math 3) is that I am teaching to a large gap of students understandings. The lower level kids are struggling to figure things out, and then the upper level kids are being held back and not able to progress to their ability. Even being able to offer a pre-algebra to students entering high school, and having that count towards their graduation requirements. I would also like to see the end of level tests more closely align with what we are teaching those students. As we are getting results there are only 40% of kids that are "proficient". That seems like a problem to me. We are teaching great and improving constantly, but 40% is an F.
So few states use the integrated model. This causes many students coming from outside of Utah to be placed in a math class with students from a lower grade. This is also an issue if students move to an AGA state from an integrated one. My niece in 9th grade is much more proficient at concepts Utah doesn't teach until 10th grade and I was embarrassed that my students understand was so low. I believe this is specific to the integrated model. They don't see things for years and are expected to remember them (ie stats 9th to 11th) and other concepts make no sense to the main part of the curriculum (Rational exponents in Sec 2). Our students are also learning Algebra 2 concepts in Sec 3 when they should learning pure pre-calculus.
I strongly believe we should return to the AGA model. After reviewing student progress in other states, it is clear that many of our students lag behind. Students transferring into or out of Utah face significant disadvantages because our sequence does not align with the national standard, making accurate placement difficult and often resulting in students being placed in lower tracks that limit their

progression. Furthermore, students in Secondary Math 3 Extended Topics are not receiving a true pre-calculus experience, as time must be spent covering topics not yet taught. This leaves them at a disadvantage compared to peers in other states who are further along due to a more traditional instructional sequence.
The order that we are doing things in puts are students at a disadvantage when preparing for higher levels of math like Calculus. Sec 3 should just be pre-calculus.
I have come to terms with the integrated pathway but having taught both, I find it still tends to be problematic despite the value it brings. More resources are available in the Algebra 1, Algebra 2, and Geometry model. It also is clearer to the public what math courses students are taking - helping parents see and understand what class their child is learning. The integrated pathway has left teachers floundering for resources with limited options for curriculum. Many teachers create their own curriculum, but don't have the knowledge/capacity to create a good scope and sequence. Students also don't seem to ever connect with the geometry components as well as they did when it was taught as a stand alone course. Statistics units are often left until the end or entirely disregarded (and I fear data science will receive the same treatment). Algebra is emphasized heavily, but since students jump around between algebra topics, geometry topics and others - they often need more review and new levels of rigor with topics are not achieved. In theory, the integrated pathway could be great - but so far, I haven't seen it done very well in practice.
This was a better path than creating the Common Core that was created.
Most all parents (public) I know have asked me this question and want to go back to the traditional math curriculum. There have been several of my students who have transferred into Utah public schools from other states and have had their math classes not count or have had a lag in their learning.
There should be no asking, this is THE way to do it!!!
Having an Algebra 1, Algebra 2, and Geometry model is consistent with better outcomes and should definitely be an option.
I am not in favor of the integrated approach & would like to go back to the traditional pathway for college: algebra I, geometry, algebra II, pre-calculus & calculus. The charter school my children attend has prepared them for math at a

higher level & I want them to continue that through high school. It has benefited them greatly & I would like to see this statewide, or at least have an option for it.
Many of the students we get from other states that have been on the Algebra 1, Algebra 2, and Geometry model are more solid in their math skills. Their abilities and understanding typically exceed those of our students.
Most states use the Algebra 1, Algebra 2, Geometry model, so students transferring into or out of our district would be coming in on this learning track. Also, parents are familiar with the content in these courses, and would feel more comfortable with the structure.
The only thing that I see that may be problematic is for students that move across state lines. Those students and parents often don't know what the best placement is for their learning and progress.
I want this option for my children. The integrated approach has not been working well.
I think this approach would be vastly superior to the integrated model in helping a student build foundational proficiency in each subject before expecting interdisciplinary connections in mathematical thinking,
I think this is great for high school. As a calculus TA in college, student's algebra skills are so poor. Concentrating on algebra for two years would be great, as long as it is done well and students can take accountability for their own learning. You should include a data science course in this model as well
At least we would all be on the same page. And it's what the rest of the country is doing... I don't know why we need to be different. It honestly just makes it harder for students who are moving in. It makes it harder for teachers. Etc etc.
I would absolutely love to go back to AGA. I feel there are so many resources available!!! Also my neighbors are always referring to the "new math" they don't know how to do when in actuality it is the same but they don't recognize it because of the names of the courses. They are usually trying to help their children with their school work and feel at a loss. There is a disconnect that happened when we changed to integrated. I think parents would appreciate feeling somewhat in the loop by recognizing the courses.

PLEASE. The integrated curriculum was a cool idea, and I was happy to follow along when Utah started using it. However, what I have found is that without an entire class of algebra 1 or geometry, students are sorely lacking the foundation skills needed to make learn standards at a surface level, let alone the depth needed to form connections between topics.
INCLUDE ALGEBRA 1, GEOMETRY, ALGEBRA 2!
I support one whole year to get really good at a specific type of math. Students learning would go further and deeper if they don’t have to revisit these math models year over year.
Shattering the Geometry topic and spreading it across many school years has produced a generation of high schoolers who don't know the difference between area and circumference. Another win for the experts. Perhaps, with mathematical proficiencies dropping for decades, we might eventually consider going back to teaching practices and standards from decades ago.
It is a good idea
YES!!! PLEASE!!!! We have very few resources as teachers for the current model of integrated math. We have to come up with our own. We really need to have actual books to work with. This is a MUST!
I would love to switch back to non-integrated courses.
First of all, if we use this model, we need to abandon the integrated model entirely - it is not feasible to support both. Secondly, this model has the potential to allow students to graduate high school without going into depth on quadratic equations (see my previous comments - this is a good thing). I support this. Students would be able to take Algebra 1, Geometry, and Math of Personal Finance to complete their requirements for a high school diploma. I would love it if we switched back to this model.

We should switch back to AGA. as long as we take the depth of Knowledge ideas with it. Currently, it is unneccarily difficult for students to be placed in the correct math class and AGA is a nationally recognized set of classes.
The traditional Alg, Geo, Alg 2 model is more widely used than the integrated model. This would make it easier for transfer students, as well as open up access to materials across the board. Additionally, this would consolidate the Geometry strands, which would make learning them more continuous and would flow better. Currently, it seems the Geo strands are broken up and split across the three cores, which fragments the learning.
Would align better with other states and would help when students transfer. Would also align more with skill level and not just grade level.
I teach at a high school. It's VERY difficult when we get transfer students from out of state, especially in the middle of the year. There's just not a good class for a student that is halfway through Geometry in say Idaho to go. Most states around us seem to use the Algebra I, Algebra II, Geo pathway, and I think it would help Utah teachers and transfer students immensely. Also, bonus: we could actually find a textbook to use instead of needing to create curriculum ourselves.
Go back to traditional math.
I believe we would have better curriculum over all with an Algebra 1, algebra 2 and geometry model. There are a lot more resources available and the content is of higher caliber simply because this is how most of the country does it.
Utah should return to the traditional math sequence because it better aligns with national standards, testing, and expectations. Most U.S. states follow the traditional path of Algebra I, Geometry, and Algebra II, which matches the SAT, ACT, and AP exams that impact college admissions and scholarships. The traditional model also provides a clearer progression of concepts, allowing students to master one area at a time instead of jumping between algebra, geometry, and statistics within the same year. This structure makes it easier for parents to support their children, for teachers to use established resources, and for students who move between states to transition smoothly without repeating or

missing material. Additionally, the traditional approach has decades of proven success and strong curriculum resources, while integrated math often leaves teachers piecing together materials and parents struggling to help. Evidence consistently shows that students from traditional pathways perform well on national assessments and succeed in higher education. Returning to this model would give Utah students greater consistency, reduce confusion, and ensure they are well-prepared for exams, college, and future careers.
I would love to know the public interest in changing to an Algebra 1, Geometry, and Algebra 2 model instead of the Integrated Math. I think a model for AGA would be good to include in case we ever change back to AGA.
This is the SINGLE most important thing to change about how we teach math. This is the standard pathway that most everyone in the nation has used and has been shown (CA 1997 and MA 2000) to be very successful when taught appropriately, in a logically coherent manner. The "integrated" approach is lacking in Geometric skills and has the feel of random concepts being selected from a dart board. Math is logical and it builds. We are failing to provide this logically coherent scaffold in math to our students.
AGREED! I think most would prefer it and it's worth asking.
I strongly support asking about the Algebra 1, Algebra 2, and Geometry model. This traditional pathway has consistently prepared students for advanced math, college entrance exams, and STEM-related fields. It also allows for honors distinctions, ensuring that advanced students are adequately challenged while providing structure for all learners. Unlike a one-size-fits-all approach, this model respects the different needs of students and preserves rigor, which is essential for long-term success.
Go back to algebra I, II & Geometry plz!! Get rid of comon core. Please teach our elementary kids how to add, subtract & multiply!
This approach creates consistency throughout a school year. One concept builds on another.

I am very much in favor of gathering feedback on the Algebra 1, Algebra 2, and Geometry sequence. This well-established pathway has a proven track record of preparing students for higher-level math, college entrance exams, and STEM opportunities. It also preserves the option for honors distinctions, which ensures that advanced students are challenged while still offering a clear, structured path for all learners. Unlike a single-track system, this approach recognizes that students have different needs and maintains the rigor necessary for long-term academic success.
Are you talking about moving from the integrated model back to the model listed above? Then yes, I believe math is a cumulative subject and should be learned, added upon, and so on. The integrated model of secondary math 1, 2, and 3 has been hard for students. Thanks for all you are doing. I am answering as a teacher and a parent.
A return to the "Algebra 1, Algebra 2, Geometry, Trigonometry..." model would be a very good thing. This would 1) keep standards consistent over many years, 2) be beneficial for parents when they're helping their students with homework because they're familiar with the model and the curriculum, and 3) make teaching more streamlined, 4) provide Utah students with more resources because most of the rest of the U.S. follows this model.

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Unrelated to question asked

PLEASE look at the 2007 and 2011 cores again. What we used before switching to integrated mathematics was such a better fit for students and was much better at preparing them for college level mathematics.

Since I am unsure as to the model, it is hard to form an opinion here.
understanding at best and a widening gap for each successive grade level.
Simplify the core. You have changed these to include more competencies. The review of the standards was to simplify the core. You need to be very specific about each standard so that they cannot be interpreted differently.
Bring back more complex math classes for high-performing students.
Model system doesn't matter.
None
Middle school kids are getting moved on when they don’t have the basics, and the higher kids are getting held back because they cant move ahead.
How would this impact current math instruction if adopted?
I have LONG been a SEVERE, CONCERNED and, frankly, EXTREMELY MAD CRITIC of the Education system in Utah, SPECIFICALLY the Davis School System in the way it charges us 60% of our Home taxes going to an educational system that FLUSHES OUR MONEY DOWN A TOILET! We are paying a TOTALLY WORTHLESS HUMAN BEING- the SUPERINTENDENT- OVER $250,000 PER YEAR (The HIGHEST PAID IN THE STATE- to sit around and allow 5 ASSISTANTS, each being paid OVER $150,000.00 per year, to DO HIS JOB! WHAT THE HELL has he been HIRED TO DO???, and MY GRANDCHILDREN- WITH MY HIGH I.Q. DNA- can BARELY READ, and DO NOT KNOW HOW TO MANAGE THEIR OWN BUDGET!
It's too wordy.
By having no honors we are doing a hurting our children's education.
You all are focusing on unimportant issues. Focus on teaching math and making sure the students have the help they need. Hire tutors. Separate skill levels.
Most of the public haven’t completed these levels and therefore don’t have a clear understanding of the importance they have for the student to be ready for college.
My school went away with our Secondary Math 2 Honors course for several years. Because of that, our 'pre-calc' class was insufficient. We had to fight to get it back. I think offering support to our schools and districts that are unable to offer honors

would be beneficial. I don't think administrators realize that we're missing a whole course if honors is not taught.
honors math is good!
I don’t like the way these questions are worded. I don’t believe you will receive the feedback you want.
What does that even mean? What on earth does it mean to give feedback regarding the recommendation asking the public about level of interest including an algebra one two and three geometry model? Please do not change any curriculum right now. Go back to the drawing board, figure out what you're asking, and then ask the parents in a way that is fair. This is unfair. To summarize, my main goal is to make sure that my kids don't have the math standards that they need pulled from their honors classes in the middle school and lower hs grades, leaving them under prepared for calculus. That's what regular math classes are for. They are for the students who don't want to take calculus. But for everyone who becomes an engineering major like I did, removing the prep material is setting kids back at best and literally taking away future career options at worst.
Only if it includes honors classes
Keep honors classes.
In support of draft as written - not asking the public about incorporating AAG
In support of asking the public about incorporating an AAG option

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Actionable – Suggested Modification

Pathways

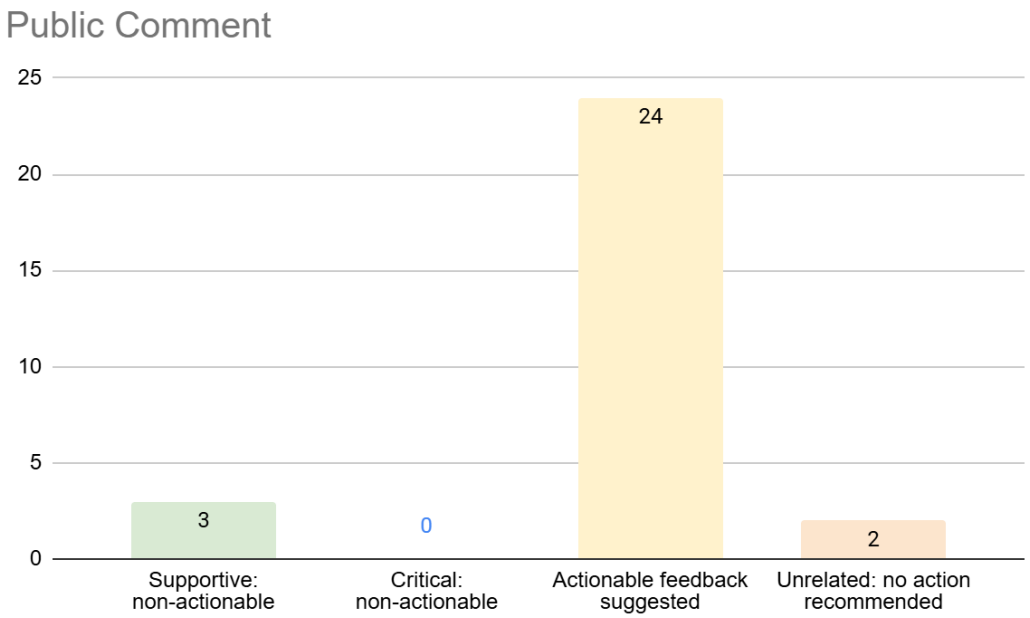
Secondary 3: With the pathways, students are asked to make decisions about their lives too early. The name 'data science' implies that students who want to do data science or science or anything with data want to take it. However, those kids would need to take Calculus. Instead of Secondary 3: Calculus, rename it as "College-bound." We think too much has been taken out of Secondary 3 and put only in the Calculus pathway: CS3.A.6. And CE 1050 still needs a lot of the compound inequalities and solve rational and radical equations.. Too much trig was taken out, we want radians and unit circle. We want clarification on S3.A.1, are there operations? We're also worried about the lack of Secondary 2 honors and possibly covering too much in regular Sec 2 that won't all be covered.
High school math standards should be designed to prepare students for real life—not just abstract equations. A well-rounded secondary CORE MATH curriculum would include one year each of traditional Algebra and Geometry, followed by one year each of two essential courses: Business Finance - long-term investments and the stock market; and Personal Finance - taxes, credit, debt, loan types, 401(k)s, and retirement planning. Algebra II isn't universally necessary. Students who plan to pursue advanced math will do so in college. What is essential is that every student graduates with the ability to apply math in everyday life—confidently and practically.

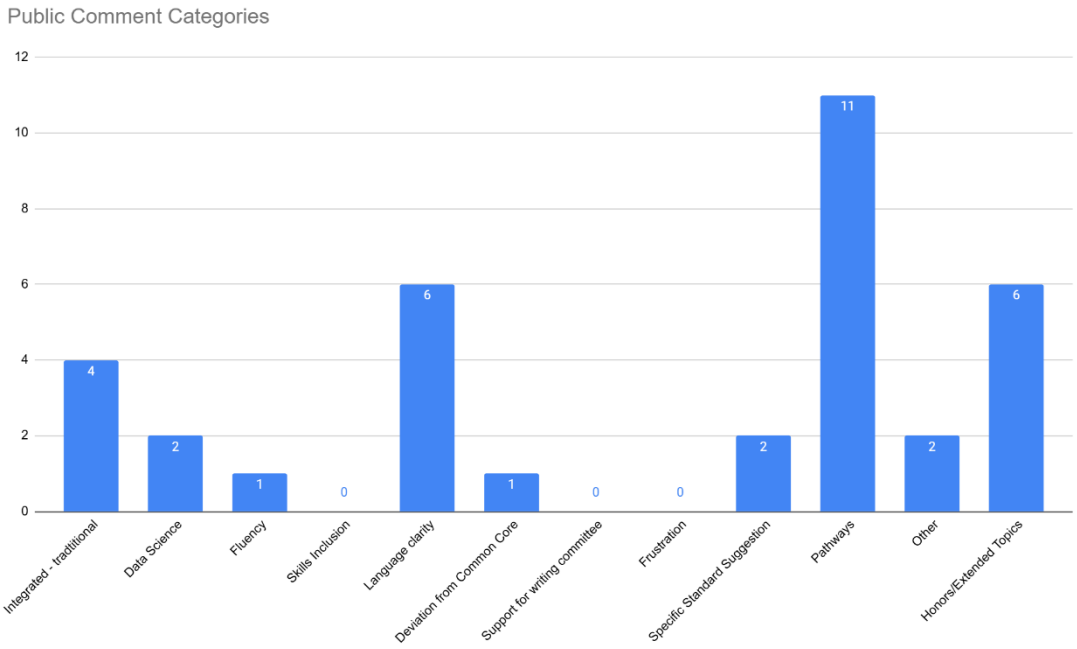
- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...

Comments gathered during public feedback meetings

Meetings were held in Canyons School District, Washington County School District, Ogden City School District, and virtually on Zoom.





Supportive: Non-Actionable

Integrated vs. Traditional

thank you for keeping the integrated model - I have a BA in math and MA in math ed - started teaching in 1992 - taught the separated AGA - I am originally from Canada and had integrated math as a student - which is how it is taught [globally] - [it is] much better it is to teach in the integrated model - as a teacher I love it and have heard lots of positive comments - with the integrated model students get a larger picture of mathematics - so appreciative that the standards are close to what we had before - teachers are feeling powerless - Alpine SD - doesn't want to switch the curriculum - sticking with the integrated model - appreciate it
I really appreciate the integrated math standards - students thrive when they can see the connections between them [the maths/algebra, geometry] - students that may not shine in one area can shine in others (algebra or geometry)

I was a teacher in Texas and taught the AGA model - loved teaching just one at a time - [however] I realized that we are doing it wrong in Texas - kids learn a little bit of everything [in the integrated model] - I second Renae [previous comment] [integrated math] gives students a time to shine and be successful - a time to show they can be really good in math b/c they may not be good at everything math [but may be good at some things] - I would never want to teach a separated math again - I prefer that my grandchildren learn math in an integrated model - really like the integrated model a lot

No Action Recommended

Other

I just wanted to comment that we need to make sure we are removing the ability to have generative conversations that can make things unclear - we need to make sure we are teaching math with logic and there are correct outcomes
Implementation process - if you want us to do this 26 sy kids are already registered for classes - kids are registered by Dec so that early of an implemenation would be difficlut to meet

Actionable Feedback Suggested

Data Science

applaud the work you are doing - appreciate it - I am a certified math teacher - I am also doing research in learning sciences - love math skills and focus on proficiency [in the new standards] - that is powerful - the challenges that I find in my own work and with other teachers and as a researcher [find that] teachers struggle with what is the priority - is the priority the standards, the skills, or the student - the challenges of making changes - adding an understanding of priorities - the competencies is helpful - wondering about the 5 strands of proficiency - can they be incorporated? [it would be helpful for] teachers are evaluating proficiency

1st amazing work thank you - my husband is [in] data science [he is a] CTO and CEO of a tech company - data science is the wrong term - industry applied math may be more accurate - anyone applying for a data science job would need [higher math courses] calc + and the curriculum doesn't point in that direction - without changing the curriculum allow gifted students to move at their pace - my son just finished calc +, linear algebra, etc [higher level courses] - and had to jump through so many hoops to be able to take higher level courses and parents don't even know that there is an opportunity - allow gifted students to go as far as they can - utah math standards are low and allowing gifted students to move faster would improve utah economy - provide opportunities that the kids deserve

Honors

live in provo - 20 yrs ed tech - could not be more proud of ed in our state - when we think about math and looking at new standards - best in the nation - awesome job - do we have a sense how well the curricula currently used in schools today -content and instructional approach - what is at play today - are those tools already aligned or are there gaps we need to close?
1st thank you for pulling out the data portion of the 1st grade standards - I will be the elementary representative - I teach 1st grade - I appreciate that data portion has its own section however when I am looking at it and from what I know from teaching it - there is not specificity there - it is too broad - we use iReady curriculum - I was interested in the comment about the curricula alignment with the new standards - I reviewed what we teach - picture graphs, bar graphs, no pie charts - I just want to see if there would be more specificity added in there [new standards] to give more direction and clarity for the expectations [of instruction]
Hi - 1st there needs to be some clarification what is the old and what is the new - it is hard to tell - I spent time looking through the old standards - 1 - sometimes there is old standards - secondary - and now it just says solve - condensing [the language of the new standards] took out some clarifying language on what is supposed to be taught - some people will take other approaches and it may mean that 10th graders may not learn how to factor [and other math procedures] - 2 - what is going on with honors there is no longer honors and just have calc [and other courses] as the

difference, overall - 3 - also stats - I teach 10th grade math - no longer doing probability and it [probability] comes up in the ACT and how are we preparing them [students] for that test?

Language Clarity

1 - standards cs3.f.8 - its talking about graphing rational functions - word parametric - wants clarification - is the intention that we teach kids about parametric functions - that word is a difficult lesson maybe 2 lessons - wants to make sure we understand the intention for that standard - the rest of the standard is focused on rational functions which would also take 3 days to teach 2 - we have been teaching operations in mat 2 - it lends to that - have to introduce complex numbers many - we have to introduce but now they are changing it to math 3 but if fits well in math 2 and isn't too difficult - and supports other content in math 2 - there are some justifications for the move to math 3 they added the idea graphing complex numbers and that side of it and maybe that is why they moved it to math 3 but math 2 is a better placement and it is not a stretch for students
I have a question about acceleration - so the last batch of standards came out - there was not an acceleration - students don't need that and it became clear for students to accelerate so there were workarounds - as the acceleration - is that part of this as well? as a calculus teacher some of the best students are soph or juniors - are we taking this pathway away? is there an acknowledgement that not all kids need to take all of the courses - we are trying to use standards to combat cultural norms
in several places it refers to common core standards- core guides - if you click on the link now it takes you to the old ones now - how long is that update process going to take? knowing at what level it is supposed to be taught so the core guides will be really important
We currently have a CTE HS and moving some of these math courses like med math in their pathway - my concern is that some of these are going into the CTE courses and now we are asking non-math teachers to incorporate sec math 3 concepts - if we refer to what happens in that situation in the sciences you will find that biology

taught by science teachers and then we have an ag bio taught by a non science teacher - there is a significant difference in assessment outcomes in the students in the different classes - it may not be the best idea to move these concepts to CTE
the state has just offered for teachers to have training to do the ds course - which is a full year course - where is that course in the realm of things - we have ruled out AP pre calc - are we halting all of that and everything has to fit into these pathways - where are all the options - where do these course now live in the new standards?

Other

related to the core guides - express the value that they have and they should be a priority in writing and doing it right and doing it well so we can get it into the teachers hands and make it efficient also I would love to teachers are going to use what they have until the have something to use - idk if this is in the plan - would like a clear cross walk to what we have been using and where we are going so teachers have an idea of what they are doing
my concern is clarity on the diff between the pathways - math for all , ds, and calc, 1st semester should be the same for all 3 and then they separately - math for all and ds are matching until the last section - also I have the strong feeling - cannot expect us to get kids ready for calc with one semester - the pre calc should be a secondary 2 and 3 built for kids going into calculus
appreciate the opportunity to give a comment - I am a HS math teacher and parent - is secondary math 3 going to be a requirement for graduation in utah with the new standards? - if so - will there be other options for students that struggle with math? - my experience is that the perception of the integrated model among parents and students is poor - did the committee consider separated AGA - and will Qualtrics survey results be made public?

Pathways

on pg 121 of the draft where it describes the pathways and they talk about 3 separate options - calc, ds, and the 3rd builds ... along side courses that have been adapted ... I do think that what you said before we can take the math for all and make mathematical decision making for life and create a course for kids that may have opted out
integrated math while the intention is good while were supposed to make everything cohesive - but it is more disjointed - with a whole year of geometry it is easier to make connections in geometry - there is some reinforcement - we are missing the depth of the full year experience - we are not getting good with the content - it is a disservice
appreciate the comments –I am focused on early elementary math –I have an early elementary endorsement – I am pursuing a PhD in early learning math - data science emphasis is good - also met 2 - making conjectures about ... is a helpful addition - love the list of things kids can do at the end - some concerns - simplifying 2nd grade using digital or analog - (taking it out is problematic) it helps with angles and fractions - taking that away takes away the foundational piece - concerned about the reordering and combining of standards in a way that makes it more confusing for teachers to use national resources - current standards are common core and it is easier to do crosswalks - there is power in a collective understanding and having lots of strong resources - biggest concern -the last one is about the math skills and math practices while those ideas are similar - reordering them - we are taking away the efficacy of the nationally recognized language which would be a disadvantage to our teachers
my team we were revising our standards anyway - we were looking at our students not on the college track - we envisioned a math 3 that is the whole year with projects etc - to do a semester - there are 18 standards to do in a semester - it just isn't practical - a lot of the others build on what we have already done - we are hoping the board and writing committee listens - we know that lots of time and effort went into this - we need the math for all needs to be the whole year - we can get the essential standards for all the kids - but the team knows that the CTE pathway is doable in a year but it is crazy to do it in a year

As it currently stands we have students in math courses in the fall of junior year they are setting up senior year - real concern is that if we track the fall of soph yr they are deciding when they are 15 if they are going to be STEM or what - they are too young - love that the options are here but I am concerned that we are saying that that they are forced to decide so young - I don't see as much options if they decide to do ds - but ds and calc is a big jump - it doesn't seem like there are as many opportunities to find their ultimate path
it seems that the ds pathway - the standards look to be the same - that might be the ds class would have been a better option for the kids that would have opted out - we offer some stats for those kids but it is not enough math - they haven't even finished math 2 - the calc path like the math 3 - they may not go into calc but it is preparing them for college - they are learning to solve equations - we are saying ds is lower level - and then have an honors pathway
from an industry standpoint of a tech start up - we would hire anyone that has the highest math degree available not a data science remedial course - please if you need a secondary to appeal to all please e informative and be realistic they will need more degree - it is a disservice to label it that - the other thing about fast tracking kids - it wasn't available and it took a parents initiative - he wasn't given an opportunity to take 8th grade math in 6th grade - but if he took it at BYU he could take math 1 - we need to empower these kids - is that the most important thing we can do - to provide opportunities - by educating the parents, teachers, schools - to spearhead - maybe making the community connection - so the universities and the high schools to be more aligned - so parents can know the benefit of math
1 - parametric discussion - clarity - standard 3.d1 - ask questions that will lead ... identify whether questions asked will ... suggested amendments - simplified version just said ask questions and that distinction that asking questions that will result ... the new standards are much more clear - be careful not to remove detail just to make it shorter 2 - we don't see any mention of extended or honors - if we don't get kids doing a deeper from math 1 to math 3 - will not be ready for calc with the 1 semester of calc
As a HS teacher one of my concerns [is] with [the] lack of specificity causes issues with vertical alignment - interpretation is happening differently by JH and HS so

they are not written specific enough - also there was only math 1 and math 2 and pathways for math 3 - those pathways for math 3 - math for all - calc - data science - the calc said math 1050 - data science says 1040 - the school district offers 1030 or 1035 - that is not a pathway - not listed for math 3 - there is an issue with everything being labeled data science - it isn't data science - it is data analysis - data science requires calc - this is for students that are not doing this class for stem majors - it should say stats or data analysis - didn't see pathways in math 2 - we should have them - by the time they are in HS they already know what their pathway is going to be - we shouldn't 't have students in the same class based on how old they are - are these standards suggesting that there is only one level - maybe there should be a math 2 calc, math 2 data analysis, or honors vs regular vs data analysis - also a thing that was confusing was wanting more students to take math 3 but having options for students to not take math 3 - it sounds conflicting - it sounded like there was a pathway for students to take math 1, math 2, and then data analysis - but students will need to take math 3 to take 1040 - but our district doesn't offer it and that will be confusing for parents and students
She basically said all of it - I am the calc teacher - my concern is the data science - every higher ed institute that offers a data science program requires a math minor - if we are saying - instead of the calc track saying the stem track - there is a difference of data analysis and data science - data science requires a lot of math - it is not easy - thinking that the data science is the easy track but it doesn't align with what the colleges require for those programs
So the specificity of the core guides - i hope with the new - with the original integration with - a lot of standards that were moved from one course to another - when we don't have resources - this is a strain on teachers because they have to write everything themselves - when it is presented as we don't have time - teachers are getting the brunt of heavy lifting - which is probably why we are having a hard time with retention - some of it is the lack of support and specificity in the core guides - I don't know what we will be using for assessment but aspire has a massive lack of transparency - when students take other exams the questions are released but when students take aspire teachers do not get which questions were incorrect so that they can be a better teacher and reach students where common errors occur - i would like for us to adopt an (exam) where transparency is at the forefront

- ☐ Feedback reviewed
- ☐ Revisions made to the draft
- ☐ No revisions made after writing committee review

Justification provided here if needed...