

00:27:08 Marie Judisch - OPI Teaching and Learning Sr. Manager: Good Morning everyone! Excited to be with you today. We will start at 8:30 - refresh your coffee and grab some water for a full day!

00:27:52 Marie Judisch - OPI Teaching and Learning Sr. Manager: Now would be a good time to ensure you can access Google Drive - we will be working in there primarily today!

00:30:56 Marie Judisch - OPI Teaching and Learning Sr. Manager: Tom Redmon will not be joining us today for the very best of reasons!

00:31:13 Lisa Scott: Reacted to "mcall.jpg" with

00:31:27 Sharon Carroll: Reacted to "mcall.jpg" with

00:31:39 Pat Baltzley: Reacted to "mcall.jpg" with

00:31:44 Michelle McCarthy, Science Instructional Coordinator: Reacted to "mcall.jpg" with

00:31:58 Sharon Carroll: Is that drive link in the chat here?

00:32:38 Marie Judisch - OPI Teaching and Learning Sr. Manager: I'll drop it a few times so everyone can access! Today's Folder:
https://drive.google.com/drive/folders/1_hQ7yzOiNh4xBAch019C7kDet8bQoQYW?usp=drive_link

00:33:46 Sharon Carroll: Reacted to "I'll drop it a few t..." with

00:49:26 Michelle McCarthy, Science Instructional Coordinator:
<https://rules.mt.gov/gateway/ChapterHome.asp?Chapter=10%2E53>

00:52:35 Shay Kidd: Shay Kidd- UM-Western

00:52:43 Michelle McCarthy, Science Instructional Coordinator: Folder:
https://drive.google.com/drive/folders/1_hQ7yzOiNh4xBAch019C7kDet8bQoQYW

00:52:48 220467: Melissa Shiffer, Lambert School, elementary

00:53:49 Marie Judisch - OPI Teaching and Learning Sr. Manager:
https://drive.google.com/drive/folders/1_hQ7yzOiNh4xBAch019C7kDet8bQoQYW?usp=sharing

01:26:00 Marie Judisch - OPI Teaching and Learning Sr. Manager: Group 1:
<https://docs.google.com/document/d/1lvkFS9GD5pUq7If7wkp3eMBxMgjAMUEiIFoVAIVKAuU/edit?usp=sharing>

01:26:14 Marie Judisch - OPI Teaching and Learning Sr. Manager: Group 2:
https://docs.google.com/document/d/1y5pEEsOU_l2YXsIXw4NndnyvhQq9hXASl1bmdvk100o/edit?usp=sharing

01:26:28 Marie Judisch - OPI Teaching and Learning Sr. Manager: Group 3:
https://docs.google.com/document/d/1n4n_x1D0rWLBHxB1IMg10uW8otLuGhcrQLle5Q9LCss/edit?usp=sharing

01:26:50 Marie Judisch - OPI Teaching and Learning Sr. Manager: Group 4:
https://docs.google.com/document/d/1xkO-ylq7uU0rgNBScejpljskF9_C0Wybk0AgKl0aJnA/edit?usp=sharing

01:42:15 Jennifer Luebeck: Thank you Fred - I also don't understand the "practicality"

01:42:42 Sharon Carroll: Reacted to "Thank you Fred - I a..." with

01:43:12 Lisa Scott (6-12): Practicality: Each objective is focused on the learning goal specific to that standard

01:44:09 Jennifer Luebeck: I'd like to spend a few minutes discussing what this means. Objectives vs. learning goals vs. standards?

01:44:21 Marisa Graybill: I really love the creation of "portrait of a graduate"- yet may be school dependent here in MT

02:09:16 Michelle McCarthy, Science Instructional Coordinator: Replying to "I really love the cr..."

I thought that was pretty neat myself - glad you shared it

02:09:47 Sharon Carroll: Reacted to "just saw this! let's..." with

02:57:07 Marisa Graybill: Just Jo Boaler

02:59:03 Marisa Graybill: <https://www.ucladatascienceed.org/> and <https://hsdatascience.youcubed.org/> appear to be the two big leads in High school data science curriculum

02:59:21 Deanne Gemmill - Rocky Mountain College: Reacted to "https://www.ucladata..." with

02:59:37 Stephanie Swigart, MT OPI (ELA): OPI page on Chapter 55 information including links to BPE approved language around financial literacy: <https://opi.mt.gov/School-Quality-Task-Force-Negotiated-Rulemaking>

02:59:56 Pat Baltzley: We always need to be cognizant of small districts and their capacity to deliver financial literacy expectations.

03:00:11 Carla Swenson (Her/She): Reacted to "We always need to be..." with

03:00:18 Lisa Scott (6-12): Reacted to "We always need to be..." with

03:04:42 Marie Judisch - OPI Teaching and Learning Sr. Manager: **
https://opi.mt.gov/Portals/182/Page%20Files/Task%20Forces/Chapter%2055/MASTER%20Chapter55%20_BPE.pdf?ver=2023-01-10-112826-340

03:05:05 Sharon Carroll: Reacted to "We always need to be..." with

03:05:57 Marie Judisch - OPI Teaching and Learning Sr. Manager: Link from this slide: *Source:
<https://ies.ed.gov/blogs/research/post/catalyzing-data-science-education-in-k-12-recommendations-from-a-panel-of-experts>

03:09:09 Marie Judisch - OPI Teaching and Learning Sr. Manager: California -
<https://www.cde.ca.gov/ci/ma/cf/documents/mathfwchapter5sfr.docx>

03:09:51 Marie Judisch - OPI Teaching and Learning Sr. Manager: Ohio -
<https://education.ohio.gov/getattachment/Topics/Learning-in-Ohio/Mathematics/Ohio-s-Learning-Standards-in-Mathematics/DSF-MATH-Standards.pdf.aspx?lang=en-US>

03:10:03 Marie Judisch - OPI Teaching and Learning Sr. Manager: VIrginia -
<https://www.doe.virginia.gov/home/showpublisheddocument/35500/638054963429830000>

03:18:36 Carla Swenson (Her/She): Some of the data science has been defined in the new MT CS Standards too.

03:21:24 Jennifer Luebeck: Thanks for pointing that out, Carla!

03:21:56 Carla Swenson (Her/She): Reacted to "Thanks for pointing ..." with

03:23:55 Marie Judisch - OPI Teaching and Learning Sr. Manager: <https://codap.concord.org/>

03:28:08 Cliff Bara: Discrete vs continuous quantities

03:28:35 Marisa Graybill: subitizing

03:29:13 Janice Novotny: multiple constructs

03:30:03 Nicole Capser: I already read them in the Hub course and took notes so technically I would be cheating...

03:30:22 Nicole Capser: I have them all written down

03:30:28 Pat Baltzley: counting, subitizing, one-to-one correspondence, cardinality, part whole understanding, place value

03:30:30 Kayla Ryan: 1-1 correspondence, counting, cardinality, more or less, subitizing,

03:30:30 Tina Blair: 1. understanding number name to quantity 2. Number symbols and quantity 3. counting cardinality 4. mathematical operations 5.number sequence and patterns 6. subitizing

03:30:33 Marisa Graybill: Subitizing, breaking apart numbers, visual representation of numbers, connections between addition and mult, counting

03:30:34 Kris Gardner: one to one correspondence, whole and part, number sense, estimation, measurement

03:30:34 Heather Bleecker: 1-1 correspondence, subitizing, place value, number and spatial relationships (comparison, relative size, pattens)

03:30:39 Becky Berg: 1-1 correspondence
counting
cardinality
comparison
subitizing
decomposing and recomposing
place value

03:30:45 Carla Swenson (Her/She): sequence, subitizing

03:30:49 Cliff Bara: discrete vs continuous, finite vs infinite, ordering on a number line, order of magnitude thinking

03:30:55 Marisa Graybill: Reacted to "1-1 correspondence c..." with

03:30:56 Carla Swenson (Her/She): place value, ordinal number

03:31:04 Bill Becker: 1. Numbers Recognition
2. Counting
3. Sorting and Classifying
4. Basic Shapes
5. Comparing
6. Contrasting
7. Adding

8. Subtracting

9. Probability

10. Preceding Numbers

03:31:10 Amy Jones: verbal counting, place value, comparing, decomposing and recomposing, patterns

03:31:10 Sharon Carroll: Whole and part, patterns, counting, place value

03:36:32 Marie Judisch - OPI Teaching and Learning Sr. Manager: Adapted from: Shumway, J. F. (2011). Number sense routines: Building numerical literacy every day

in grades K-3. Stenhouse Publishers. Groupitizing from McCandliss et al (2021) <https://doi.org/10.31234/osf.io/fnk4t>

03:36:40 Marie Judisch - OPI Teaching and Learning Sr. Manager: Graham Fletcher Math Progression Videos*

03:36:59 Marisa Graybill: <https://gfletchy.com/progression-videos/>

03:37:42 Marie Judisch - OPI Teaching and Learning Sr. Manager: Reacted to "https://gfletchy.com..." with

04:12:25 Jenny Combs: I have not had time to eat - so I'm here and listening but I will turn off my video for a minute

04:12:33 Marie Judisch - OPI Teaching and Learning Sr. Manager: Reacted to "I have not had time ..." with

04:12:46 Angela Knotts: Reacted to "I have not had time ..." with

04:16:28 Michelle McCarthy, Science Instructional Coordinator: Reacted to "I have not had time ..." with

04:24:49 Michelle McCarthy, Science Instructional Coordinator:

https://drive.google.com/drive/folders/1sj1AMxza3MqJAF8fEOS6_bUEH5mgLOUH

04:41:59 Belin Tsinnajinnie: <https://docs.google.com/document/d/1KcRz-IYj-xCAFZhDISx1pxbKuxqrtum0frZjBLjSEQg/edit?usp=sharing>

04:42:19 Deanne Gemmill - Rocky Mountain College: Can you please share those links again

04:42:26 Rebecca Perry: <https://docs.google.com/document/d/1KcRz-IYj-xCAFZhDISx1pxbKuxqrtum0frZjBLjSEQg/edit>

04:42:42 Marie Judisch - OPI Teaching and Learning Sr. Manager: Replying to "Can you please share..."

https://drive.google.com/drive/folders/1sj1AMxza3MqJAF8fEOS6_bUEH5mgLOUH

04:42:43 Rebecca Perry: I hope everyone has copies of the handouts.

04:42:45 Marie Judisch - OPI Teaching and Learning Sr. Manager: Replying to "Can you please share..."

They are in this file

04:43:20 Marie Judisch - OPI Teaching and Learning Sr. Manager: Replying to "I hope everyone has ..."

They are in this folder https://drive.google.com/drive/folders/1sj1AMxza3MqJAF8fEOS6_bUEH5mgLOUH

04:45:57 Lei-Anna Bertelsen she/her: Replying to "I hope everyone has ..."

I'm not able to access them

04:46:27 Lei-Anna Bertelsen she/her: Replying to "I hope everyone has ..."

k I'm in now

04:46:34 Rebecca Perry: Reacted to "k I'm in now" with

04:49:58 Rebecca Perry: Don't forget about the Google sheet everyone. Maybe start recording questions you have - this will help your team members know some of your thinking and (I hope) help the discussion too. ;-)

04:50:10 Becky Berg: Replying to "I hope everyone has ..."

K-5 I started on page 4 of this document and reading through the foundational content . Clarify which pages I should focus on please? :-)

04:50:29 Rebecca Perry: Replying to "I hope everyone has ..."

Elementary is 2-5

04:50:36 Rebecca Perry: Replying to "I hope everyone has ..."

Define is the questions.

04:50:40 Rebecca Perry: Replying to "I hope everyone has ..."

P. 2

04:52:34 Becky Berg: Replying to "I hope everyone has ..."

OK- thanks!

04:54:36 Lisa Scott (6-12): Link to the Google sheet, please.

04:55:06 Rebecca Perry: <https://docs.google.com/document/d/1KcRz-IYj-xCAFZhDISx1pxbKuxqrtum0frZjBLjSEQg/edit>

04:55:07 Marie Judisch - OPI Teaching and Learning Sr. Manager: Replying to "Link to the Google s..."

<https://docs.google.com/document/d/1KcRz-IYj-xCAFZhDISx1pxbKuxqrtum0frZjBLjSEQg/edit>

05:05:41 Marie Judisch - OPI Teaching and Learning Sr. Manager: Please select your group!

05:06:20 Heather Bleecker: 6-12 please

05:43:35 Lei-Anna Bertelsen she/her: I'll be right back

05:50:43 Michelle McCarthy, Science Instructional Coordinator: We'll be making all this available in the Teacher Learning Hub Course with an available place for conversation. Please let us know if there is anything else we can set up to help this process before we are all meeting together!

05:51:13 Deanne Gemmill - Rocky Mountain College: Reacted to "We'll be making all ..." with

05:51:45 Marie Judisch - OPI Teaching and Learning Sr. Manager: We can look into that!

05:52:05 Marie Judisch - OPI Teaching and Learning Sr. Manager: about 1/4 review, 3/4 write

05:55:44 Lei-Anna Bertelsen she/her: I second that idea!

05:55:54 Jennifer Brackney: Reacted to "I second that idea!" with

05:55:59 Lisa Scott (6-12): Reacted to "I second that idea!" with

05:56:43 Jenny Combs: Yes yes Jenny - great point!

06:00:21 Rebecca Perry: Short survey for you!: <https://www.surveymonkey.com/r/mtmath2>

06:01:43 Jenny Combs: Thank you team!

06:02:02 Marie Judisch - OPI Teaching and Learning Sr. Manager: See you at 2:05! Thank you!

06:10:51 Marie Judisch - OPI Teaching and Learning Sr. Manager: This document is a depository for all the resources discussed during conversations today, outside of the research provided.

https://docs.google.com/document/d/1NnriiM8id7nfm2C1JC_sW1o1VKs_26V_8Mbb1oy28Cg/edit?usp=sharing

06:14:27 Amy Jones: Reacted to "This document is a d..." with

06:15:02 Sharon Carroll: Replying to "This document is a d..."

Thank you!

06:15:23 Pat Baltzley: Replying to "This document is a d..."

Thank you!

06:20:06 Becky Berg: Had to log back in— having some connectivity issues so keeping camera off for a bit.

06:20:43 Marie Judisch - OPI Teaching and Learning Sr. Manager: Feel free to add your 'wonder' and 'take away' whenever you're ready!

06:20:48 Jennifer Luebeck: Question: How does standards design/revision interact with or depend on learning theory and instructional theory?

06:21:12 Pat Baltzley: I am intrigued about how we use the information presented for the high school pathways to support our districts in making decisions for their own pathways. What would that look like? I like the idea of discussing what two foundational credit-bearing mathematics high school courses would look like.

06:21:12 Jenny Combs: I am wondering about the request for simplicity - I don't know the we need fewer standards.

06:21:26 Andrea Meiers: I am wondering what the next steps in the process will be? Is the next step just our time together as a writing team in July?

06:21:30 Janice Novotny: What standards are the most successful countries doing that we aren't? We need to find a way to make the standards more accessible and usable for instructors.

06:21:32 Jenny Combs: Fewer standards at the K-8 I mean

06:21:40 Bill Becker: There's been a lot of emphasis/discussion on what doesn't work for us with current standards. I'd love to see a place to gather thought on what IS working.

06:21:42 Nicole Capser: Take Away - Bulk of early math instruction should be in the two areas of number sense and time also spent on geometry spatial relations and measurement.

Question - How can we utilize standards work to reflect the importance of the presented information that we should focus on number sense and spatial etc and communicate instructional practices within the same writing?

06:21:46 Pat Baltzley: I wonder how we can incorporate data science into the pathways, particularly starting in grade 6.

06:21:47 Heather Bleecker: Wonder: Can we form small collaborative groups based on expertise/interest from the research to continue these conversations before the writing team meets.

06:21:54 Sharon Carroll: I wonder what 2 foundational math courses would look like.

06:21:55 Amy Jones: Take Away - The depth of information was great! I was thrilled to have some great decisions on developing number sense and learned some new terms with that.

06:21:59 Marisa Graybill: I am excited for this process that is focused on students first and most recent research. I wonder if there are other states that we can use to help us in the framing and structure of the high school standards.

06:22:03 Cliff Bara: Take away: there is a lot for me to do before we meet again. Question: What will two year HS "core" look like? In particular, what will we eliminate from the current standards. This will be interesting...

06:22:15 Tina Blair: Ability to provide a variety of courses at the High school level became a question for implementation- Could there be a screen or guide to for districts to assess their capacity and then route guides that fit their needs and capacity

06:22:22 Marisa Graybill: Reacted to "Take away: there is ..." with

06:22:24 Jennifer Luebeck: Suggestion: Use the July time for continued thought conversations - my sense is we are still far from crafting a vision and not ready to "write" or "edit" standards.

06:22:28 Kris Gardner: Question: How will the revisions impact the assessment? A lot of great information today!

06:22:29 Lei-Anna Bertelsen she/her: The research is very reaffirming of the work we currently do based on the standards-and it points to the urgency of what we can uplift and amplify further

I'm also excited to see and learn from fellow task force members and the document we will create

06:22:30 Jenny Combs: Take away - we need clarification for our teachers on what we mean at each grade level and support for them

06:22:36 Pat Baltzley: Reacted to "Wonder: Can we form ..." with

06:22:39 Bethany's phone: 1. Where are examples of dynamic high school math standards that can be applied to the many different types of districts/students we have in Montana?

06:22:39 Andrea Meiers: My take away is that our standards seem to actually be in pretty good place with the K-5 standards themselves, but that we may need additional professional learning around instructional strategies and implementation.

06:22:55 Sharon Carroll: Take away: I will finish the reading in the hub! I wonder if we could all continue the discussion there.

06:23:16 Kayla Ryan: -Question: Can we revise the current standards instead of just starting over? -Wonder: I wonder how we can impact professional development of teachers through this process. -Takeaway: The research supports much of the work my district has been doing around math instruction, however, it is very clear how intertwined the standards, curriculum, and professional development all are!

06:23:29 Becky Berg: I noticed strong connections between our current standards and the research. Now, how to simplify and clarify, while honoring the importance of coherence and connections! :-)

06:23:37 Tina Blair: I appreciate that the documents were available to the hub

06:23:37 Bill Becker: Reacted to "Wonder: Can we form ..." with

06:23:40 Marisa Graybill: Reacted to "I noticed strong con..." with

06:23:47 Kris Gardner: Reacted to "I noticed strong con..." with

06:24:05 Lisa Scott (6-12): Reacted to "Take away: there is ..." with

06:24:06 Pat Baltzley: I wonder if the K-8 standards could be revised first (or at least the K-5) and then

continue the discussions around the high school issues before revising the standards.

06:24:14 Amy Jones: Wonder - I am curious how you do connect the standards with PD so that teachers are confident that they are instructing in a way that shows progression and understanding.

06:24:30 Marisa Graybill: Reacted to "I wonder if the K-8 ..." with

06:25:32 Deanne Gemmill - Rocky Mountain College: consideration: "Standards" is not the same as "courses" As we write standards, how do we share the vision for '2 essential years' or will districts simply stick with alg1 - geo - alg2 and make the 'new' standards fit into that already existing framework.

06:25:48 Jennifer Luebeck: Reacted to "consideration: "Stan..." with

06:26:44 Lisa Scott (6-12): Reacted to "consideration: "Stan..." with

06:28:35 Pat Baltzley: Reacted to "consideration: "Stan..." with

06:29:09 Jenny Combs: Reacted to "consideration: "Stan..." with

06:36:59 Deanne Gemmill - Rocky Mountain College: Reacted to "Suggestion: Use the ..." with

06:38:40 Bill Becker: It's also on the Learning Hub Dashboard if people can't find it.

06:40:39 Deanne Gemmill - Rocky Mountain College: was "practicality" ever defined?

06:40:46 Marisa Graybill: 6-12 team idea: I like what Cliff said, maybe we can come with what we believe should make up the essential concepts for 2 years of high school math? That could be a place to start?

06:40:52 Marie Judisch - OPI Teaching and Learning Sr. Manager: This link is open for applications for the Negotiated Rulemaking Committees for EL, Math, and WL
https://docs.google.com/forms/d/e/1FAIpQLScocC2GbOc-o1pMxutjU4Tlzi0fkGiEotkjFDR2QHo2Oz6Y_w/viewform

06:42:34 Lisa Scott (6-12): I agree!!

06:42:52 Jenny Combs: Thanks Jenny - totally agree.

06:44:50 Deanne Gemmill - Rocky Mountain College: Thanks Jennifer.

06:45:07 Pat Baltzley: I appreciate you saying this, Jennie.

06:45:20 Sharon Carroll: Reacted to "I appreciate you say..." with

06:45:46 Jennifer Brackney: Reacted to "I appreciate you say..." with

06:46:44 Frederick Peck: Thank you!

06:46:55 Kris Gardner: Thank you!

06:46:56 Marisa Graybill: Thank You!

06:46:57 Becky Berg: Thank you!

06:47:00 Bill Becker: Thank you!

06:47:00 Michelle McCarthy, Science Instructional Coordinator: Thank you!