



Building on Assessment (Virtual) – Session 2

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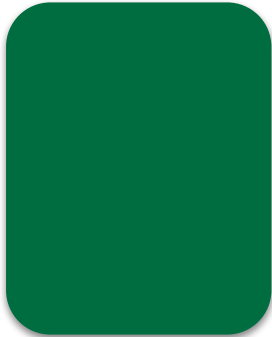
Rev 5/15/23 (ce)

Welcome!

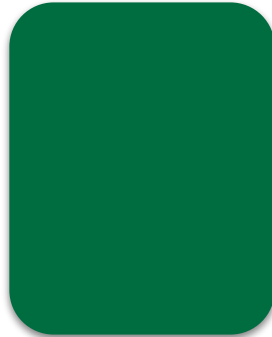
CPM Virtual Learning Series



Session Facilitators

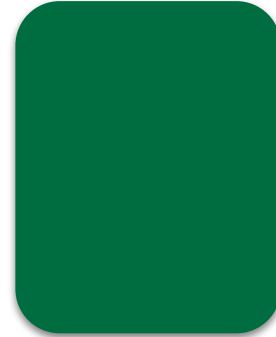


Name



Name

Support

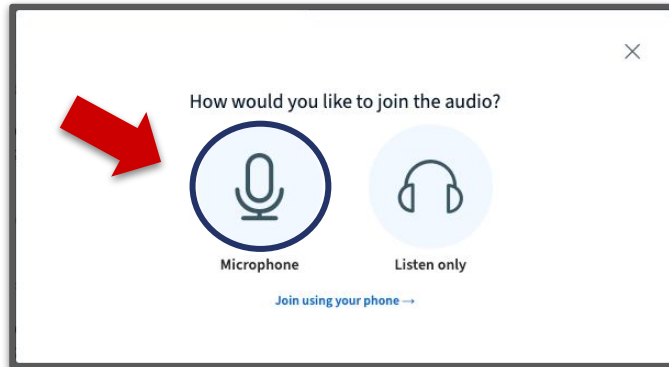


**Regional
Professional
Learning
Coordinator**

Tech Tip

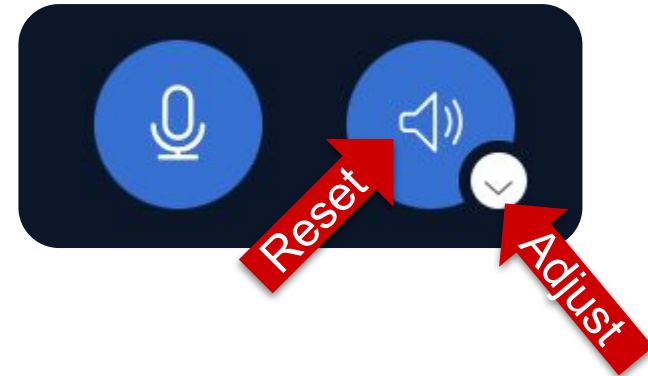


Audio



Join with microphone

Troubleshooting



Use options below presentation to troubleshoot audio issues.

Opening

Outcomes



Participants will:

- + Reflect on the efficacy of their current summative assessment practice.
- + Utilize given tools to write a summative assessment.
- + Determine whether assessment questions provide students with the opportunity to demonstrate understanding.

Opening

Agenda



Effective Assessment Questions



- + Opening
- + Evaluating Assessment Items
- + Writing Good Assessments
- + Closure

Opening



Be willing to take **risks**.

Have a **visionary** mindset.

Stay **engaged**.

Explore and reflect on your **beliefs**.

Give **grace** to others and yourself.

Change takes time, effort, and support!

Opening

Beliefs about Mathematics Assessment



PRODUCTIVE BELIEF		
N C T M	1	The primary purpose of assessment is to inform and improve the teaching and learning of mathematics.
	2	Assessment is an ongoing process that is embedded in instruction to support student learning and make adjustments to instruction.
	3	Mathematical understanding and processes can be measured through the use of a variety of assessment strategies and tasks.
	4	Multiple data sources are needed to provide an accurate picture of teacher and student performance.
	5	Assessment is a process that should help students become better judges of their own work, assist them in recognizing high-quality work when they produce it, and support them in using evidence to advance their own learning.
	6	Ongoing review and distributed practice within effective instruction are productive test preparation strategies.

C P M	7	Authentic assessment means assessing in a manner that mirrors the way the students have learned, and focusing on what the students know, rather than what the students do not know.
	8	Assessment, as with the learning, should focus on the big ideas and the connections to assess for understanding, and not on the fine grain-sized skills.
	9	Assessment and teaching should be seamlessly interwoven, and time should be spent on both. Because of the lack of time most teachers have, it is important to assess wisely, and use the supports that are in place.
	10	Assessment is the process of understanding student learning, and grading is evaluating that understanding. The bulk of the teacher's time should be spent on assessing rather than grading.

Opening

Effective Math Teaching Practices



Establish goals to focus learning.

Pose purposeful questions.

Support productive struggle in learning mathematics.

Elicit and use evidence of student thinking.

Evaluating Assessment Items

Leveraging Assessments



Once you decide what and when to assess, how can you be sure that you create a valid and informative assessment?



Bloom determines the cognition or thinking students are expected to demonstrate as part of a learning experience. That's the verb that starts the educational objective or academic standard.

Webb designates the context – the scenario, setting, and situation – students are expected to use to express and share what they are learning.

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	<ul style="list-style-type: none"> Recall, observe, & recognize facts, principles, properties Recall/ identify conversions among representations or numbers (e.g., customary and metric measures) 	Use these Hess CRM curricular examples with most mathematics or science assignments or assessments.		
Understand Construct meaning, clarify, paraphrase,	<ul style="list-style-type: none"> Evaluate an expression Locate points on a grid or number on number line 	<ul style="list-style-type: none"> Specify and explain relationships (e.g., non-examples/examples; cause-effect) Make and record observations 	<ul style="list-style-type: none"> Use concepts to solve non-routine problems Explain, generalize, or connect ideas 	<ul style="list-style-type: none"> Relate mathematical or scientific concepts to other content areas, other domains, or other concepts

Bloom determines the cognition or thinking students are expected to demonstrate as part of a learning experience. That's the verb that starts the educational objective or academic standard.

	<ul style="list-style-type: none"> (e.g., area, perimeter) Solve linear equations Make conversions among representations or numbers, or within and between customary and metric measures 	<ul style="list-style-type: none"> or figure and use it solve a problem requiring multiple steps Translate between tables, graphs, words, and symbolic notations (e.g., graph data from a table) Construct models given criteria 	<ul style="list-style-type: none"> Use & show reasoning, planning, and evidence Translate between problem & symbolic notation when not a direct translation 	
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct	<ul style="list-style-type: none"> Retrieve information from a table or graph to answer a question Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) Identify a pattern/trend 	<ul style="list-style-type: none"> Categorize, classify materials, data, figures based on characteristics Organize or order data Compare/ contrast figures or data Select appropriate graph and organize & display data Interpret data from a simple graph Extend a pattern 	<ul style="list-style-type: none"> Compare information within or across data sets or texts Analyze and draw conclusions from data, citing evidence Generalize a pattern Interpret data from complex graph Analyze similarities/differences between procedures or solutions 	<ul style="list-style-type: none"> Analyze multiple sources of evidence Analyze complex/abstract themes Gather, analyze, and evaluate information
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		<ul style="list-style-type: none"> Cite evidence and develop a logical argument for concepts or solutions Describe, compare, and contrast solution methods Verify reasonableness of results 	<ul style="list-style-type: none"> Gather, analyze, & evaluate information to draw conclusions Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	<ul style="list-style-type: none"> Brainstorm ideas, concepts, or perspectives related to a topic 	<ul style="list-style-type: none"> Generate conjectures or hypotheses based on observations or prior knowledge and experience 	<ul style="list-style-type: none"> Synthesize information within one data set, source, or text Formulate an original problem given a situation Develop a scientific/mathematical model for a complex situation 	<ul style="list-style-type: none"> Synthesize information across multiple sources or texts Design a mathematical model to inform and solve a practical or abstract situation

Evaluating Assessment Items

Reflection



How might your awareness of the Cognitive Rigor Matrix impact items you write or choose for individual and team assessments?

Evaluating Assessment Items



How do we evaluate the quality of an assessment?

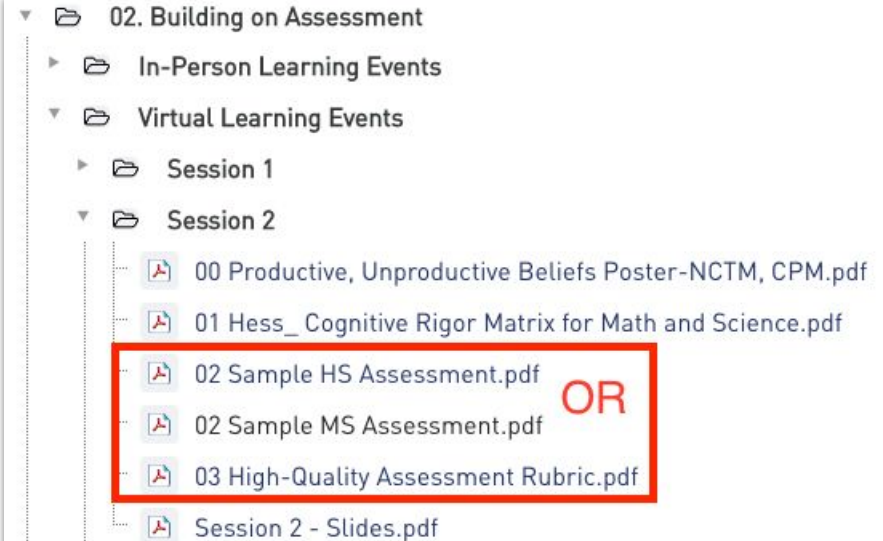
Evaluating Assessment Items

Evaluating Quality



YOUR TASK:

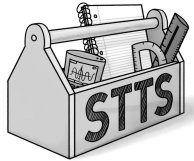
1. Open the rubric and an assessment from the File Cabinet.
2. Evaluate the assessment in each category of the High-Quality Assessment Rubric.





Writing Good Assessments

Characteristics of Questions that Demonstrate Student Understanding



Think-Ink-Pair-Share

Think of an assessment item that allows students to demonstrate learning and use flexible thinking to show understanding.

In the Public Chat, **ink** characteristics of that assessment item.

Writing Good Assessments

Characteristics of Questions that Demonstrate Student Understanding



Learning Objective: *Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease.*

Marty purchased a jacket at a discounted price. The original price was \$90. If the jacket was 20% off, calculate the discounted price of the jacket.

Be sure to explain your thinking. Represent your thinking in more than one way. How do you know that your answer is correct?

Writing Good Assessments

Research



Students who understand a concept can:

- + use it to make sense of and explain quantitative situations (Model with Mathematics);
- + incorporate it into their own arguments and use it to evaluate the arguments of others (Construct viable arguments and critique the reasoning of others);
- + bring it to bear on the solutions to problems (Make sense of problems and persevere in solving them); and
- + make connections between it and related concepts.

Dr. James Williams, NCCTM, October, 2011



What have we discussed?

Identifying formative and summative assessment targets in CPM.

Recognizing DOK level.

Characteristics of assessment items that demonstrate student understanding.

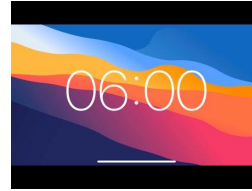
Writing Good Assessments

Writing an Assessment Item



Closure

Revisions and Reflection



Title: Writing Good Assessment Items.



Insert your item into your Learning Log.

Review the two strengths and suggestion as you consider revisions.

Consider:

- + *What misconceptions do you hope to uncover by using this assessment item?*
- + *What strategies do you think students will use on this item?*
- + *What might hinder a student from being successful with this item?*

Closure

Outcomes



Participants will:

- + Reflect on the efficacy of their current summative assessment practice
 - + **Assessment Carousel**
- + Utilize given tools to write a summative assessment.
 - + **Writing Good Assessments**
- + Determine whether assessment questions provide students with the opportunity to demonstrate understanding.
 - + **Evaluating Assessment Items, Writing Good Assessments**

Closure



How can the Study Team & Teaching Strategies support effective, formative assessment?

Ambassador	Fishbowl	I Spy	Math Chat	Reciprocal Teaching	Think-Ink-Pair-Share (T.I.P.S)
Carousel: Around the world	Fortune Cookie	Jigsaw: 4 Corners	Notice & Wonder	Red Light, Green Light	Think-Pair-Share
Carousel: Station Rotation	Gallery Walk	Numbered Heads	Participation Quiz	Silent Appointment	Traveling Salesman
Carousel: Index Card	Give One, Get One	Pairs Check (Chat)	Peer Edit	Silent Debate	Tuning Protocol
Dyad	Hot Potato	Huddle	Pick Three	Swapmeet	Walk and Talk
Elevator Talk	Hot Seat	Listening Post	Proximity Partner	Teammates Consult	Whiparound

Closure

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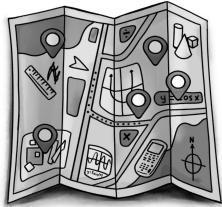
Elicit and use evidence of student thinking.

Closure

Assessment Action Plan



Title: Summative Assessment Practices



I plan on implementing the following idea(s) from today's sessions _____.

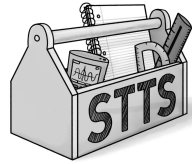


Consider:

- + Why you chose the item(s).
- + How you will hold yourself accountable.
- + What successful implementation will look like.

Closure

Whiparound



In the Public Chat:

Share how you will hold yourself accountable for implementing these ideas.

Closure



- + Parking Lot
- + Attendance & Feedback
 - In the Portal
- + **Homework:** On-Demand Module
 - Activity 1: Prior to Session 1
 - Activity 2: Prior to Session 3
- + Continuing Education Credit



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