



Building on Assessment (Virtual) – Session 5

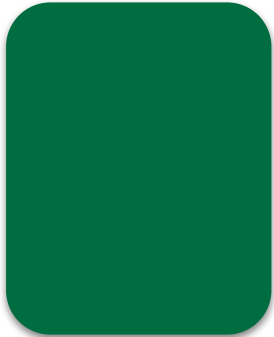
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Welcome!

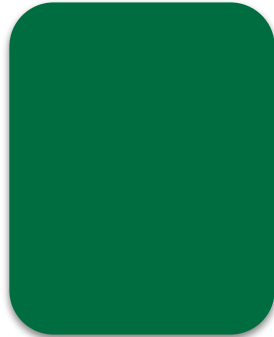
CPM Virtual Learning Series



Session Facilitators



Name



Name

Support



**Regional
Professional
Learning
Coordinator**

Opening

Outcomes



Participants will:

- + Gain knowledge of formative assessment research and strategies.
- + Plan a formative assessment that supports the summative assessment item.
- + Develop success criteria for their formative assessment.

Opening

Agenda



Formative Assessments



- + Opening
- + Strategies for Effective Formative Assessment
- + The Formative Five
- + 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!



Icebreaker



Think about: In what ways does formative assessment happen in your classroom?



Be prepared to share one way.

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



Facilitate meaningful mathematical discourse.

Pose purposeful questions.

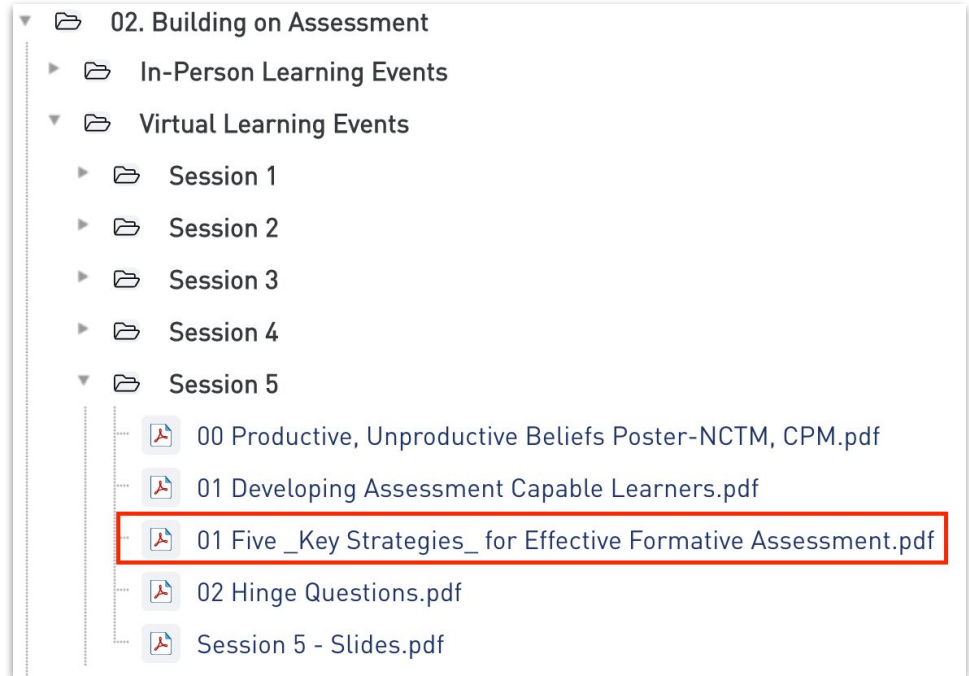
Elicit and use evidence of student thinking.

Formative Assessment

Five Key Strategies

Your Task:

1. Review the introduction, your section, and the conclusion.
2. Highlight important ideas.



Teams #1 & #6:
Section 1

Team #2:
Section 2

Teams #3 & #7:
Section 3

Team #4:
Section 4

Teams #5 & #8:
Section 5

Formative Assessment

Five Key Strategies



1. Clarifying, sharing, and understanding goals for learning and criteria for success with learners.
2. Engineering effective classroom discussions, questions, activities, and tasks that elicit evidence of students' learning.
3. Providing feedback that moves learning forward.
4. Activating students as owners of their own learning.
5. Activating students as learning resources for one another.

So... How do we make all of this happen?

Formative Assessment

Learning Log



Title: Strategies for Effective Formative Assessment



_____ is a strength, because ____.

_____ is an area for growth, because _____.



Consider:

- + How is the strategy an equitable assessment practice?
- + What effect will this strategy have on your assessment culture?
- + How will this strategy develop assessment capable learners?

Formative Assessment

Numbered Heads



How might _____ appear in a CPM classroom?



Raise

Observations



Happy

Interviews



Applaud

Show Me



Thumbs up

Exit Tasks

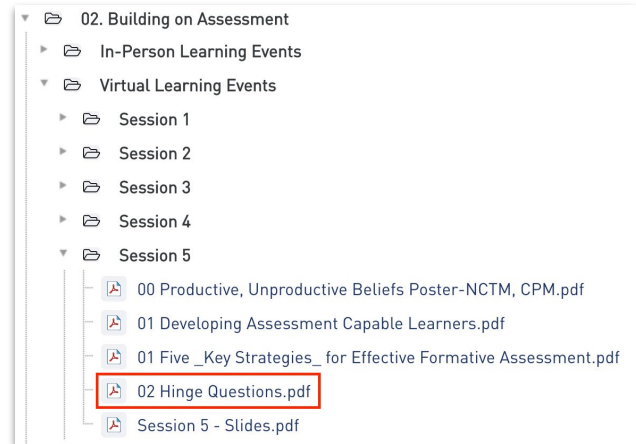
Formative Assessment

Hinge Point Questions



The hinge question (Wiliam, 2011) provides a check for understanding/proficiency at a “hinge point” in a lesson. The hinge question is a question that you plan for and use to elicit responses indicating your next step planning-wise and instructionally, with particular implications for the next day’s lesson. Responses to hinge questions directly inform both planning and instruction.

From *The Formative 5: Everyday Assessment Techniques for Every Math Classroom*, Francis (Skip) Fennell, Beth McCord-Kobett, and Jonathan A. Wray (Corwin, 2017). Used with authors’ permission.



Formative Assessment

Hinge Questions



student-directed

- + Learning Trajectory
- + Review & Preview
- + Peer & Self Assessment
- + review of previously learned concepts

teacher-directed

- + CPM Lessons
- + Core Problems
- + Hinge Questions
- + assesses understanding of new material

Formative Assessment

Identifying Hinge Questions



1. Lesson Questions from the student book

4-31. UNDERSTANDING $y = mx + b$

Rules for linear patterns can all be written in the form $y = mx + b$

In $y = mx + b$, x and y represent variables, while m and b represent are numbers that stay the same in the equation after they are chosen. with your team:

2. Discussion Questions from the student book

How can you see growth in the rule?

How do you know your rule is correct?

What does the representation tell you?

What are the connections between the representations?

3. Pocket Questions from the teacher notes

Lesson 4.1.6

- How can you use growth?
- How can we use our knowledge of $y = mx + b$ to make graphs quickly?
- What connections do we still need?

Formative Assessment

CPM Pocket Questions



Chapter /

Chapter 8

Chapter 9

Chapter 10

Reference

Teacher

Program Description

Course Preparation

Standards Practices

Teacher Support

Closure

Assessment

Team Support

Strategies

Universal Access

CC Course 3

Search

eTools Newsletter Mathcasts Parent Guide PIP Notes **Printable Resources** Prof. Development

Selected Answers SMART Board Stat Supplement Textbook Errata

Course Specific Materials

- [CC3 Checkpoint Materials \(ESP\)](#)
- [CC3 Learning Log Toolkit pages \(ESP\)](#)
- [All CC3 Resource Pages \(Large\)](#)
- [CC3 Pocket Question Cards](#)**
- [CC3 Pocket Question Cards](#)
- [CC3 PI-8: Puzzle Investigator \(ESP\)](#)

Generic Resource Pages

Closure Activities

- [Concept Catcher \(ESP\)](#)
- [Eight Page Booklet \(ESP\)](#)
- [Magic Book \(ESP\)](#)
- [Problem Solving GO \(ESP\)](#)
- [Transition GO \(ESP\)](#)

Manipulatives

- [Algebra Tiles](#)
- [Expression and Equation Mats](#)
- [Integer Tiles](#)

Formative Assessment

Identifying a Hinge Question



Select a lesson: CCG Lesson 4.1.4

Read the lesson objective and review the lesson.

Students will practice re-orienting a triangle and will learn new ways to identify which leg is Δx and which is Δy .

Decide whether one (or more) of the embedded questions can be used as a Hinge Question.

4-35b) Mae Lin says, “I see it differently. I can tell $\Delta y = 4$ without turning the triangle.” How can she tell? Explain one way she could know.

4-35c) Eddie replies, “What if we use 72° as our slope angle? Then $\Delta x = 4$.” What is he talking about? Discuss with your team and explain using pictures and words.

Formative Assessment

Identifying a Hinge Question



Select a lesson: CC2 Lesson 4.2.3

Read the lesson objective and review the lesson.

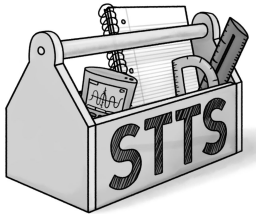
Students will calculate unit rates and use them to solve word problems involving proportional relationships.

Decide whether one (or more) of the embedded questions can be used as a Hinge Question.

After teams finish 4-47. Ask, “In what ways is the unit rate helpful when writing an equation of the given situation?”



Partner Chat



Proximity Partner

- + Find your Partner in the Shared Notes.
- + Start a Private Chat.

Partner Chat

- + How can using Hinge Questions impact student learning?
- + How will I make this a part of my teaching?

Formative Assessment

Implementing a Hinge Question



What strategy will you use
when implementing these
Hinge Questions?

Example: Ask the Hinge Question during circulation.

Closure

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 - + (Hinge Questions)
- + Develop success criteria for their formative assessment.
 - + (Hinge Questions)

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Closure

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Closure



- + Parking Lot
- + Attendance
 - In the Portal
- + Continuing Education Credit
- + **Homework:** On-Demand Module
 - Activity 1: Prior to Session 1
 - Activity 2: Prior to Session 3
 - Activity 3: Prior to Session 5



QR CODE HERE

