



Foundations for Implementation – Session 6

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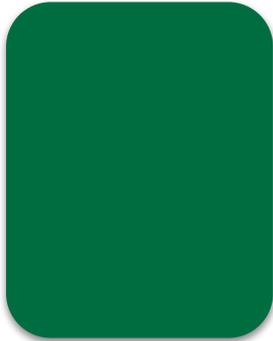
Rev 6/8/23 (ce)

Welcome!

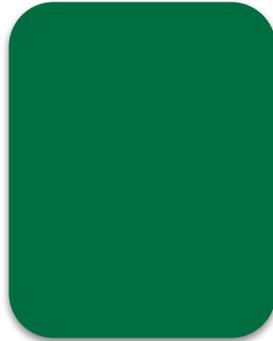
CPM Virtual Learning Series



Session Facilitators



Name



Name



Name

**Regional
Professional
Learning
Coordinator**

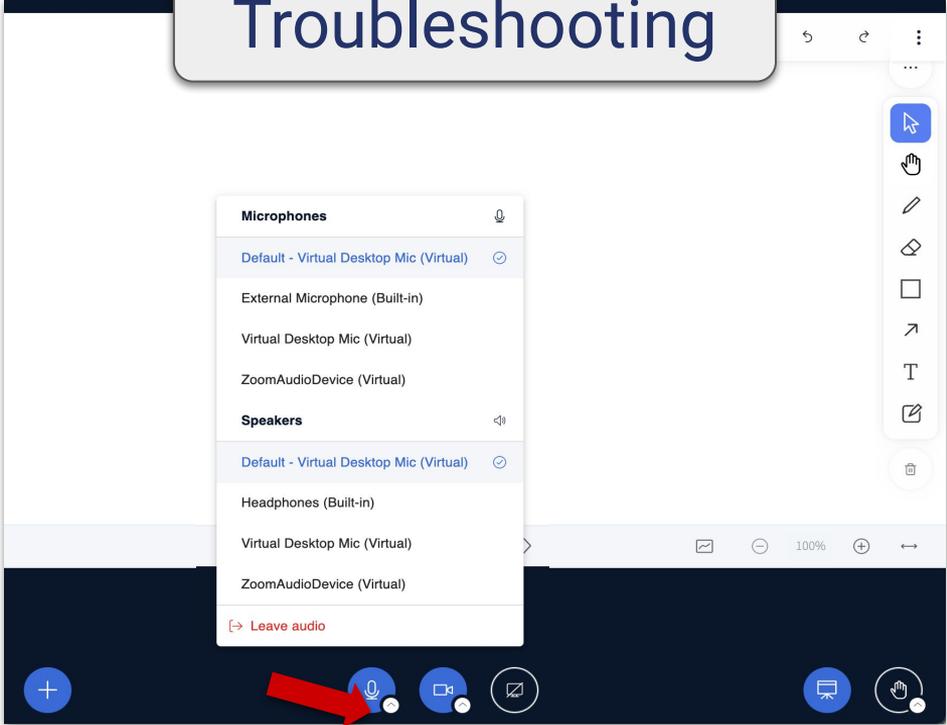
Tech Tip



Audio



Troubleshooting



Opening

Professional Learning Checklist



	Summer Session	Fall Semester	Spring Semester
Live Learning Events	<input type="checkbox"/> Register and attend: In-Person Days 1-3 or Virtual Sessions 1-6	<input type="checkbox"/> Register and attend: In-Person Day 4 or Virtual Sessions 7-8	<input type="checkbox"/> Register and attend: In-Person Day 5 or Virtual Sessions 9-10
Content Modules (On-Demand)	<input type="checkbox"/> Chapter 1 <input type="checkbox"/> Chapter 2	<input type="checkbox"/> Chapter 3 <input type="checkbox"/> Chapter _____	<input type="checkbox"/> Chapter _____ <input type="checkbox"/> Chapter _____
Instructional Modules* (On-Demand)	<input type="checkbox"/> 1 - Closure and Team Assessments <input type="checkbox"/> 2 - Review & Preview <input type="checkbox"/> 3 - Intentional Planning	<input type="checkbox"/> 4 - Supporting Productive Struggle	<input type="checkbox"/> 5 - Assessment Practices

* Instructional Modules 1–5 will be opened and available upon completion of the Introduction to Foundations Module.
If you support special education or intervention, Inclusion Modules may be completed in place of the Instructional Modules.

Opening

Outcomes



Participants will:

- + Learn how Mixed, Spaced Practice connects to assessment practices.
- + Finalize your Implementation Action Plan.
- + Collaborate and learn with other teachers.

Opening Agenda

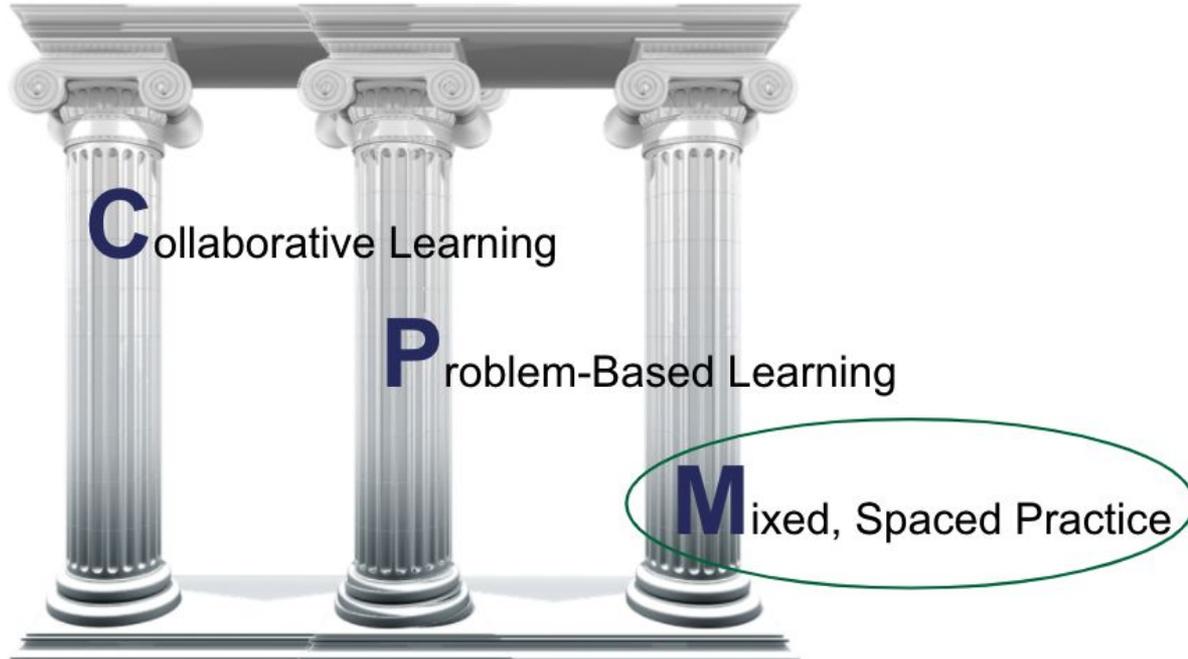


Focus: Mixed, Spaced Practice

- Icebreaker
- Assessment Beliefs
- MSP & Summative Assessment
- Implementation Action Plan
- Closure

Opening

Three Pillars of CPM



Guiding Principles

CPM's Guiding Principles



Students deepen their mathematical understanding when they are engaged with concepts over time.



Students have significantly better retention of mathematics when concepts are grounded in context.



Students' involvement in effective study teams increases their ability to learn mathematics.



Effective study teams are guided, supported, and summarized by a reflective, knowledgeable teacher.



Assessing what students understand requires more than one method and more than one opportunity.



When students and stakeholders embrace a growth mindset, they understand that mastery takes time, effort, and support.

Opening

Working Agreements



- + Be willing to take **risks**.
- + Have a **visionary** mindset.
- + Stay **engaged**.
- + Explore and reflect on our **beliefs**.
- + Give **grace** to others and ourselves.

Change takes time, effort, and support!

Click on your name and set your status to thumbs up if you are ready to begin.



Agenda

Session Six



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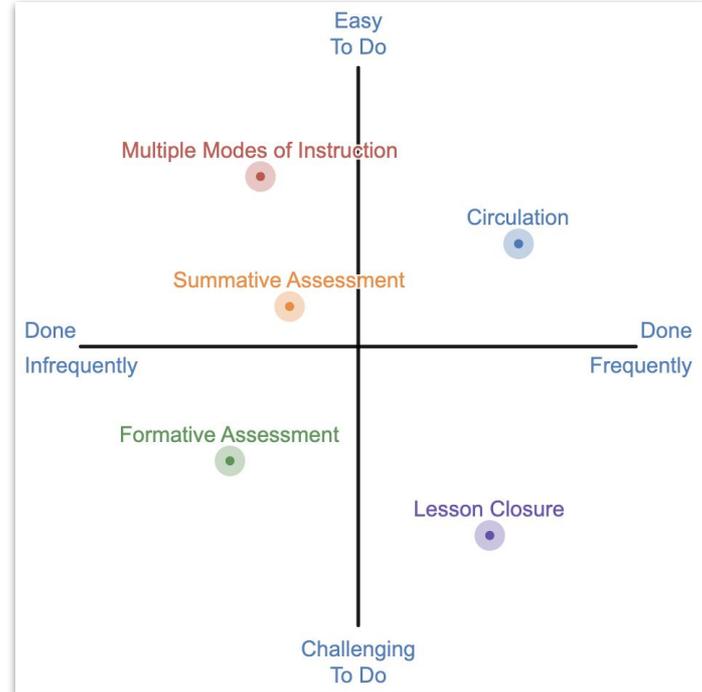
Icebreaker

Assessment Beliefs



Open the Desmos link.

Complete screens 1 and 2.



Agenda

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Assessment Beliefs

Beliefs about Mathematics Assessment



“It is important to note that these beliefs should not be viewed as good or bad. Instead, beliefs should be understood as productive when they support effective teaching and learning or unproductive when they limit student access to important mathematics content and practices.”

—NCTM’s *Principles to Actions*, 91

Assessment Beliefs

Beliefs about Mathematics Assessment



		PRODUCTIVE BELIEF	UNPRODUCTIVE BELIEF
N C T M	1	The primary purpose of assessment is to inform and improve the teaching and learning of mathematics.	The primary purpose of assessment is accountability for students through report card marks or grades.
	2	Assessment is an ongoing process that is embedded in instruction to support student learning and make adjustments to instruction.	Assessment in the classroom is an interruption of the instructional process.
	3	Mathematical understanding and processes can be measured through the use of a variety of assessment strategies and tasks.	Only multiple choice and other “objective” paper-and-pencil tests can measure mathematical knowledge reliably and accurately.
	4	Multiple data sources are needed to provide an accurate picture of teacher and student performance.	A single assessment can be used to make important decisions about students and teachers.
	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.	Assessment is something that is done to students.
	6	Ongoing review and distributed practice within effective instruction are productive test preparation strategies.	Stopping teaching to review and take practice tests improves students’ performance on high-stakes tests.

Assessment Beliefs

CPM's Assessment Position Paper



In addition, CPM would add the following:

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.	Authentic assessment means asking students “real world” problems to solve.
	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.	It is important to assess students multiple times on a single skill or concept, asking every variation of the skill.
	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.	There is not enough time to develop good assessments and good lessons, so the little time there is should be spent on developing lessons.
	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.	Assessment and grading are one and the same, so to assess students, a teacher must spend time grading student papers.

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Mixed, Spaced Practice

Formative Assessment to Inform Summative Assessment



“Authentic assessment begins with teachers actively circulating the classroom while students work on mathematics in small teams. As they move strategically around the room, teachers are carefully listening to conversations and asking deliberate questions that require students to describe, analyze, make inferences, or generalize.”

—CPM’s Position Paper on Assessment

Mixed, Spaced Practice

CPM's Principles of Assessment



The CPM materials have been designed to support **mastery over time** through a **student-centered, problem-based** course, and this approach supports students' different learning styles. But when changing the materials and changing the methodology, teachers must also change their assessment practices.

—CPM's Position Paper on Assessment

Mixed, Spaced Practice

CPM's Principles of Assessment



- 1 Teachers need to be involved in the crafting of assessments.
- 2 Teachers need to read and work through all test problems.
- 3 **Students should be assessed only on content with which they have been meaningfully engaged.**
- 4 Formative assessment is a learning experience for students and teachers.
- 5 While teachers are required to evaluate and assign grades, grading should be flexible.

Mixed, Spaced Practice



Think-Ink-Share

Principles of Assessment ③

Students should be assessed only on content with which they have been meaningfully engaged, and with which they have had ample time to make sense of.

How might Principle 3 guide your summative assessment practices?

Mixed, Spaced Practice

Summative Assessment



How does the design of **Mixed, Spaced Practice** provide opportunities for teachers to **develop fair and balanced summative assessments** for students?



Mixed, Spaced Practice

Mixed, Spaced Practice



How is Mixed, Spaced Practice integrated into the curriculum?

- + Chapter sections
- + Problems in the lessons
- + **Review & Preview**
- + **Checkpoint Problems**
- + **Chapter Closure**
- + **Summative & Team assessments**
- + Threads within courses
- + Vertical threads through courses

Mixed, Spaced Practice

Resources to Guide Summative Assessments



Review & Preview Problems

Checkpoint Problems

Chapter Closure Problems

Summative and Team Assessments

Summative Assessment

Tools to Support Building Summative Assessments



Suggested Assessment Plan

Sample Tests

Assessment Bank

Summative Assessment

Tools to Support Building Summative Assessments



Suggested Assessment Plan for Individual Tests:



- ✓ current chapter ($\approx 40\%$)
- ✓ previous chapters ($\approx 60\%$)
- ✓ consider waiting on assessing

Summative Assessment

Sample Test



Notice and Wonder

1. **Open** the CCA Sample test.



Use the link in the Public Chat.



2. **Review** the Sample test and **take notes** of all your notices and wonderings.

Teacher Tips

Summative Assessments



Assessments should focus on the big ideas, not all the ideas.

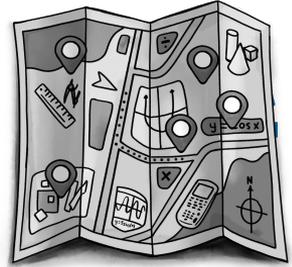
Assessments should be flexible.

Assessments should balance skills with problem solving.

Assessments should honor that mastery takes time, effort, and support.

Implementation Action Plan

Mixed, Spaced Practice Reflection



1st

Ashley Bu

- My Dashboard
- Profile
- Learning Log
- File Cabinet
- Action Plans
- My CPM PL Record
- CPM eBooks
- Participant Handbook
- Messages
- Preferences

2nd

COLLABORATIVE LEARNING	TEAM ROLES <i>My plan for establishing and maintaining team roles in my classroom is...</i>	PROBLEM-BASED LEARNING	LESSON LAUNCH AND CLOSURE <i>My plan to ensure students experience an effective lesson launch and closure is...</i>
	TEAM AGREEMENTS <i>My plan for establishing and maintaining team agreements is...</i>		LESSON EXPLORE <i>My plan to effectively support problem-based lessons through circulation and questioning is...</i>
	MIXED, SPACED PRACTICE	MANAGING STUDENT WORK <i>My plan to manage student work that justifies procedural understanding from conceptual understanding is...</i>	
		ASSESSMENT PRACTICES <i>My plan to create fair and balanced summative assessments using CPM tools and resources is...</i>	



Brain Break

Name Game



1. Come up with an adjective that starts with the same letter as your first name.

(Examples: Magical Misty, Jolly Joel, Techy Tina)

2. Post this in the Public Chat.
3. After spending time with your colleagues in these past sessions, play the name game with one of your colleagues and share in the Public Chat.

How to participate?

Post your responses in the Public Chat.



Agenda

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Closure

Study Team and Teaching Strategy



Give One, Get one

- + Record three ideas to share related to a certain topic.
- + Circulate and share ideas; receive an idea for each one given and record the new ideas on a piece of paper, including the name of its author.
- + Begin group sharing by inviting a volunteer to express one of the ideas citing the author. The named person then continues the sharing process.

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Closure

Outcomes

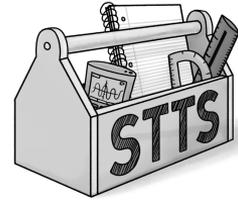


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Closure

Study Team and Teaching Strategies



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

Closure

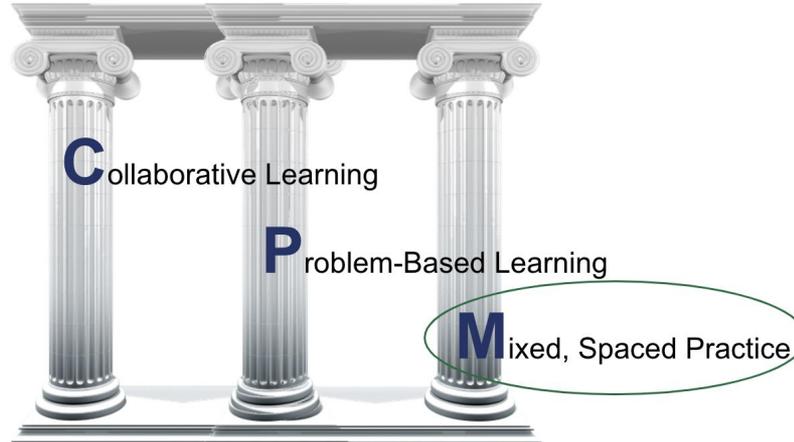
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Closure

Three Research Pillars



Collaborative Learning

Students and teachers are aware of the purpose for and value of working in teams, and are familiar with team norms and roles.

Problem-Based Learning

Students and teachers share math authority as they value and engage in productive struggle. Teachers guide without taking over the thinking.

Mixed, Spaced Practice

Both individual lessons and chapters are followed, using suggested pacing. Review & Preview problems are assigned and valued as an essential part of learning.



Closure

Teacher Tips



Teacher Actions That Support Implementation

Use the Teacher Notes as intended.

Work all the problems in the lesson ahead of time, including the Review & Preview problems.

Create purposeful lesson plans.

Opening

Professional Learning Checklist



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Closure Support



ABOUT CPM

CPM's mission is to empower mathematics students and teachers through exemplary curriculum, professional development, and leadership.



Candidate for Accreditation

CONNECT WITH US

- Facebook
- Twitter
- Teacher Research Corps Blog
- Slack for CPM Teachers
- More Math for More People Podcast

LINKS

- Event Registration
- Why Choose CPM?
- Professional Learning
- Participant Handbook
- Continuing Education Credit
- Terms of Use
- Privacy Policy

NEED HELP?

- (209) 745-2055
- support@cpm.org
- Knowledge Base
- Regional Contacts
- Report a problem

Closure Support



CPM PROFESSIONAL LEARNING PORTAL

My Dashboard
Live Events Schedule and Registration
On-Demand Modules
2023 Teacher Conference
Calendar
Private files
Art of Coaching Workbook Group
Assessment FAQs
Curriculum Implementation FAQs
eWorkspace Onboarding
eWorkspace Support
Foundations for Coaching - 22-23 Cohort
Portal FAQs
Managing Student Work FAQs
PL Team Mtgs

CPM LIVE EVENTS SCHEDULE AND REGISTRATION

[VIEW TOUR](#)

My Live Events | Waiting Lists | Live Event Catalog

Only show contracted events Show available events

Search [] EVENT FORMAT [] ALL DATES [] ALL REGIONS [] ALL STATES [] EVENT TYPE []

START DATE [] CARD []

Event Type

- Foundations for Implementation
- Building on Instructional Practice
- Leadership Support
- Content Sessions**
- Continuing Support

Event Title	Start Date	End Date	Event Type	Registration Status
INTRO TO BUILDING ON EQUITY - BERKELEY, CA	Mar 22, 2023	Jun 5, 2023	Contracted Events	
FOUNDATIONS FOR CORE CONNECTIONS - OAK LAWN, IL	May 8, 2023	May 10, 2023	Contracted Events	4 days left to register
FOUNDATIONS FOR CORE CONNECTIONS - COHORT 1	May 23, 2023	May 25, 2023	Virtual Learning Events	19 days left to register
FOUNDATIONS FOR CORE CONNECTIONS - COHORT 2	May 30, 2023	Jun 1, 2023	Virtual Learning Events	26 days left to register

Closure



- + **Parking Lot**

- + **Attendance & Feedback**

Either scan the QR code

OR

Enter passcode in the portal

XXXXXX

- + **Next Steps:**

- Before the start of the school year:
 - Finish Instructional Modules 1 through 3.
 - Complete Content Modules 1 & 2.



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