



Foundations for Implementation – Session 5

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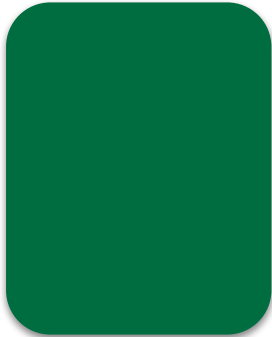
Rev 6/8/23 (ce)

Welcome!

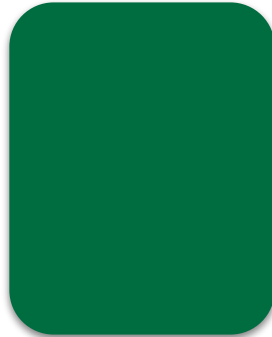
CPM Virtual Learning Series



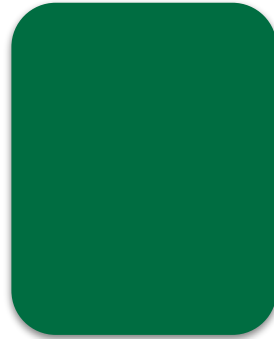
Session Facilitators



Name



Name



Name

**Regional
Professional
Learning
Coordinator**

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:

- + Become familiar with the research behind the design of CPM courses.
- + Learn how Mixed, Spaced Practice connects to assessment practices.
- + Collaborate and learn with other teachers.

Opening Agenda

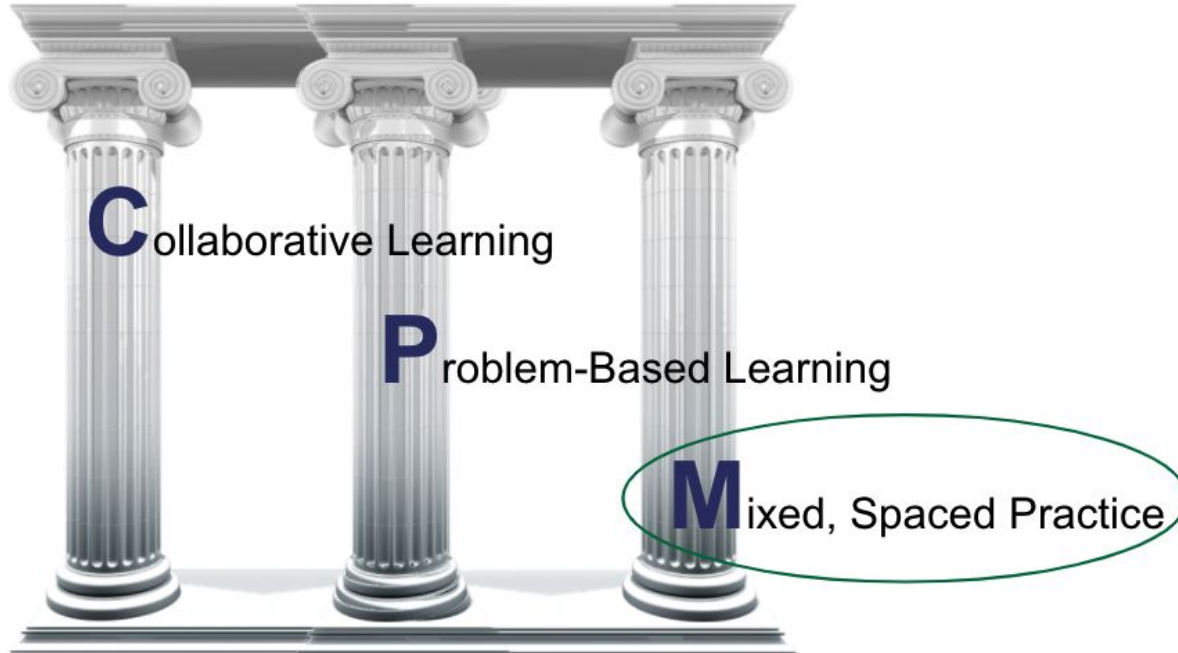


Focus: Mixed, Spaced Practice

- Icebreaker
- Mixed, Spaced Practice
- Math Thread
- Formative Assessment
- 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 Five



Focus: Mixed, Spaced Practice

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Icebreaker

Study Team and Teaching Strategy



Pick Three

- + Teacher posts a list of strengths.
- + Each student selects and writes down three strengths they can contribute to their team.
- + Students take turns sharing their strengths with their team.
- + Students use strengths as they work on the lesson.

Icebreaker

Pick Three



Decide which three strengths you can contribute to your team & write them down.

- + Pattern recognition
- + Drawing
- + Helping others
- + Explaining my thinking
- + Noticing details
- + Keeping people on task
- + Organizing
- + Predicting
- + Following directions
- + Writing equations from patterns
- + Looking at things in different ways
- + Reading aloud
- + Justifying answers
- + Using Technology



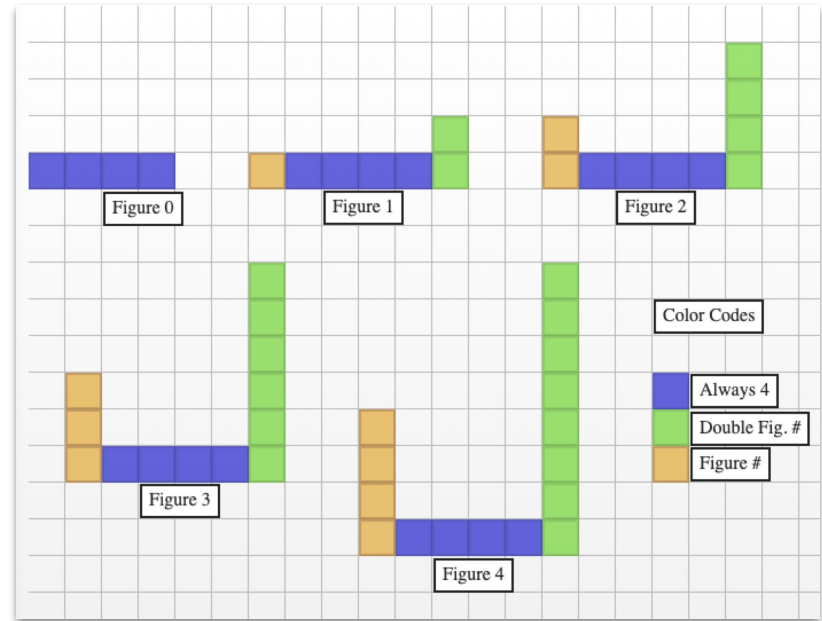
Icebreaker

Debrief



What is an equation that relates the figure number, x , to the number of tiles, y ?

Post your answer in the Public Chat.





Things to consider:



Learning Logs



Toolkits & Math Notes



Math Work

- + Core problems
- + Resource Pages
- + Review & Preview

Managing Student Work

Teacher Tips



Use Toolkits for Math Notes and Learning logs for CC1, CC2 and CC3 courses.

Create an Interactive Notebook.

Have students use a 3 ring binder or folder to organize classwork, resource pages, and homework.

Use a Learning Management System.

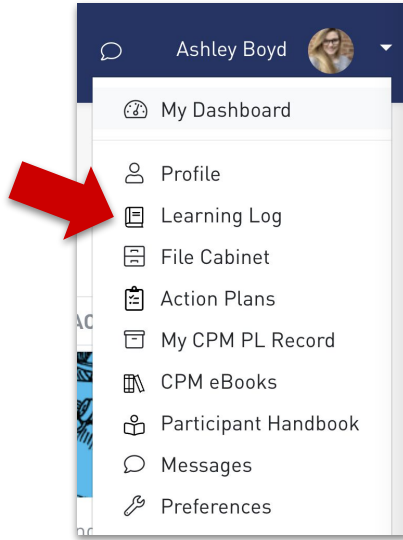
Learning Log

Steps to access

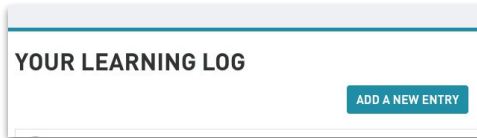
4:00



1.



2.



3.

LEARNING LOGS: ADD A NEW ENTRY

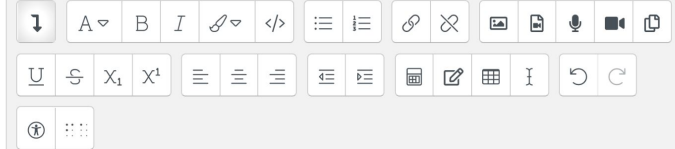
▼ Collapse all

▼ General

Entry title ⓘ

Student Work and Classroom Shifts

Learning Log entry body ⓘ



–Ideas I have for managing student work include ____.

–To help students understand the shifts in teaching and learning, I want to remember ____.

Agenda

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Mixed, Spaced Practice

Mixed, Spaced Practice - Why?



Synthesis of Research Mixed, Spaced Practice



Use the link in the Public Chat.



Mixed, Spaced Practice

Reading Protocol



Connect-Extend-Challenge

Read the article.

Reflect using the following questions.

- + How are the ideas and information presented **connected** with what you already knew?
- + What new ideas did you get that **extended** or broadened your thinking?
- + What **challenges** or puzzles have come up in your mind from the ideas and information presented?

7:00

Mixed, Space Practice

Mixed, Space Practice – How?



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**

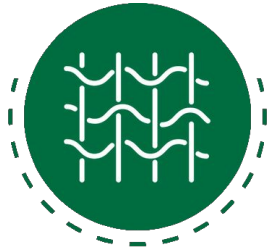
Mixed, Space Practice

Design of the Curriculum

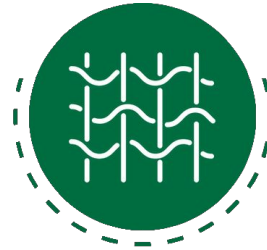


Core Connections

The design of the curriculum emphasizes the connected nature of mathematics.



Thread within Courses – Each course weaves topic-strands together to make connections emerge naturally, and to facilitate deeper understanding.



Vertical Threads through Courses – The design of the CPM courses builds conceptual foundations slowly, with an emphasis on using manipulatives and technology tools, and looking at problems in multiple ways.

Agenda

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Math Thread

Team Agreements and Roles



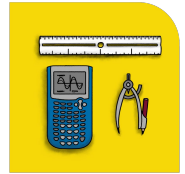
Together, work to learn mathematics.

Explain and give reasons.

Ask questions and share ideas.

Members of your team are your first resource.

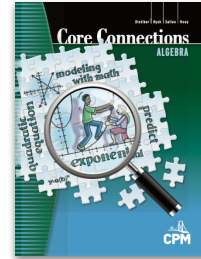
Strive for understanding.



Math Thread

CCA Lesson 2.1.1

Seeing Growth in Linear Representations



Math goal:

See growth in linear representations.



Team goal:

Use your strengths to support team collaboration.

Math Thread

Closure

Teacher Notes – CCA Lesson 2.1.1



Introduction ▾	CC Algebra				Search <input type="text"/>	🔍
Chapter 1 ▾	Lesson (ENG)	Lección (ESP)	Answers	Teacher Notes	My Notes	Sharing
Chapter 2 >						🗨️
2 Opening						
2.1.1	Closure: (5 minutes)					
2.1.2	A brief closure discussion about what students have studied in this lesson is particularly important today. Expect students to summarize where the growth can be found in a pattern, table, and equation, and where the starting value can be found in a pattern, table, and equation. Having students share their answers for parts (c), (d), and (e) of problem 2-5 could be one way to get to this summary. This could be done as a Swapmeet .					
2.1.3						
2.1.4						
2.2.1						

Brain Break

Take your Shot



1. Stand up.
2. Stand tall.
3. Warm up by swinging your arms back and forth.
4. Practice your stance a few times.
5. Now imagine you are up. It's time to to take your shot. 3 ... 2 ... 1!



How to participate?

Stand up and follow along with the facilitators.

Agenda

Session Five



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Formative Assessment

And Mixed, Space Practice



How does the design of **Mixed, Spaced Practice** provide opportunities for teachers to **formatively assess** students?



Principles of Assessment

And Formative 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.

Formative Assessment And Collaborative Learning



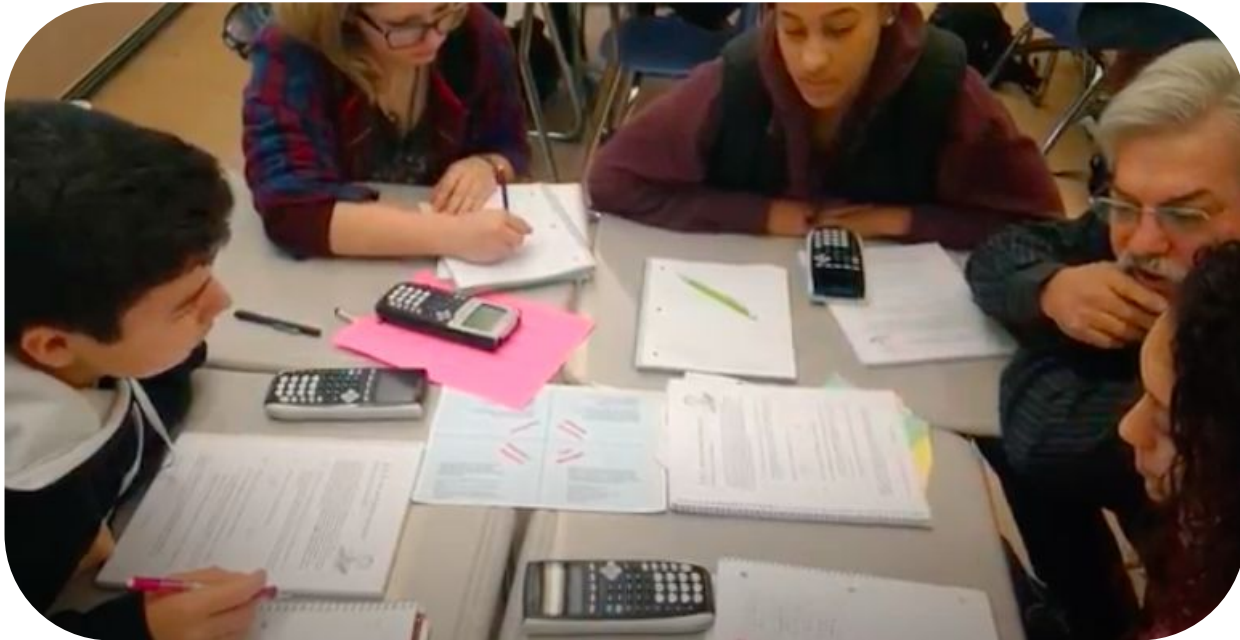
Formative Assessment

And Problem-Based Learning



Formative Assessment

And Mixed, Space Practice



Formative Assessment

And Mixed, Space Practice



How does the design of **Mixed, Spaced Practice** provide opportunities for teachers to **formatively assess** students?



Formative Assessment

Study Team and Teaching Strategies



Jigsaw

- + Each team member is assigned a different part of a topic or concept.
- + Team member learns about their topic or concept.
- + Team members present the information they learned to the team.

Formative Assessment



Jigsaw

1. **Navigate** to the the Assessment tab.
eBook ▶ **Teacher Tab** ▶ **Assessment tab**
2. **Read** your assigned section.



RM	Presentations
F	Observations
T	Team Assessments
R/R	Individual Assessments

Agenda

Session Five



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Closure

Outcomes

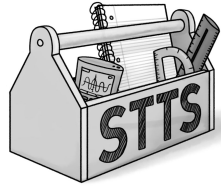


Participants will:

- + Become familiar with the research behind the design of CPM courses.
- + Learn more how Mixed, Spaced Practice connects to assessment practices.
- + Collaborate and learn with other teachers.

Closure

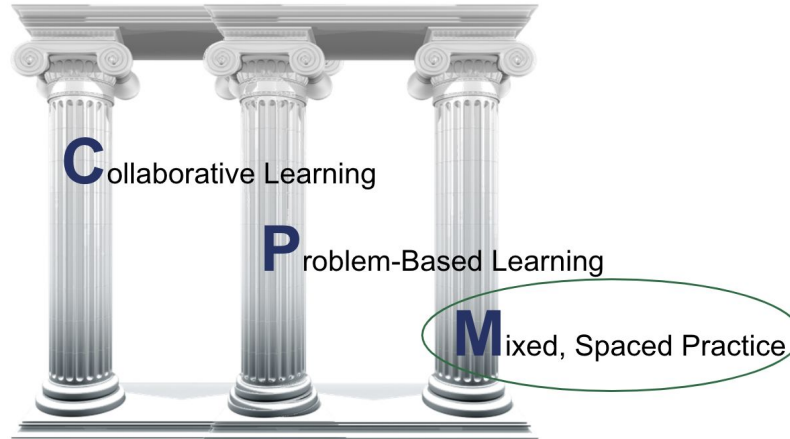
Study Team and Teaching Strategies



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

Three Research Pillars



SECTION ONE: The pillars that represent necessary first steps in any implementation.

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 ahead of time, including the Review & Preview problems.

Create purposeful lesson plans.

Closure

Ignite Your Classroom



Start promptly.

Peer support expected within each team.

Active learning.

Respond to the team rather than individuals.

Circulate. **C**irculate. **C**irculate.

Closure. **C**losure.

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.



@CPMeducationalprogram



@CPMmath

HOUSEKEEPING



ANCHOR PAGE



WELCOME



PUZZLE



TEAM GOAL



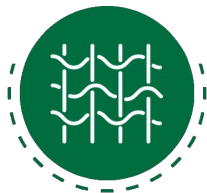
TEACHER LENS



LEARNING LOG



THREAD



CONTENT MODULE



MATH GOAL



STUDENT LENS



EQUITY LENS



ASSESSMENT



PRODUCTIVE STRUGGLE



RESEARCH PILLARS



MSP



COLLABORATIVE LEARNING



PBL



STUDY TEAMS



LEARNING TARGET



TASK CARD



TEAM ROLES ALL



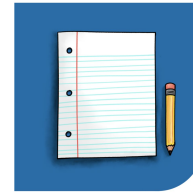
RESOURCE MANAGER



TASK MANAGER



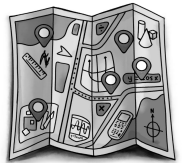
REPORTER RECORDER



FACILITATOR



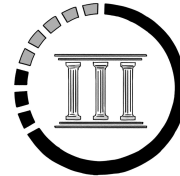
IMPLEMENTATION ACTION PLAN



TEAM ROOMS



IMPLEMENTATION PROGRESS TOOL



STTS

