Foundations for *Inspiring Connections* Session 3

Welcome!

Foundations for Inspiring Connections - Session 3
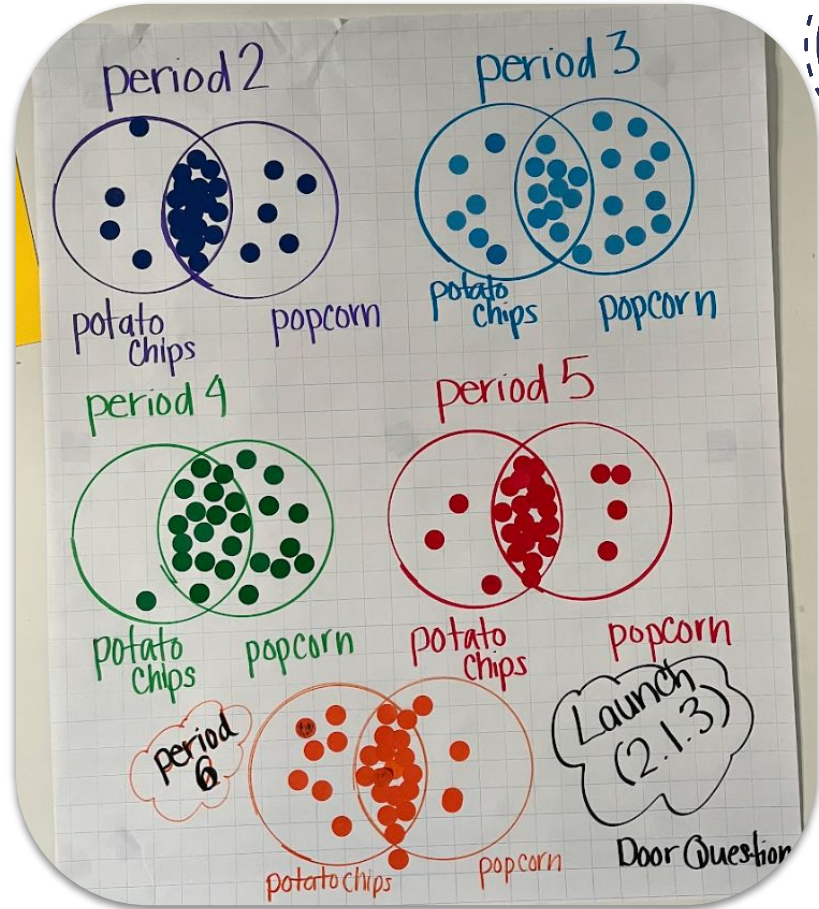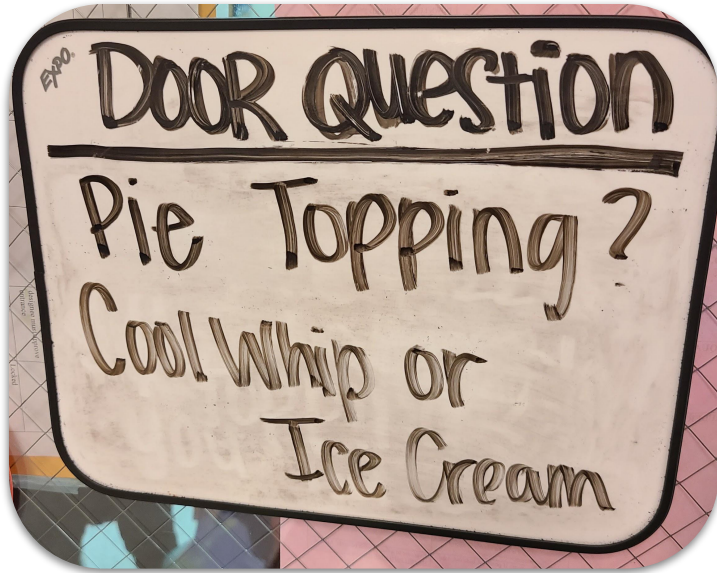
What should I do before we get started?

+ Feel free to test your mic, then mute.

+ Please respond to the door question in the Public Chat - *What is the best sound?*

+ Review our virtual routines.

Virtual Routines

● Join with microphone.

● Private chat facilitator for individual support.

● Share your ideas.

Welcome!

CPM Virtual Learning Series

HELLO my name is:
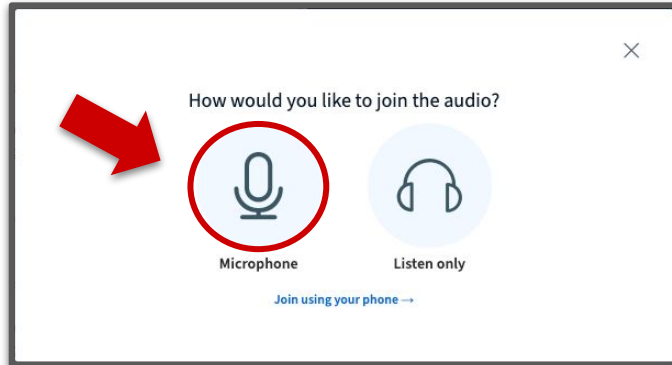
Tech Tip

Viewing Options

User list toggle

Layouts

Custom

Smart layout

Focus on presentation

Focus on video

Cancel   Confirm

Fullscreen Application

Settings

About

Help

Keyboard shortcuts

Manage layout

Leave meeting

Styles

Ashley Boyd

Slide 1

100%

Tech Tip

Audio

Troubleshooting

5
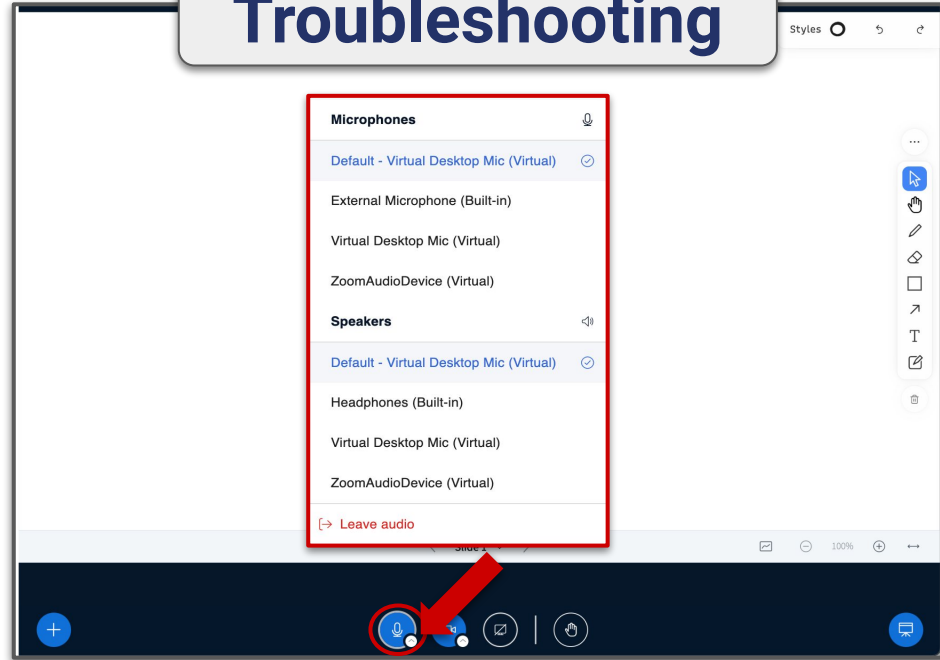
Overview
Foundations for Inspiring Connections Virtual Series

+ Sessions 1 & 2: Positive Classroom Culture
+ **Sessions 3 & 4: Collaborative Learning**
+ Sessions 5 & 6: Problem-Based Learning
+ Sessions 7 & 8: Mixed, Spaced Practice

+ Follow-Up Sessions 1 & 2: Supporting Productive Struggle
+ Follow-Up Sessions 3 & 4: Formative Assessment

Opening
Session 3 Outcomes

Together we will:

become familiar with the CPM Collaborative Learning research pillar.

learn how the design of *Inspiring Connections* supports and develops collaborative learning.

reflect on current practices and beliefs to develop a plan for the implementation of *Inspiring Connections*.

collaborate and learn with other teachers.

Opening
Session 3

Focus: Collaborative Learning

+ **Icebreaker**
+ Research Connections
+ Collaborative Learning
+ Effective Study Teams
+ Closure

Learning Target: I can use a task to develop positive classroom culture.

Opening
Three Pillars of CPM
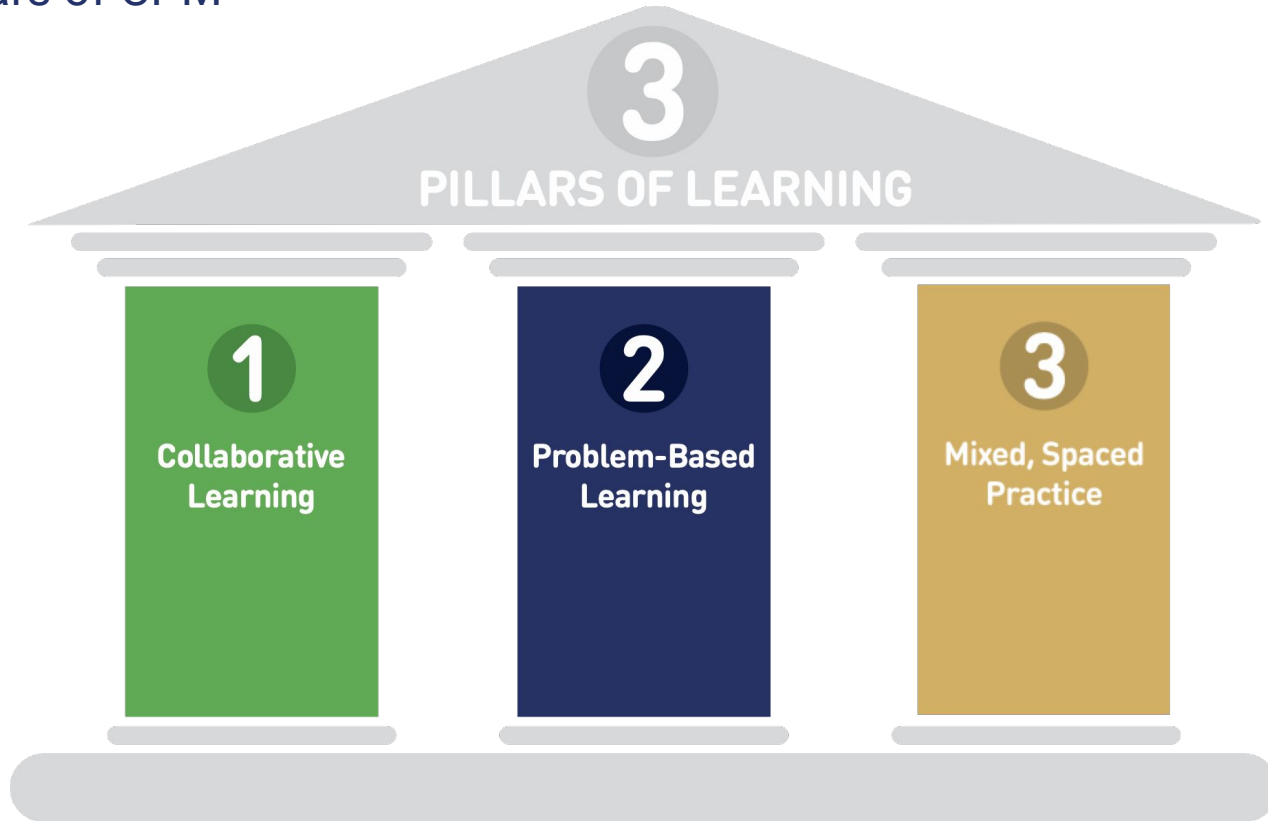
Opening

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!

Set your status to thumbs up if you are ready to begin.

Agenda
Session 3

Focus: Collaborative Learning

+ **Icebreaker**
+ Collaborative Learning
+ Effective Study Teams
+ Closure

Learning Target: I can develop effective study teams.

Icebreaker

Notice and Wonder

## What do you notice? What do you wonder?

Agenda
Session 3

Focus: Collaborative Learning

+ Icebreaker
+ **Research Connections**
+ Collaborative Learning
+ Effective Study Teams
+ Closure

Learning Target: I can reflect on how my beliefs might impact students and collaborative learning.

Starting with Core Beliefs

Teacher

*"Teachers' **beliefs influence the decisions** that they make about the manner in which they teach mathematics… Students' beliefs influence their perception of **what it means to learn mathematics** and their dispositions toward the subject."*

- NCTM's Principles to Actions, 2014

Research Connections

Neither "Good" Nor "Bad"

Unproductive Beliefs

+ Hinder implementation of effective instructional practice.

+ Limit student access to important mathematics content and practices.

Productive Beliefs

+ Enable implementation of effective instructional practice.

+ Opens mathematics to more students.

16

Research Connections

Equity Principles and Beliefs
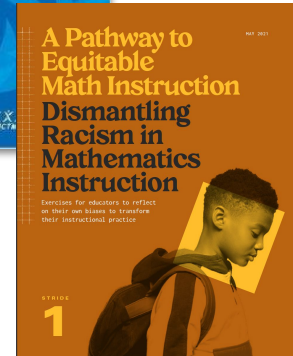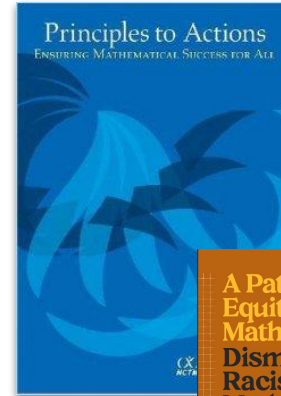
Read the following:

+ Introduction (envision, mission) and Principle 1

+ Table of Beliefs (page 2)

Use the four A's protocol to reflect on the text:

+ (❗) What do you **agree** with in the text?

+ (?) What do you want to **argue** with in the text?

+ (☆)What parts of the text do you want to **aspire** to?

+ What **assumptions** does the author of the text hold?

p.17

Research Connections

Equity Principles and Beliefs – Discussion

Team Task: 6 Minutes

1. Take note of your room number, review Team Room Routines and take turns introducing yourselves. (2 min)

2. Share <u>**one**</u> of the following from your reading:

   + (❗) What do you **agree** with in the text?
   + (?) What do you want to **argue** with in the text?
   + (☆) What parts of the text do you want to **aspire** to?
   + What **assumptions** does the author of the text hold?

Team Room Routines

- Join with microphone.
- Webcams (encouraged)
- Offer support to team.
- Share your ideas.

Research Connections

Equity Principles and Beliefs Reflection

What does this mean for my work with students?

In what areas do you feel you may need some more skills, motivation, and/or resources to make it happen?

Learning Target: I can reflect on how my beliefs might impact students and collaborative learning.

Brain Break

Lazy Eights
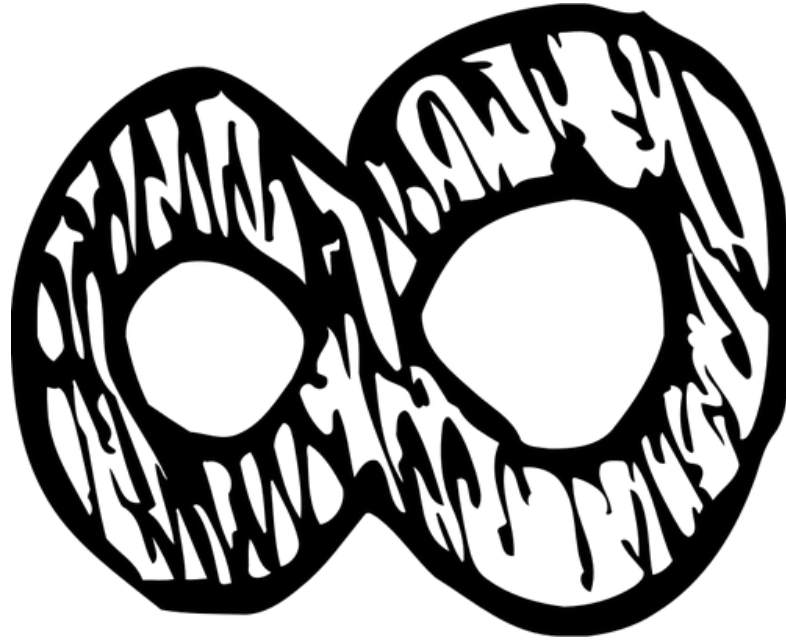
How to participate?

Stand up and follow along with the Facilitators.

Agenda
Session 3

Focus: Collaborative Learning

+ Icebreaker
+ Research Connections
+ **Collaborative Learning**
+ Effective Study Teams
+ Closure

Learning Target: I can reflect on how collaboration impacts students.

Collaborative Learning

Attaining Long Term Knowledge

3
PILLARS OF LEARNING

1 Collaborative Learning

2 Problem-Based Learning

3 Mixed, Spaced Practice

Teacher

Golden Line

Read the article, highlight or note parts of the research that:

+ raise questions for you
+ confirm what you already believe
+ make you say, "ah ha"
+ conflict with your beliefs
+ cause you to reconsider prior assumptions

Choose 1-2 "golden lines" to share.

p.17
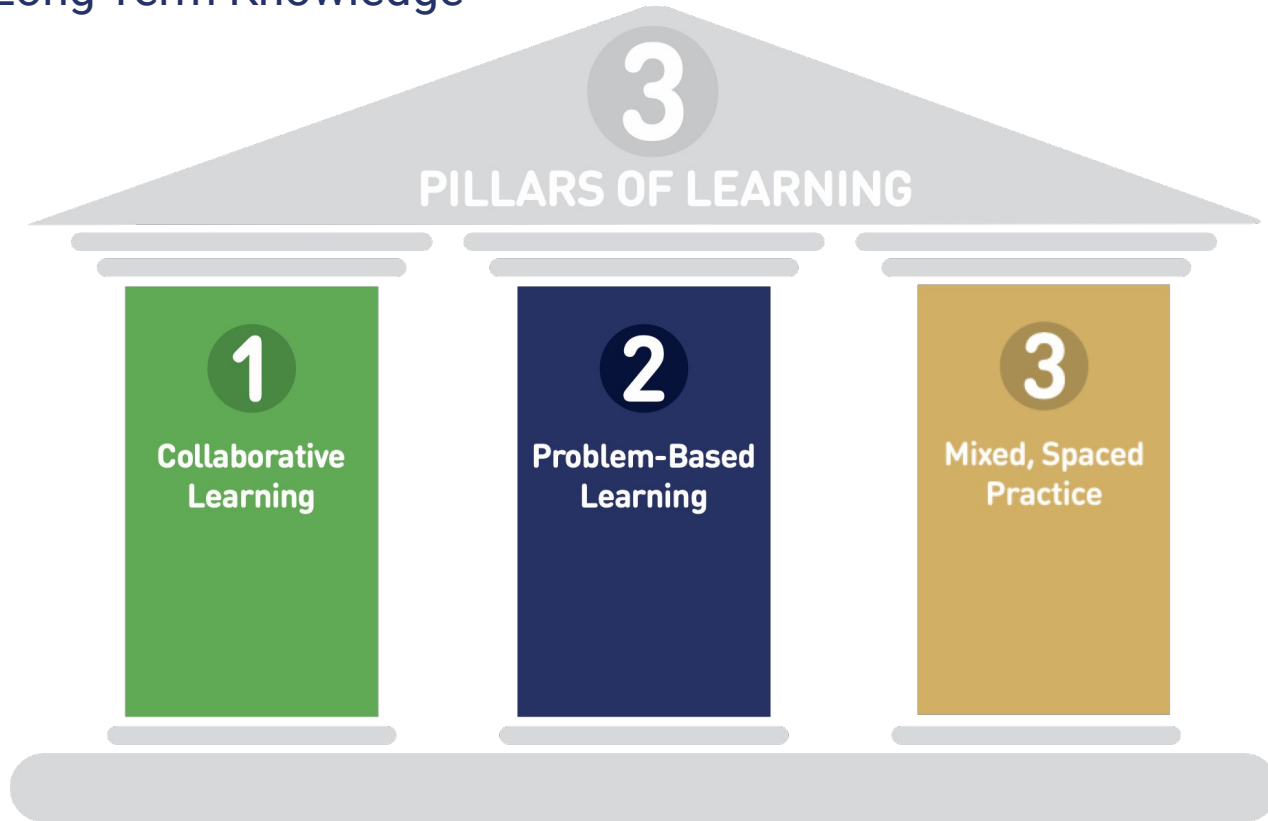
Collaborative Learning

Reading Protocol

Golden Line

Read the article, highlight or note parts of the research that:

+ raise questions for you
+ confirm what you already believe
+ make you say, "ah ha"
+ conflict with your beliefs
+ cause you to reconsider prior assumptions

Choose 1-2 "golden lines" to share.

Feel like a lot to read?
Focus on the blue boxes:
"*CPM infers from this research that…*"

p.17

Collaborative Learning
Golden Line Reading Protocol

Team Task: 7 Minutes

1. Review Team Room Routines. (1 min)

2. Share your Golden Line and
    why you chose it. (6 min)

Team Room Routines

- Join with microphone.
- Webcams (encouraged)
- Offer support to team.
- Share your ideas.

Collaborative Learning

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.

Screen Break

Take a break and walk away from the computer.

Agenda
Session 3

Focus: Collaborative Learning

+ Icebreaker
+ Research Connections
+ Collaborative Learning
+ **Effective Study Teams**
+ Closure

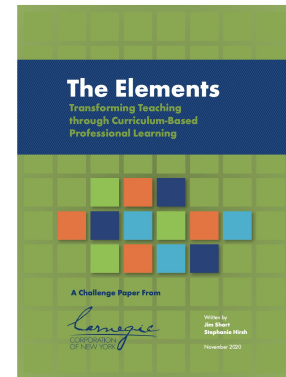**Learning Target:** I can develop effective study teams.

Effective Study Teams

The Elements

"The implications are clear. Curriculum matters, but how teachers use curriculum matters even more."

Short, J., & Hirsh, S. (2020). *The elements: Transforming teaching through curriculum-based professional learning*. Carnegie Corporation of New York, 9.

Effective Study Teams

Jigsaw

How does implementing _____ support effective study teams?

Representative - 1

Investigator - 2

Coordinator - 3

Organizer - 4

Teacher Materials → Lesson Implementation → Teamwork
1. Team Roles
2. Visibly Random Teams

Public Chat
3. 2.3 Coordinator - Three Pass Promise
4. 2.4 Organizer - 5 Ways to Stop Thinking for Your Students

p.18

Effective Study Teams
Team Roles Resources

Organizer
Collects and returns materials
Ensures team members record their work

"What supplies do we need?"

"What do we need to solve this problem?"

"I will go get _____ if you will get _____."

"What _____ said seems to make sense to all of us. How should we record that?"

"How should we organize our work so that it will be clear to someone else?"

Coordinator
Tracks tasks and time
Helps the team agree on a strategy

"Okay, let's get back to work!"

"We have _____ minutes left!"

"What strategy should we start with?"

"Did we answer all parts of the question?"

"They said _____. Who agrees? Why or why not?"

Representative
Reports the team's thinking to the class
Answers questions asked of the team

"I am going to share _____ with the class. What else should I include?"

"I think our conclusion is that _____. Do we all agree?"

"I heard you say _____. Is that the same as _____?"

"How should we share our answer with the class?"

"When we report out to the class, I plan to say _____."

Investigator
Asks teacher questions
Makes sure the team justifies their work

"We all seem to be stuck on _____. Should I call the teacher over?"

"What should I ask the teacher?"

"How can we justify this?"

"Can you please explain how you know that?"

"How do we know that is the answer?"

Inspiring Connections

Representative
Reports the team's thinking to the class
Answers questions asked of the team

"I am going to share _____ with the class. What else should I include?"

"I think our conclusion is that _____. Do we all agree?"

"I heard you say _____. Is that the same as _____?"

"How should we share our answer with the class?"

"When we report out to the class, I plan to say _____."

Coordinator
Tracks tasks and time
Helps team agree on a method or solution

"Okay, let's get back to work!"

"We have _____ minutes left!"

"What strategy should we start with?"

"Did we answer all parts of the question?"

"They said _____. Who agrees? Why or why not?"

Investigator
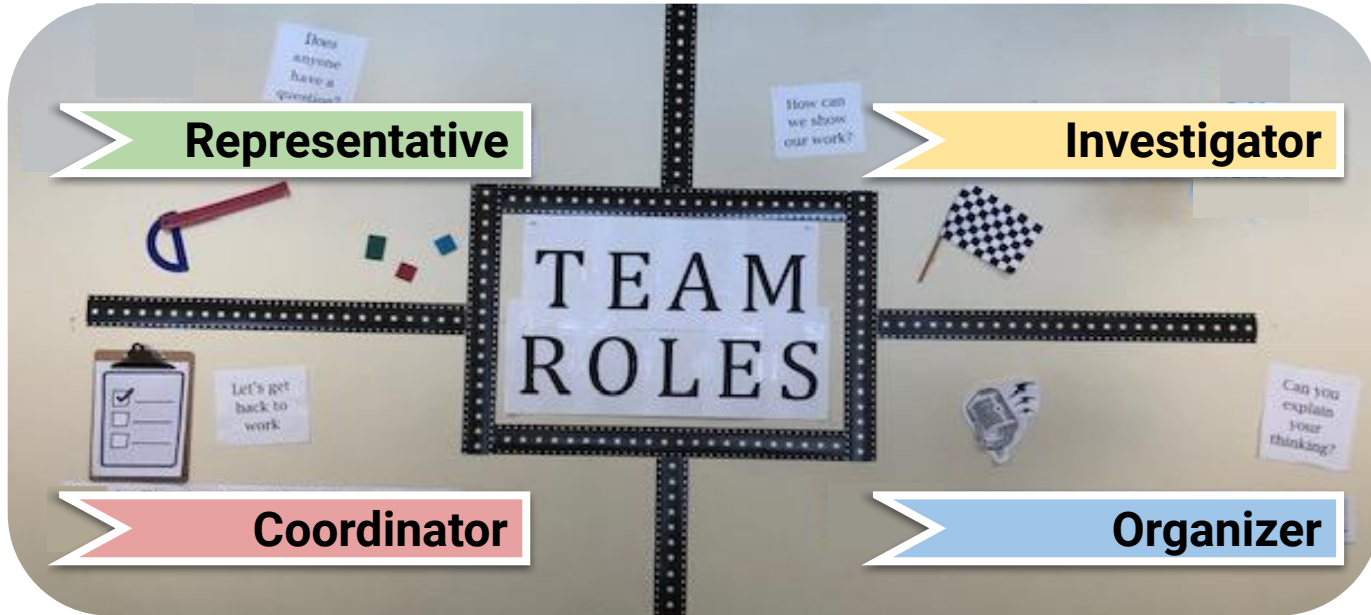**Asks teacher questions**
Makes sure team justifies their work

"We all seem to be stuck on _____. Should I call the teacher over?"

"What should I ask the teacher?"

"How can we justify this?"

"Can you please explain how you know that?"

"How do we know that is the answer?"

Organizer
Collects and returns materials
Ensures team members record their work

"What supplies do we need?"

"What do we need to solve this problem?"

"I will go get _____ if you will get _____."

"What _____ said seems to make sense to all of us. How should we record that?"

"How should we organize our work so that it will be clear to someone else?"

Effective Study Teams

Managing Roles

Effective Study Teams

Randomize Teams in the Digital Platform

Effective Study Teams
Lesson Specific Team Roles (Prelude)

Lesson 0.1.2 Resource Page

Investigator: If your name comes first alphabetically.
- Listen for statements and reasons. *"Can you explain why you think that?"*
- Help your team decide how to organize its ideas on the vertical non-permanent surface.
- Make sure that everyone understands what to do. *"Does anyone have an idea about how to use four 4s to make 0?"*
- Call the teacher over for team questions. *"No one has an idea about how to use four 4s to make 2. Should I call the teacher?"*

Representative: If your name comes second alphabetically.
- Answer questions asked of the team.
- Report your team's ideas to the class.

Coordinator: If your name comes third alphabetically.
- Help your team get started by reading the first task, then having someone else read future tasks. *"Who will read next?"*
- Help your team stay on task. *"Okay, let's get back to work!"* or *"What does the next question say?"*
- Make sure that everyone understands your team's answer before you move on. *"Do we all agree that this is what it should look like?"* or *"I'm not sure I get it yet — can someone explain?"*
- Make sure your team is communicating. Use the sentence frames provided on the right side of your Mathematician's Notebook for this lesson.

Organizer: If your name comes last alphabetically.
- Get supplies for your team, and make sure that your team cleans up.
- The teacher may call you over to give you extra information.
- Remind everyone in your team to record their expressions neatly and completely.

Investigator: If your name comes first alphabetically.
- Listen for statements and reasons. *"Can you explain why you think that?"*
- Help your team decide how to organize its ideas on the vertical non-permanent surface.
- Make sure that everyone understands what to do. *"Does anyone have an idea about how to use four 4s to make 0?"*
- Call the teacher over for team questions. *"No one has an idea about how to use four 4s to make 2. Should I call the teacher?"*
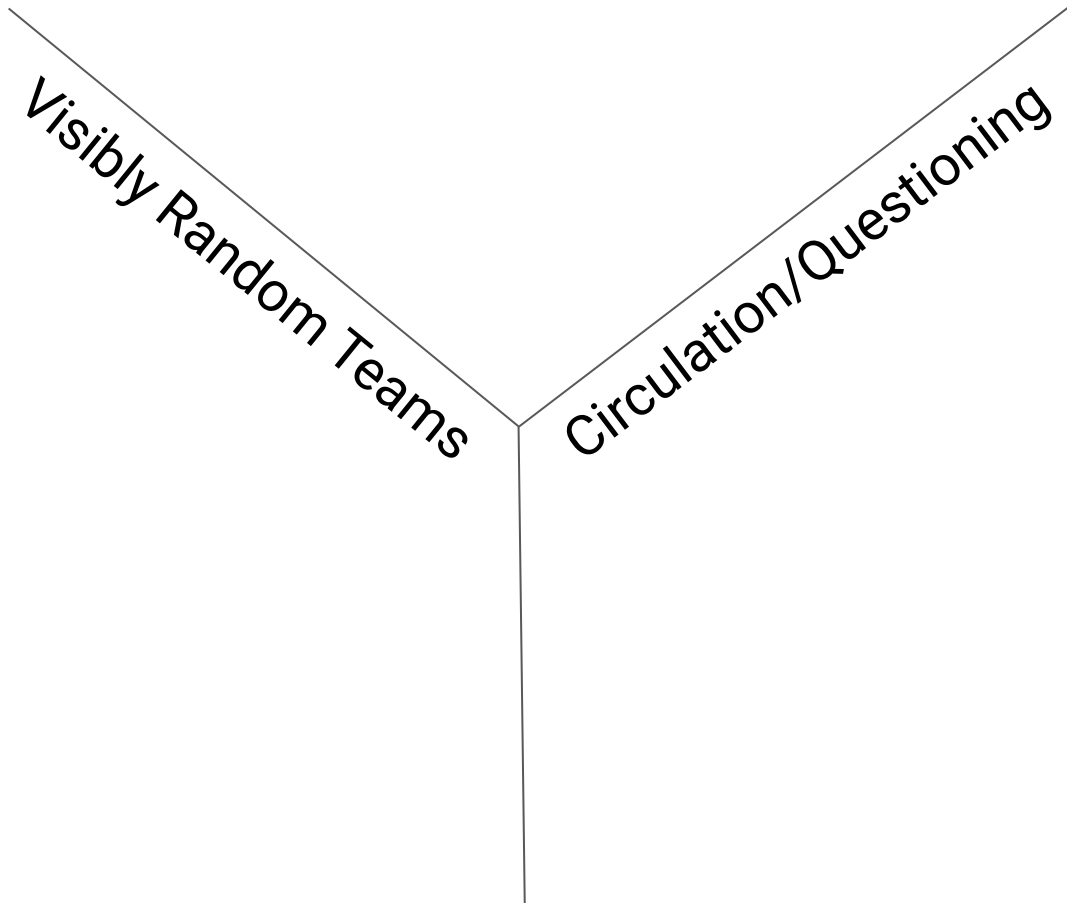
Effective Study Teams
Teamwork

Team Roles are supported in all CPM courses.

+ Lesson Specific Resource Pages provided in the Prelude lessons.

+ Team Roles are called out in the Authors' Vision

+ Mathematician's Notebook space for roles

+ Resources including the placemat, table tents, ring of STTS & MLRs with Sentence Frames

Want to know more? Teacher Materials → Lesson Implementation → Teamwork

Team Roles

Visibly Random Teams

Circulation/Questioning

How will you develop effective study teams, routines, and procedures?

Discuss ideas with your team and be prepared to share.

Guiding Questions:

+ *How will I introduce _____ to students?*

+ *What routines/ procedures will need to be in place?*

p.18

Effective Study Teams
CPM 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.

Agenda
Session 3

Focus: Collaborative Learning

+ Icebreaker
+ Research Connections
+ Collaborative Learning
+ Effective Study Teams
+ **Closure**

Learning Target: I can identify next steps for implementation of *Inspiring Connections.*

Closure
Session Three Outcomes

We have had the opportunity to:

become familiar with the CPM Collaborative Learning research pillar.

learn how the design of *Inspiring Connections* supports and develops collaborative learning.

reflect on current practices and beliefs to develop a plan for the implementation of *Inspiring Connections*.

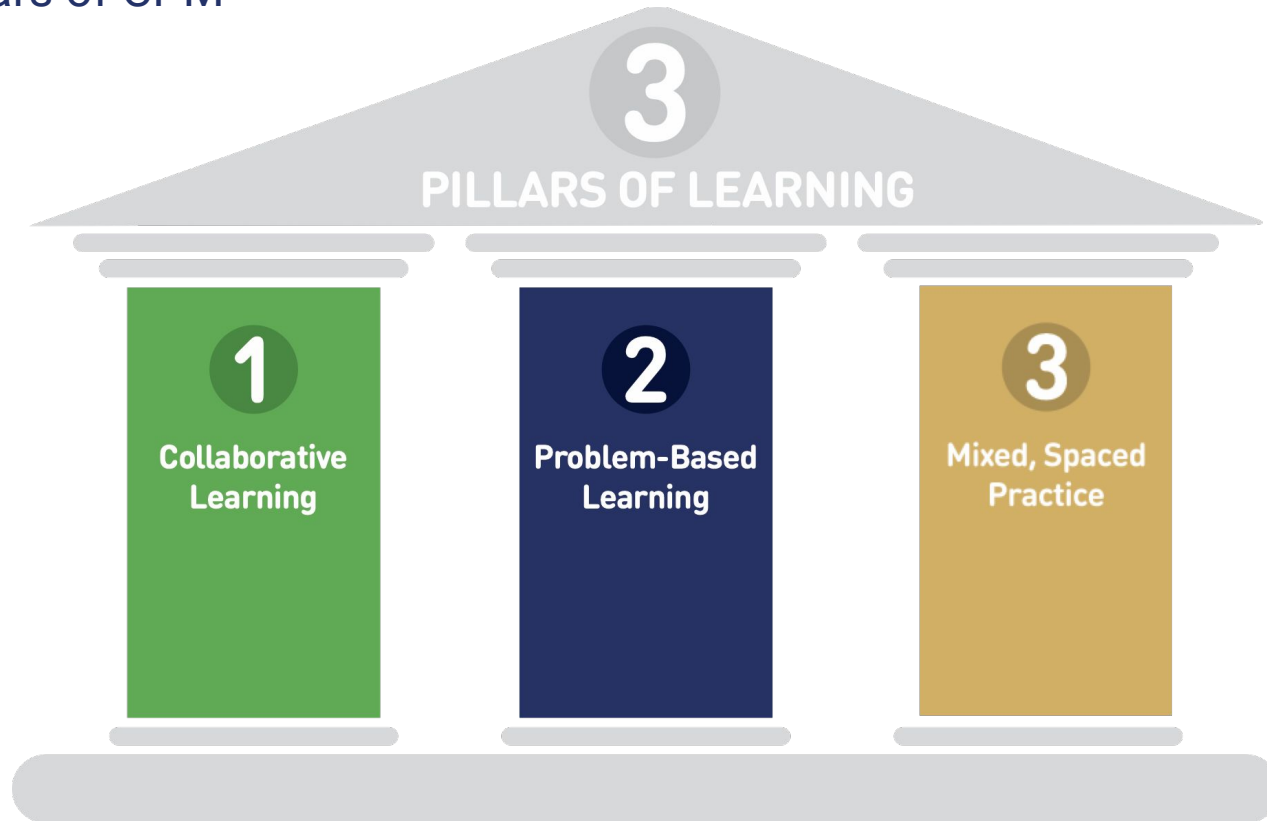collaborate and learn with other teachers.

Closure

Integrated Instructional Supports

What have we experienced so far?

Closure
Three Pillars of CPM

PILLARS OF LEARNING

1 Collaborative Learning

2 Problem-Based Learning

3 Mixed, Spaced Practice

Closure

+ **Parking Lot**

+ **Attendance**

Enter passcode in the professional learning portal

######
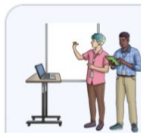
+ **Before Next Session:**
  + Complete yesterday's Reflection & Practice problems if you have not already (p.14 in the Participant Notebook)

  + Explore your "Course Overview"

Resources

| Course Overview | Teacher Materials | Sample Assessments |