



# Foundations for Implementation - Session 10

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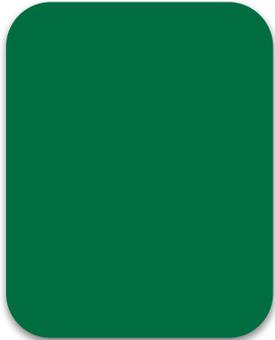
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# Welcome!

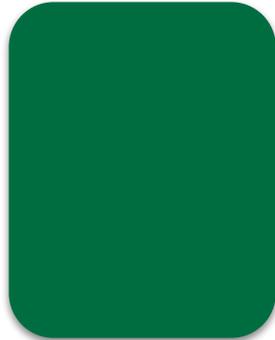
CPM Virtual Learning Series



## Session Facilitators



*Name*



*Name*

## Support



**Regional  
Professional  
Learning  
Coordinator**

# Tech Tip



## Audio



## Troubleshooting



# Opening

## Foundations for Implementation Series



Virtual Learning Events	
Summer	<b>Introduction to Foundations</b> Asynchronous Module
	<b>Sessions 1-6</b> Synchronous Virtual Learning
	<b>Instructional Modules (IM)</b> Asynchronous IM 1 - 3
	<b>Content Modules (CM)</b> Asynchronous CM 1- 2
School Year	<b>Sessions 7 - 10</b> Synchronous Virtual Learning
	<b>Instructional Modules (IM)</b> Asynchronous IM 4 - 5
	<b>Content Modules (CM)</b> Any 4 additional Asynchronous CMs

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# Opening

## Outcomes



## Participants will:

Reflect on the role authentic assessments have on student learning.

Examine purposeful instructional strategies that improve student learning.

Collaborate and learn with other teachers.

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# Opening Agenda



## **Focus:** Authentic Assessment

- Icebreaker
- Authentic Assessment
- Purposeful Teacher Action
- Closure

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# Opening

## Working Agreements



- + Actively engage in all activities and discussions.
- + Manage your technology appropriately.
- + Critically analyze ideas...but not people.
- + Explore your beliefs about teaching and learning.
- + Focus on solutions and actions.
- + Be visionary.

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



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# Agenda

## Session Ten



### **Focus:** Authentic Assessment

- Icebreaker
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- Closure

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# Icebreaker

## Independent Task:



**Open** the Implementation Progress Tool.

**Read** section 3, *Teacher Actions*.

**Identify** which teacher action is your greatest strength.



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# Agenda

## Session Ten



### **Focus:** Authentic Assessment

- Icebreaker
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- Closure

# Research Connections

## 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.



Student's 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.

# Authentic Assessment

## Principles to Action



CPM is in complete agreement with and supports NCTM's beliefs about mathematics assessment as explained in Principles to Actions (NCTM, p. 91-92).

### Beliefs about mathematics assessment

Unproductive beliefs	Productive beliefs
The primary purpose of assessment is accountability for students through report card marks or grades.	The primary purpose of assessment is to inform and improve the teaching and learning of mathematics.
Assessment in the classroom is an interruption of the instructional process.	Assessment is an ongoing process that is embedded in instruction to support student learning and make adjustments to instruction.
Only multiple choice and other "objective" paper-and-pencil tests can measure mathematical knowledge reliably and accurately.	Mathematical understanding and processes can be measured through the use of a variety of assessment strategies and tasks.
A single assessment can be used to make important decisions about students and teachers.	Multiple data sources are needed to provide an accurate picture of teacher and student performance.
Assessment is something that is done to students.	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.
Stopping teaching to review and take practice tests improves students' performance on high-stakes tests.	Ongoing review and distributed practice within effective instruction are productive test preparation strategies.



# Authentic Assessment

## CPM's Assessment Position Paper



In addition, CPM would add the following:

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

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# Authentic Assessment

## CPM's Assessment Position Paper



### Open:

- + CPM's Position Paper on Assessment
- + Your Learning Log

**Set your status** to a thumbs up when you have both resources opened.



Use the link in the Public Chat



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# Authentic Assessment

Says - Means - Matters Reading Protocol



**Read** CPM's Position Paper on Assessment.

**Complete** the *Says - Means - Matters* in you Learning Log.



Title: CPM's Position Paper on Assessment



What does it **SAY**? (Select an idea or statement.)

What does the author **MEAN**? (Explain in your own words.)

Why does it **MATTER**? (Explain why it is important.)

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# Authentic Assessment

Says - Means - Matters Debrief



Recorder/Reporter

**Post** your team's summary in the Shared Notes.

**Set your status** to reflect how you're feeling about the shifts in your assessment practices.

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# Authentic Assessment

## Teacher Tips



## Teacher Actions That Support Assessment

Reflect and  
Adapt

Honor that  
Mastery  
Takes Time

Use a  
variety of  
assessments

# Research Connections

## 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.



Student's 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.

# Authentic Assessment



**Reflect** on your assessment Action Plan.

**Revise** your entry **OR** complete your action plan.

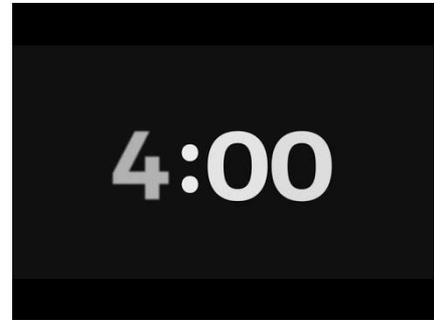
## ASSESSMENT PRACTICES

*My plan to create fair and balanced summative assessments using CPM tools and resources is...*

Info here from session 6

- I used to think...
- Now I think...

 UPDATE YOUR RESPONSE



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# Agenda

## Session Ten



### **Focus:** Authentic Assessment

- Icebreaker
- Authentic Assessment
- Purposeful Teacher Action
- Closure

# Purposeful Teacher Actions

## Reflecting



### SECTION THREE: Instructional strategies evident when the pillars are in place.

#### Collaborative Learning

Teachers create an environment of collaboration and consistently provide feedback on students' progress towards effective collaboration.

Teachers use a variety of classroom modes (whole group, study team,

#### Problem-Based Learning

Teachers use the lesson launch to connect to prior learning and clearly communicate the learning target.

Teachers circulate purposefully to interact with all teams, monitoring

#### Mixed, Spaced Practice

Teachers plan and pace lessons as intended, based on a thorough understanding of the learning progression of each chapter and the course as a whole.

Teachers anticipate common misconceptions and consider

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# Purposeful Teacher Actions

## Classroom Scenarios



### Open:

- + Implementation Progress Tool
- + Google Slides

**Set your status** to a applaud when you have both resources opened.



Use the link in the Public Chat



# Purposeful Teacher Actions

## Classroom Scenarios - Debrief



## Gallery Walk

**Read** through the other scenarios & alternative teacher actions.

**Add** feedback, comments, connections, or questions in the Speaker Notes.

**Team 1**

**Scenario 1:** A teacher is circulating purposefully through the room, and purposefully questioning teams. The teacher finds two consecutive teams that have a math misconception.

**Teacher Action:** Rather than pull the class together and have a whole class discussion, the teacher uses a Swapmeet.

What evidence from Section 3 of the [Implementation Progress Tool](#) supports the teacher's actions?

CPM Pillar: Insert pillar(s) here.

Explanation/Details: Info here

What's an alternative teacher action? Why did your team choose this?

In Person Setting: Idea here

Virtual Setting: Idea here

Back to directions

Go to next slide

**GALLERY WALK!!** Add feedback, comments, connections, or questions to extend the team's thinking as you complete the Gallery Walk.

+ Type here

+ Type here

+ Type here

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# Purposeful Teacher Actions

Study Team and Teaching Strategy



## Gallery Walk

- + Teams display posters or presentations.
- + Students explain and critique displayed work.
- + Students rotate to each location.
- + Feedback is given with Two Stars and a Wish or Glow and Grow.

# Brain Break

## Riddles

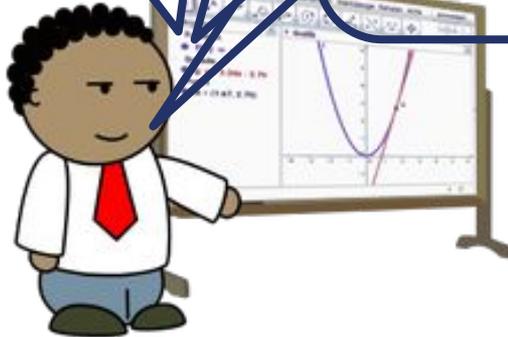


### How to participate?

Post answers in the Public chat.

What can jump higher than a building?

There are three only places in the world where today comes before yesterday. Where is it?



Anything. Buildings don't jump.

Kate.

onary



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# Agenda

## Session Ten



### **Focus:** Authentic Assessment

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# Closure

## Outcomes



### Participants will:

Reflect on the role authentic assessments have on student learning.

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# Closure

## Study Team and Teaching Strategies



Ambassador	Fishbowl	Hot Seat	<b>Notice and Wonder</b>	<b>Proximity Partner</b>	<b>Think-Pair-Share</b>
Board Report	<b>Fortune Cookie</b>	<b>Huddle</b>	Numbered Heads	<b>Reciprocal Teach</b>	Traveling Salesperson
<b>Carousel:</b> Around the world	<b>Gallery Walk</b>	I have... Who has...	Pairs Check	<b>Red Light, Green Light</b>	Tuning Protocol
<b>Carousel:</b> Index Card	<b>Give One- Get One</b>	<b>I Spy</b>	<b>Participation Quiz</b>	<b>Silent Debate</b>	Turn and Talk
Carousel: Station Rotation	Glow and Grow	<b>Jigsaw</b>	Peer Edit	<b>Swapmeet</b>	<b>Two Stars and A Wish</b>
<b>Dyad</b>	GPS	Listening Post	<b>Pick Three</b>	<b>Teammates Consult</b>	<b>Walk and Talk</b>
<b>Elevator Talk</b>	Hot Potato	Math Chat	Players-Coach	<b>Think-Ink-Pair-Share (T.I.P.S)</b>	<b>Whiparound</b>

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# Closure

## Implementing the Research Pillars



### **Collaborative Learning**

Research says students learn ideas more deeply when they discuss ideas with classmates.

### **Problem-Based Learning**

Research says students learn ideas more usefully for other arenas when they learn by attacking problems.

### **Mixed, Spaced Practice**

Research says students learn ideas more permanently when they are required to engage and re-engage with those ideas for months or even years.

# Closure

## Implementation Progress Tool



### CPM EDUCATIONAL PROGRAM Implementation Support Implementation Progress Tool

This form is designed to be used by CPM teachers in their first or second year of implementation, either as a tool used to reflect independently, in consultation with other teachers in a PLC setting, or in conversation with a coach or implementation partner. It can also be used as a tool to track implementation progress, identify and celebrate accomplishments, define practices for trial testing, and suggest opportunities for future growth. Please note that not all of these elements of teaching and learning would be observed in a single lesson.

The form is structured around the three research pillars upon which the CPM program is built and is designed in three sections.

**SECTION ONE** describes a critical component that anchors each pillar in any classroom. This area is critical for successful implementation and may require skills in teacher belief systems.

**SECTION TWO** describes what you might observe in regards to student learning in a classroom where each pillar is used.

**SECTION THREE** lists motivational strategies and practices that teachers use to support each pillar.

The three pillars represent researched best practice in math education around which the CPM program is designed.

**Collaborative Learning**  
Students and teachers are aware of the purpose for and value of working in teams, and collaborate with team norms and roles.

**Problem-Based Learning**  
Students and teachers share math authority in three ways 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. Student Practice problems are assigned and valued as an essential part of learning.

- SUGGESTIONS FOR USING THIS TOOL:**
1. First, re-read and discuss the three pillars to ensure complete understanding of them. (This may want to reference the CPM narrative summaries for each specific on each.)
  2. Next, consider the description of each pillar listed in section one below. Ask yourself to what extent each pillar is present in your classroom.
  3. Next, use the descriptions of desired student learning in section two to probe what is currently happening in your classroom. What do you see students doing, saying, or accomplishing that shows evidence of the pillar?
  4. Finally, use section three to learn more about motivational strategies and assess both your strengths and areas for growth. At what practices do you currently struggle to find most challenging? Where would you like to spend more building your skills? For which pillar do you need the most support?

SECTION ONE:

The pillars that represent necessary first steps in any implementation.

SECTION TWO:

Features of desired student learning when the pillars are in place.

SECTION THREE:

Instructional strategies evident when the pillars are in place.

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# Closure

## Teacher Tips



# Teacher Actions That Support Implementation

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

Use the Teacher Notes as intended.

Create purposeful lesson plans.

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# Closure

Ignite Your Classroom



**Start promptly.**

**Peer support expected within each team.**

**Active learning.**

**Respond to the team rather than individuals.**

**Circulate. Circulate. Circulate.**

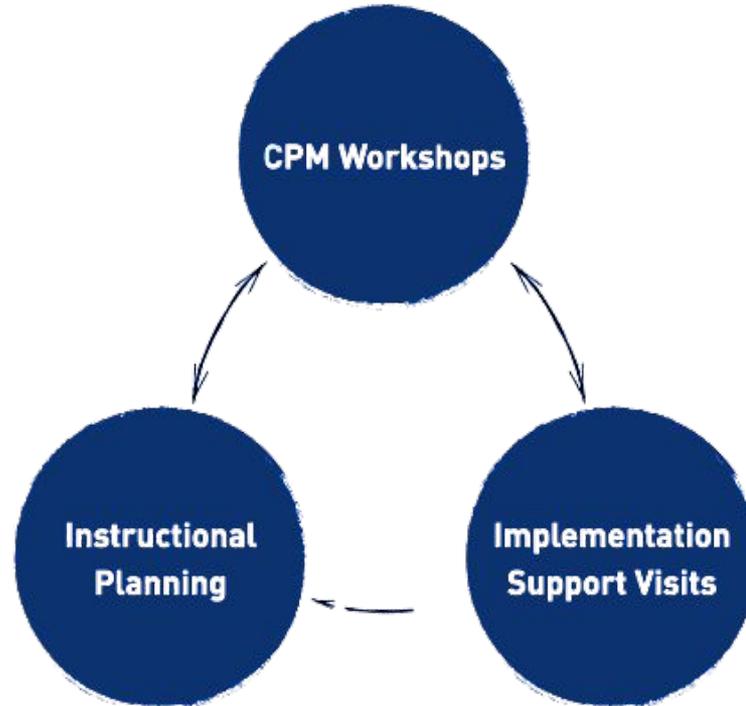
**Closure. Closure.**



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# Closure

## Triangle of Teacher Support



# Closure

## Foundations for Implementation Series



Virtual Learning Events	
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# Closure Resources

Professionallearning.cpm.org

## ABOUT CPM

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

## CONNECT WITH US

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 Teacher Research Corps  
Blog

 Slack for CPM Teachers



## NEWS YOU CAN USE

THE CPM EDUCATIONAL PROGRAM NEWSLETTER

### NOVEMBER 2020: IN THIS ISSUE

A pitch for math play

Reflections on teaching virtually

Engaging students with feedback

Student work in the eBook

And more!

### THRIVING AT WORK: A SERIOUS PITCH FOR INTELLECTUAL PLAY

Dr. Lara Jasien, head of research at CPM, Nashville, TN

In the midst of a pandemic and social unrest, it may seem crazy to talk about *thriving* at work — but stick with me.

According to psychologists, thriving is distinct from flourishing because the former involves not only a sense of vitality but also of learning. As teachers, many of you are struggling to adapt and cope in the new situations that have been thrust upon you. You may feel that you are learning like crazy, but are experiencing some burnout from the process.

Interestingly, while thriving *cannot* happen in negative work situations (e.g., too much stress from job insecurity, unsafe working conditions, and work overload), thriving *can* happen when core psychological needs are not met (e.g., in times of serious illness). This is interesting because it tells us that “negative situations” are *not* fixed. They are based on stress, and stress is something we each have some amount of control over.

**Don't ask yourself what the world needs.  
Ask yourself what makes you come alive,  
and go do that, because what the world  
needs is people who have come alive.**

— Howard Thurman

Research tells us that when we use our agency to take initiative, such as by developing resources to make our work *more interesting*, our perceptions of our work situations become increasingly positive. In the words of some well-respected organizational psychologists, “The resources promoted by agentic work behaviors serve to further fuel the agentic work behaviors, and thus help to sustain thriving.” In other words, if you develop a practice of making your work *interesting for you*, you can scaffold yourself into thriving at work.

In my interpretation, this means that intellectual self-care is critical to thriving at work, especially in these times. Even more, as teachers, your intellectual well-being is intimately connected to your students' intellectual well-being. In this sense, both the *vitality* and *learning* dimensions of teachers' thriving seem especially important.

Vitality can be sustained through energizing relationships with colleagues. It is the opposite of burnout. Learning involves the development of new knowledge or skills

*continued on page 2*



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CPM EDUCATIONAL PROGRAM  
an educational 501(c)(3) nonprofit

*Authors' opinions in articles or links that could be interpreted as political opinion do not necessarily represent political beliefs on behalf of CPM as an organization.*

CPM.ORG

MORE MATH FOR MORE PEOPLE

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# Closure

## Study Team and Teaching Strategy



### Stand Up - Hand Up - Partner Up

- + All students stand up
- + Make eye contact with another student outside of their team.
- + Once eye contact is made, students put their hand down.
- + Once all hands are down, partners move and discuss a topic or concept with their eye contact partner.

# Foundations for Implementation Closure

## Final Reflection



- + **Open** google slides.
- + **Locate** your slide # using the number next to your name in the Shared Notes.
- + **Complete:**
  - + Your name
  - + Your successes implementing CPM
  - + Your commitments implementing CPM moving forward

A form for a final reflection. It features a central circular graphic divided into two sections: "Success" at the top and "Commitment" at the bottom. To the left of the circle are five "Encouraging comment" boxes, each with a "Type here:" label. To the right of the circle are two large red arrows pointing left towards the "Success" and "Commitment" sections. Below the circle is a "Name" label with a red arrow pointing left. In the top right corner of the form is a box containing "#1". At the bottom left is the CPM logo, and at the bottom right is the text "CPM EDUCATIONAL PROGRAM MORE MATH FOR MORE PEOPLE".

# Foundations for Implementation Closure

## Feedback



- + **Encourage** others by posting comments on their plates using the boxes on the left.

The form is a template for a plate. On the left side, there are five rectangular boxes, each labeled "Encouraging comment:" and "Type here:". A large red arrow points to the top-most of these boxes. On the right side, there is a large circular area representing a plate, divided horizontally. The top half is labeled "Success" and the bottom half is labeled "Commitment". Each half contains a "Type here:" label and a large empty space for writing. In the top right corner of the plate area, there is a small box containing "#1". Below the plate area, the word "Name" is written. At the bottom left of the form is the CPM logo, and at the bottom right is the text "CPM EDUCATIONAL PROGRAM" and "MORE MATH FOR MORE PEOPLE".

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# Closure



- + **Parking Lot**

- + **Attendance & Feedback**

Either scan the QR code

**OR**

Enter passcode in the portal

**XXXXXX**

- + **Homework:**

- Finish Instructional Modules
- Continue working through Content Modules
- Sign up for your next learning event!



Text Font: Roboto

Title Font Size: 24

Subtitle Font Size: 18

Color coding:

**Teacher Lens:** 006DAB

**Learning Log:** 006DAB

**Student Lens:** 41AD49

**Housekeeping:** 233368

**Content Module:** 006D41

**Thread:** 006D41

Text should be primarily black or dark blue (#233368)

Note: Drop zones of icons on layouts are not moveable.

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



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# Opening

Foundations for Implementations



## CPM's Professional Learning Portal



Content Modules



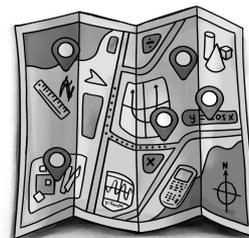
Instructional Modules

[professionallearning.cpm.org](https://professionallearning.cpm.org)

# Opening Learning Logs



Learning Log



Implementation Action Plan



All Courses have Learning Logs