Building on Instructional Practice: Focus on Discourse – Day 2

Rev 5/24/23 (ce)

Opening
Building on Discourse, Day 2

"How do you get them there without giving them the answer?"
—Michelle Musumeci, 8th Grade Teacher

Sign in, and make a name tag.

- Grab a sort card, & find the placemat that matches your card.
- As a team:
    - read through each question in your category.
    - think about 1-2 additional questions you use in your classroom.
    - be prepared to share these questions with the group.
    - please identify your team roles once everyone is here.

More Math For More People

Building on Discourse
Day 2

name
name@cpm.org

Opening
Housekeeping

+ Bathrooms

+ 8:00 AM – 4:00 PM

+ Breaks scheduled and as needed

+ Lunch

+ Parking Lot poster

+ Supply/resource table

Opening
Day 2 Outcomes

Together we will:

+ Experience the Effective Mathematics Teaching Practices through the design of the *5 Practices*.

+ Better understand how facilitating meaningful mathematical discourse develops an equitable, student-centered classroom.

+ Develop purposeful questions that assess and advance student thinking.

+ Gain strategies and address challenges for monitoring and advancing student thinking.

+ Intentionally select and sequence student work to establish a coherent mathematical storyline.

Agenda

Morning

Opening

Math Task

Anticipating: Purposeful Questioning

Lunch

Afternoon

Monitoring

Selecting & Sequencing

Connecting

Session Closure

Welcome

Equity Principles

- + The goal of teaching is to help all students transition from dependent to independent learners.

- + Relationships are of vital importance.

- + Student uniqueness is an asset, not a deficit.

- + Reflection is a crucial part of growth.

CPM uses these principles to guide our vision and mission of More Math for More People.

Icebreaker - Pop the Question!

Teacher

Team Whiparound

1. Think about a question you have asked or have been asked (either in or out of the classroom) that:

   + you were very glad to be asked.
   + had a lasting impact.
   + had a surprising response.
   + should have been rephrased before asking.
   + shouldn't have been asked after all.

2. Take turns sharing your questions with your team.
   Facilitators: Begin the sharing.

Opening
Learning Event eBook Access

eBooks Access

my.cpm.org

Activate eBooks With Pin

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Math Task

Focusing Learning

Learning Target:

Consider how a teacher's decisions and actions affect meaningful math discourse.

Math Task

Learning Agreements

Choral Reading

+ We agree that **everyone's** thinking and ideas **matter**.

+ We agree to value **thinking** ahead of **knowing**.

+ We agree **confusion** is a part of learning.

+ We agree to **ask questions** until it **makes sense**.

+ We agree that **helping** is not giving answers.

+ We agree to say our "**becauses.**"

"What is powerful about agreements is that they are a pact you make with yourself."

-The Equity Lab

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Math Task

Teacher's Promise

Student

My Promise to You:

+ I will not waste your time.

+ I will respect your ideas.

+ I will support you through your confusion.

+ I will learn with you.

+ I will ensure that our classroom functions as a positive learning environment.

Math Task

Getting Started - Team Role Responsibilities

Resource Managers: Please get a sheet of chart paper. Fold the chart paper so it has four quadrants, and place it in the middle of the table.

Facilitators: Pass out the math task and a different color marker to each team member.

Task Manager: Pass out a **Constructive Conversation Card** to each team member.

Recorder/Reporter: Meet with the teacher for a huddle. Pick up one cup with 8 pennies.

Math Task

Core Connections 3 - Lesson 4.1.1

Student Math Goal:

+ Use different representations to make sense of and describe the tile pattern.
+ Discover connections among the different representations.

Team Collaboration Goal:

Collaborate and actively listen to your team because everyone's thinking and ideas matter.

Math Task

Launch: Rough Draft Thinking

What do you know about patterns?

What comes to mind?

Math Task

Launch: Rough Draft Thinking (continued)

Think-Ink

Individually read the task, and **think** about the following prompts.

+ *What do you **know**?*
+ *What do you **wonder**?*
+ *What **questions** might you have for your team?*
+ *What **strategies** might you want to use?*

Individually ink your responses to the questions within your quadrant (use the non-graph side). **Please do not begin solving the problem, *YET*.**

Math Task

Launch – Getting All Ideas on the Table

Two Cents Worth

Resource Managers: Pass out two pennies to each of your team members.

Facilitators: Guide your team through the following steps.

1. Check each team member has pennies and the cup is in the middle.

2. Each team member takes turns sharing **one** idea from their quadrant. When you share, place one penny in the cup.

3. Repeat this process until all pennies are in the cup.

4. When all pennies are in the cup, the team can decide on **one** path to move forward to start solving the problem.

Math Task
Explore – Tile Pattern Team Challenge

Team Task:

1. As a team, use the **one** path forward your team agreed upon to solve this problem.

2. **Create** your poster as a team, and include the following.

   a. Drawings of Figures 0, 4, and 5.

   b. Provide as much information about the pattern using different representations.

   c. What will Figure 100 look like?

3. As your team works together, **use the Constructive Conversation Cards** to help guide your team discussion.

Math Task

Debrief − Teacher Moves

Recorder/Reporter: Share about your responsibility during this task with your team. As you share, discuss:

At what point in your work was this question asked?

What effect did this question have on your team?

Math Task

Closure – Reflection on Learning Target and Success Criteria

Team Whiparound

Learning Target:
Consider how a teacher's decisions and actions affect meaningful math discourse.

Success Criteria:
1. Identify how the Facilitator promoted discourse.
2. Explain how questioning affected your team's learning.

Take a break

5 Practices

Overview

1. **Anticipating**

2. Monitoring

3. Selecting

4. Sequencing

5. Connecting

(Smith, Steele, & Sherin, 2019)

5 Practices for Orchestrating Productive Math Discussions

Margaret S. Smith & Mary Kay Stein, NCTM & Corwin Press, 2011 www.nctm.org

1. Anticipating
- Do the problem yourself
- What are students likely to produce?
- Which problems will most likely be the most useful in addressing the mathematics?

2. Monitoring
- Listen, observe, identify key strategies
- Keep track of approaches
- Ask questions of students to get them back on track or to think more deeply

3. Selecting
- CRUCIAL STEP – what do you want to highlight?
- Purposefully select those that will advance mathematical ideas

4. Sequencing
- In what order do you want to present the student work samples?
- Do you want the most common? Present misconceptions first?
- How will students share their work? Draw on board? Put under doc cam?

5. Connecting
- Craft questions to make the mathematics visible.
- Compare and contrast 2 or 3 students' work – what are the mathematical relationships?
- What do parts of student's work represent in the original problem? The solution? Work done in the past?

Purposeful Questioning

Prior Learning

0. Selecting a rich task and writing a lesson goal:
    + Select a rich task.

    + Identify specific lesson goals.

    + Select and plan the activity.

1. **Anticipating:**
    + Anticipate student strategies.

    + Do the problem in many *different* ways.

    + **Plan assessing & advancing questions.**

Purposeful Questioning

Effective Mathematics Teaching Practice

Pose Purposeful Questions

"Effective teaching of mathematics uses purposeful questions to assess and advance students' reasoning and sense making about important mathematical ideas and relationships."

(NCTM, Principles to Actions, 2014)

Principles to Actions
ENSURING MATHEMATICAL SUCCESS FOR ALL
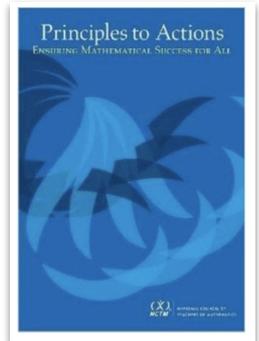
Purposeful Questioning
Focusing Learning

Learning Target:

Understand how purposeful questioning can affect student learning.

Purposeful Questioning
Posing Purposeful Questions

Pose Purposeful Questions

*"Effective teaching of mathematics uses purposeful questions to **assess** and **advance** students' reasoning and sense making about important mathematical ideas and relationships."*

Principles to Actions
ENSURING MATHEMATICAL SUCCESS FOR ALL
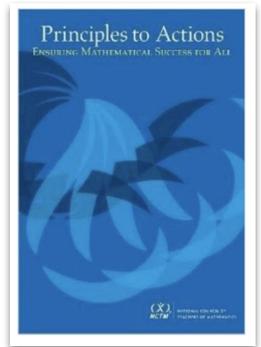
Purposeful Questioning

Questioning

Individually reflect: When you ask your students questions, what kind of responses do you get?

Purposeful Questioning

Classroom Reflection

Think-Ink-*Pair-Share*

Think of two questions that you frequently ask your students. What is the purpose for each question? What kind of responses do they elicit? **Write** them down.

*Think-Ink-***Pair-Share**

Share your questions with your elbow partner.

Purposeful Questioning

Accessing Your File Cabinet

Pose Purposeful Questions (pp. 35-37)

File Cabinet (Portal):
In the upper right dropdown menu, click on **File Cabinet.**
Next choose **Building on Discourse.**
Select the tab **In-Person.**
Select the tab **Day 2.**
Click on the document **Pose Purposeful Questions (pp. 35-37).**

Purposeful Questioning

Golden Line Reading Protocol

1. **Read** the section, "Pose Purposeful Questions."
    As you read, **identify** a golden line that:

    + Raises questions for you.
    + Confirms what you already believe.
    + Makes you say, "Aha."
    + Conflicts with your beliefs.
    + Causes you to reconsider prior assumptions.

2. **Share** your Golden Line with your team.
    Task Manager: Once your team has completed the reading, the Facilitator shares first by reading their Golden Line and explaining its significance.

Purposeful Questioning

Patterns of Questioning

Common Patterns of Questioning

Initiate - Response - Evaluate	
Initiate	Teacher asks a question to gather information with a specific response in mind.
Response	Student responds.
Evaluate	Teacher evaluates the response.

Funneling	Focusing
Teacher engaged in cognitive activity.	Students engaged in cognitive activity.
Questions lead students through a procedure.	Questions guide students through their own thinking.
Students get the correct answer, but does not see the connection between the questions.	Teachers can understand what the student is thinking.

(NCTM, 2014)

Types of Questions

Teacher

Types of Questions:

1. Gathering information

2. Probing thinking

3. Making the mathematics visible

4. Encouraging reflection and justification

Which type is your question?

Purposeful Questioning

Types of Questions

Teacher

Types of Questions:

1. Gathering information
2. Probing thinking
3. Making the mathematics visible
4. Encouraging reflection and justification

Purpose is to ***assess*** student thinking

Purpose is to ***advance*** student learning

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Purposeful Questioning

Assessing vs Advancing Questions

Assessing Questions	Advancing Questions
+ Based closely on the work the students have produced + Clarify what the students have done and what they understand about what they have done + Provide information to the teacher about what the students understand *Teacher STAYS to hear the answer to the question.*	+ Use what students have produced as a basis for making progress toward the target goal of the lesson + Move students beyond their current thinking by pressing them to extend what they know to a new situation + Press students to think about something they are not currently thinking about *Teacher WALKS AWAY, leaving students to figure out how to proceed.*

Smith, Margaret Schwan., et al. (2017). *Taking action: Implementing effective mathematics teaching practices in grades 9-12*. NCTM. 12.

Assessing & Advancing Debrief

Proximity Partner

With your proximity partner, discuss the following questions.

- *My understanding of assessing & advancing questions _____.*

- *I need more clarification about _____.*

- *I wonder _____.*

Teacher

Purposeful Questioning
Effective Questioning Handout

Individual Task

1. Flip over the "Assessing, Advancing, and Connecting Questions" resource page.

2. Put a star by the type of questions you **use most** frequently (choosing no more than five).

3. From the questions you selected, determine if it is an **assessing** or **advancing** question.

Purposeful Questioning

Assessing and Advancing Questions

Team Task:

1. **Recorder/Reporter** restates the questions asked to the team during the Tile Pattern Challenge.

2. As a team, determine which questions were assessing or advancing. Include your justification.

Whiparound

Recorder/Reporter shares a question that was asked and the purpose.

Questions that Affect Student Thinking

Teacher

Walk and Talk

How do patterns and types of questions affect student thinking?

Purposeful Questioning

Student Math Goal for Lesson 4.1.1

Review the Student Math Goal for Lesson 4.1.1.

+ Use different representations to make sense of and describe the tile pattern.

+ Discover connections among the different representations.

Purposeful Questioning
Examining Student Work

Your Task:

1. Write **one** assessing and **one** advancing question for each sample of student work, and record each on its own sticky note.

    As a team, decide how you want to work through this task.
    (i.e. individual think-time, pair-share, whole team)

2. Post each sticky note on the back of the corresponding student work sample that pertains to the work you examined.

Purposeful Questioning
Examining Student Work

Gallery Walk

Team Task:
With your team, take a look at the questions that were posted for each set of student work. As you review the questions, reflect on:

How are these questions similar to your questions?

How are these questions different from your questions?

Purposeful Questions

Possible student responses

Team Task:

1. Get into course-like teams.

2. Revisit the strategies you anticipated from your lesson on Day 1.

3. Brainstorm assessing and advancing questions to help further student understanding.

   Consider how you might utilize the Pocket Questions in the Teacher Notes of the eBook.

Purposeful Questioning Closure

Reflection on Learning Target and Success Criteria

Team Whiparound

Learning Target:
Understand how purposeful questioning can affect student learning.

Success Criteria:
1. Name the purpose of assessing and advancing questions.
2. Write assessing and advancing questions.

Purposeful Questioning

Rough Draft Thinking

Use the Rough Draft Thinking space in your Action Plan (Day 2) to reflect on how purposeful questioning impacts student learning and discourse.

Action Plan (Portal):
In the upper right dropdown menu, click on the **Action Plans**.
Select **Discourse Action Plan.**
Find the box titled **Rough Draft Thinking.**
Click in the box to record your thoughts.

Lunch Time

More Math For More People

Agenda

Morning

Opening

Math Task

Anticipating: Purposeful Questioning

Lunch

Afternoon

Monitoring

Selecting & Sequencing

Connecting

Session Closure

Monitoring

Icebreaker

Think-Share

Individually analyze the picture and determine **"Which One Doesn't Belong?"**

Be prepared to justify your thinking about which one you chose.

ALT

Christopher Danielson @Trianglemancsd · Jun 1, 2021
Hey @cutiescitrus!

Which one doesn't belong?

@Public_Math
#wodb

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Monitoring
Focusing Learning

Learning Target:

Understand the importance of monitoring student thinking.

Monitoring

Connection to Prior Learning

0. Selecting a rich task and writing a lesson goal:
   + Select a rich task.
   + Identify specific lesson goals.
   + Select and plan the activity.

1. Anticipating:
   + Anticipate student strategies.
   + Do the problem in many *different* ways.
   + Plan assessing & advancing questions.

2. **Monitoring:**

(Smith, Steele, & Sherin, 2019)

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Monitoring

Pause & Consider

Teacher

Individually reflect on the following.

+ When you circulate among teams, what are you noticing? What are you looking for?

+ How do you currently track students' ideas during instruction?

Monitoring

Monitoring – What?

Teacher

2. Monitoring:

+ Listen, observe, identify key strategies.

+ Keep track of approaches and progress.

+ Ask questions to uncover student thinking and to move learning forward.

(Smith, Steele, & Sherin, 2019)

Monitoring
Tracking Student Thinking

5 Practices Monitoring/Circulation Chart

Adapted from The Five Practices in Practice: Successfully Orchestrating Mathematics Discussions in Your High School Classroom, Smith, Steele, Sherin, Corwin 2020, *Used in CPM's Building on Discourse Learning Event*

Anticipating Student Strategies for Sequencing

Anticipate Strategies	Assessing Questions	Advancing Questions	Who/Observation	Order
Anticipate the various strategies/methods students will apply to arrive at the solution.	*(Ask these when circulating during the lesson.)*	*(Ask these when circulating during the lesson.)*	Which student/team is using the strategy? *(Be mindful of creating equitable practices)*	Sequence strategies aligned with the learning goal

Monitoring

CC3 4.1.1 Monitoring Chart

Lesson: Lesson 4.1.1

Anticipate Strategies — Anticipate the various strategies/methods students will apply to arrive at the solution.	Assessing Questions (Ask these when circulating during the lesson.)	Advancing Questions (Ask these when circulating during the lesson.)	Who/Observation — Which student/team is using the strategy? (Be mindful of creating equitable practices)	Order — Sequence strategies aligned with the learning goal
Growing by consecutive odds	+What is the connection? +Tell me how you are seeing the growth?	+How do you see the growth in a graph or rule? +How are the different representations connected?		
Horizontal Rectangles or rows	+How are you highlighting your connections?	+How are you seeing the growth in the different representations? +Can you represent this in a graph and table?		
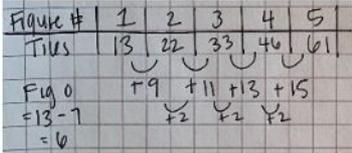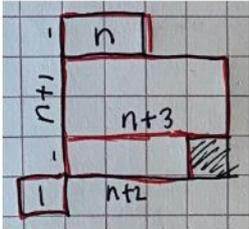
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Monitoring
Creating Your Monitoring Chart

Individual Task
Begin filling out your monitoring chart for your selected lesson.
Include:

Anticipated Strategies
Assessing Questions
Advancing Questions

Do not complete the last two columns yet.

Lesson:				
Anticipate Strategies Anticipate the various strategies/methods students will apply to arrive at the solution.	**Assessing Questions** *(Ask these when circulating during the lesson.)*	**Advancing Questions** *(Ask these when circulating during the lesson.)*	**Who/Observation** Which student/team is using the strategy? *(Be mindful of creating equitable practices)*	**Order** Sequence strategies aligned with the learning goal

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Monitoring
Anticipate Student Strategies

Peer Edit

1. Find a partner using **Stand-Up Hand-Up Partner-Up.**

2. Partner A shares: lesson goal, success criteria, and monitoring chart.

3. As a pair, make edits to Partner A's monitoring chart.

4. Switch roles, and repeat for Partner B.

Monitoring − How?

Teacher

2. **Monitoring:**

+ Listen, observe, identify key strategies.

+ Keep track of approaches and progress.

+ Ask questions to uncover student thinking and to move learning forward.

(Smith, Steele, & Sherin, 2019)

Teammates Consult

What teacher actions support effective monitoring?

Monitoring

Closure – Reflection on Learning Target and Success Criteria

 Team Whiparound

Learning Target:
Understand the importance of monitoring student thinking.

Success Criteria:
1. Identify the purpose of monitoring.
2. Explain how you can monitor student thinking while asking assessing and advancing questions.

Monitoring
Rough Draft Thinking

Record your Rough Draft Thinking on the following prompt.

What are some of the challenges you might face while monitoring?
How might you overcome these challenges?

Action Plan (Portal):
In the upper right dropdown menu, click on the **Action Plans**.
Select **Discourse Action Plan.**
Find the box titled **Rough Draft Thinking.**
Click in the box to record your thoughts.

Take a break

Selecting & Sequencing
Focusing Learning

Learning Target:

Understand how the selecting and sequencing process builds a mathematical storyline to reach the learning goal.

Selecting & Sequencing

Prior Learning

0. Selecting a rich task and writing a lesson goal

1. Anticipating

2. Monitoring

   + Listen, observe, identify key strategies.
   + Keep track of approaches and progress.
   + Ask questions to uncover student thinking and to move learning forward.

3. **Selecting**
4. **Sequencing**

(Smith, Steele, & Sherin, 2019)

Selecting & Sequencing

Pause & Consider

Learning Goal for CC3 Lesson 4.1.1 (teacher-facing goal):

Use different representations to make sense of and describe the tile pattern.

Discover connections among the different representations.

How can student work be used to support the learning goal?

Selecting & Sequencing

Selecting & Sequencing – What?

3. Selecting

+ The act of purposefully determining what mathematics students will have access to — beyond what they were able to consider individually or in small groups — in building their mathematical understanding. (Smith, Steele, & Sherin, 2020

4. Sequencing

+ The process of determining the order in which students will present their solutions. The key is to order the work in such a way as to make the mathematics accessible to all students and build a mathematically coherent storyline. (Smith, Steele, & Sherin, 2020)

Selecting & Sequencing

Core Connections Course 3, Lesson 4.1.1

Teacher

Using the Lesson 4.1.1 student work examples:

Team Task:

1. **Select** student work examples that support the math learning goal. Think about: *How does the student's work support the storyline to reach the learning goal?*

2. **Sequence** student work examples you selected. Think about: *How can you order the student work so the storyline is coherent?*

Teacher

Swapmeet

1. **Facilitator** & **Task Manager** rotate to another team.

2. The visitors share their selecting and sequencing with justifications first.

3. The home team asks clarifying questions.

4. Switch roles, and repeat the swapping process.

Selecting & Sequencing

Select & Sequence - Who?

Think-Pair-Share

How do you make decisions about which students should present in class?

*How do your decisions promote or constrain
an equitable learning environment?*

Selecting & Sequencing

Returning to Your Task

Team Task:

1. **Anticipate** a sequence for your task.
2. **Record** the sequence in the "Order" column of your monitoring chart.

Consider these questions.

+ Is the storyline coherent?

+ Does the order support the math learning goal?

+ Did you consider other sequences?

Lesson:				
Anticipate Strategies Anticipate the various strategies/methods students will apply to arrive at the solution.	**Assessing Questions** *(Ask these when circulating during the lesson.)*	**Advancing Questions** *(Ask these when circulating during the lesson.)*	**Who/Observation** Which student/team is using the strategy? *(Be mindful of creating equitable practices)*	**Order** Sequence strategies aligned with the learning goal

Selecting & Sequencing

Closure – Reflection on Learning Target and Success Criteria

Team Whiparound

Learning Target:
Understand how the selecting and sequencing process builds a mathematical storyline to reach the learning goal.

Success Criteria:
1. Identify the purpose for selecting and sequencing.
2. Describe considerations for identifying student work during selecting.
3. Explain the importance of storyline to support the learning goal during sequencing.

Selecting & Sequencing

Rough Draft Thinking

Record your Rough Draft Thinking on the following prompts.

What will you consider when planning to select and sequence?

What are some of the challenges you might face while selecting & sequencing?

How might you overcome these challenges?

Action Plan (Portal):
In the upper right dropdown menu, click on the **Action Plans**.
Select **Discourse Action Plan.**
Find the box titled **Rough Draft Thinking.**
Click in the box to record your thoughts.

Selecting & Sequencing

Effective Mathematics Teaching Practice

Elicit and Use Evidence of Student Thinking

"Effective teaching of mathematics uses evidence of student thinking to assess progress toward mathematical understanding and to adjust instruction continually in ways that support and extend learning." (NCTM, 2014)

Principles to Actions
ENSURING MATHEMATICAL SUCCESS FOR ALL
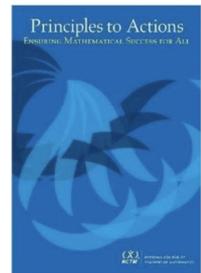
Connecting

Focusing Learning

Learning Target:

Consider how a teacher's actions and decisions affect students connecting mathematical ideas to each other and to the lesson goal.

Connecting
Prior Learning

0. Selecting a rich task and writing a lesson goal

1. Anticipating

2. Monitoring

3. Selecting

4. Sequencing

5. **Connecting**

(Smith, Steele, & Sherin, 2019)

Revisiting David Crane's Lesson

Successful or Superficial? Discussion in David Crane's Classroom

File Cabinet (Portal):
In the upper right dropdown menu, click on **File Cabinet**.
Next choose **Building on Discourse.**
Select the tab **In-Person.**
Select the tab **Day 1.**
Click on the document **Successful or Superficial? Discussion in David Crane's Classroom.**

Connecting

Successful or Superficial? Discussion in David Crane's Classroom

Individual Task:

1. **Review** the section titled *"Analyzing the Case of David Crane."* *(pages 5-6)*

2. **Consider** the following as you reflect on your notes.

According to the text, what matters during a connecting discussion?

3. **Share** your thoughts with your elbow partner.

Connecting

Core Connections Course 3, Lesson 4.1.1

Student Math Goal:
Describe the pattern by extending to Figures 0, 4, & 5. Show how many tiles are in Figure 100. Justify the number of tiles in each figure.

Team Collaboration Goal:
Collaborate and actively listen to your team because everyone's thinking and ideas matter.

Connecting

CC3 Lesson 4.1.1 – Student Connections

Selected Team Demonstrations:

As teams share, think about the following questions.

How is this team's approach similar or different from your team's approach?

What questions do you have for the team?

Does their approach help clarify your own thinking?

Connecting

CC3 Lesson 4.1.1 Debrief

What questions made the mathematics being targeted in this lesson visible?

What questions helped students make connections between the different solution strategies?

How were all students engaged and held accountable for learning mathematics?

Connecting

What?

"Connecting involves **asking questions** that must go beyond merely clarifying and probing what individual students did and how. Instead, they must focus on mathematical meaning and relationships **and make links between mathematical ideas and representations.**"

(Smith & Stein, 2011, p. 70)

Selecting and Sequencing

Effective Mathematics Teaching Practice

Use and Connect Mathematical Representations

"Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving."

(NCTM, 2014)

Principles to Actions
ENSURING MATHEMATICAL SUCCESS FOR ALL
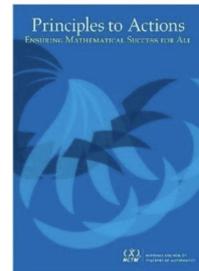
Connecting
Connecting Questions

Team Task:

1. **Complete** the "Connecting Chart" on the last page of your Monitoring Chart for your selected rich task.

2. **Share** your Connecting Chart with one other team member.

Connecting

Connecting involves helping students relate strategies/ideas to the lesson goal(s) and see relationships between different solutions. Your questions will help make the connections visible to the presenter and to the class.

Selected Strategy	Points of emphasis for the selected strategy	Connecting Questions *What questions will make the mathematics visible?* *What questions will help students connect the different solution strategies?*

Connecting

Closure – Reflection on Learning Target and Success Criteria

Team Whiparound

Learning Target:

Consider how a teacher's actions and decisions affect students connecting mathematical ideas to each other and to the lesson goal.

Success Criteria:
1. Explain the purpose for a connection discussion.
2. Identify potential questions that would support students making connections.
3. Describe the importance of storyline to support developing connection questions.

What have we learned?

Closure
Focusing Learning

Learning Target:
Consider how the *5 Practices* support effective teaching and equitable classroom culture.

Closure

Review

0. Selecting a rich task and writing a lesson goal

1. Anticipating

2. Monitoring

3. Selecting

4. Sequencing

5. Connecting

Learning Event Module in the Portal:
Open up the learning event module.
Scroll down to Day 2.
Open Day 2 Feedback.
Complete the Feedback form.

(Smith, Steele, & Sherin, 2019)

Closure
Reflecting on the *5 Practices*

Carousel: Station Rotation

Team Task:

1. **Select one or two key** questions from the poster.

2. **Brainstorm** teacher moves, actions, and wonders that could support completing the practice.

3. **Write** your responses on the poster for others to view.

4. **Read and review** other teams' suggestions.

Closure
Classroom Culture

How does a learning environment affect student learning?

Social Emotional and Academic Development (SEAD)

Agency
Combines identity (who we are) with what we can do

Belonging
Sense of fitting in or feeling like you are an important member of a group

Discourse
Ways of representing thinking, talking, agreeing, and disagreeing

Identity
Deeply held beliefs about our ability to participate and perform and use math effectively in our lives
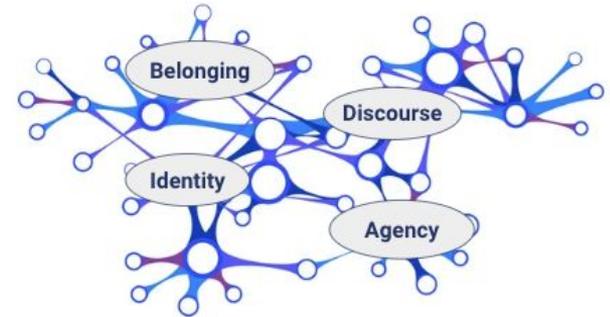
Closure

Reflection on Learning Target and Success Criteria

Team Whiparound

Learning Target:
Consider how the *5 Practices* support effective teaching and equitable classroom culture.

Success Criteria:
1. Identify teacher moves that address Practices 2, 3, and 4.
2. Critique the effect of classroom culture on meaningful mathematical discourse

Closure

Action Plan

"How do you get them there without giving them the answer?"

—Michelle Musumeci, 8th Grade Teacher

Go back through your rough draft thoughts and **revise and finalize** your Day 2 Action plan.

+ Monitor and Advance Student Thinking
+ Select and Sequence Student Work to Tell a Mathematical Story

Action Plan (Portal):
In the upper right dropdown menu, click on **Action Plans**.
Select **Discourse Action Plan.**
Find the remaining boxes within Day 2.
Click in the text box to record your thoughts.

Closure

Outcomes

Together we will:

+ Experience the Effective Mathematics Teaching Practices through the design of the *5 Practices*.
+ Better understand how facilitating meaningful mathematical discourse develops an equitable, student-centered classroom.
+ Develop purposeful questions that assess and advance student thinking.
+ Gain strategies and address challenges for monitoring and advancing student thinking.
+ Intentionally select and sequence student work to establish a coherent mathematical storyline.

Closure

+ Parking Lot

+ Attendance

Either scan the QR code

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HOUSEKEEPING

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LEARNING LOG

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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