Louisiana Department of Education
Mentor Teacher Training

Module 5:
Facilitating Productive Math Discourse

Elementary Cohort
July, 2019

Facilitated by Learning Forward

Mentor Teacher Training

Mentor Training Course Goals

Mentors will:

- Build strong relationships with mentees.
- Diagnose and prioritize mentee's strengths and areas for growth.
- Design and implement a coaching support plan to develop mentee knowledge and skills.
- Assess and deepen mentor content knowledge and content-specific pedagogy.

Module 5 Outcomes:

- Learn a model for facilitating productive student discourse in mathematics.
- Write a clear and concise coaching plan that enables you to plan interventions aligned to mentee goals.
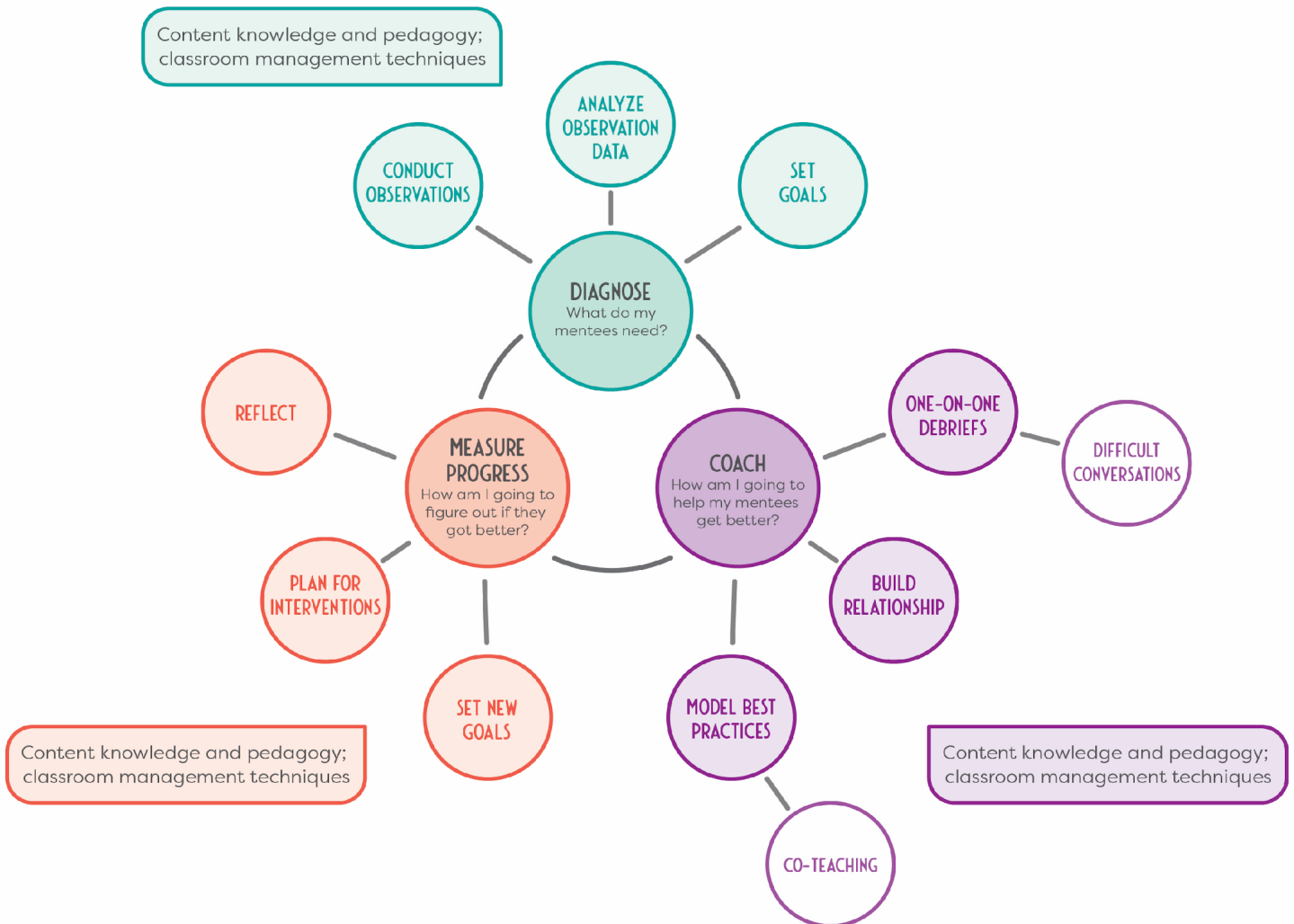- Model best practices through co-teaching.

Module 2 Agenda:

- Welcome & Outcomes
- Productive Mathematical Discourse
- Lunch
- Plan for Interventions
- Co-Teaching Best Practices
- Connection to Assessments
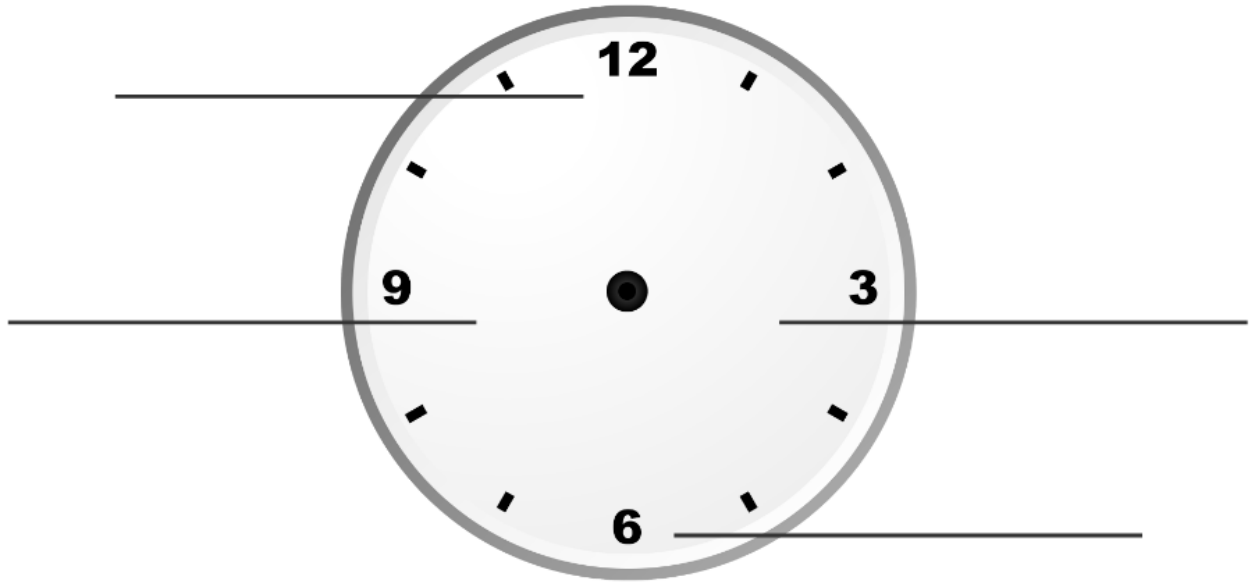- Prepare for the Beginning of the Year
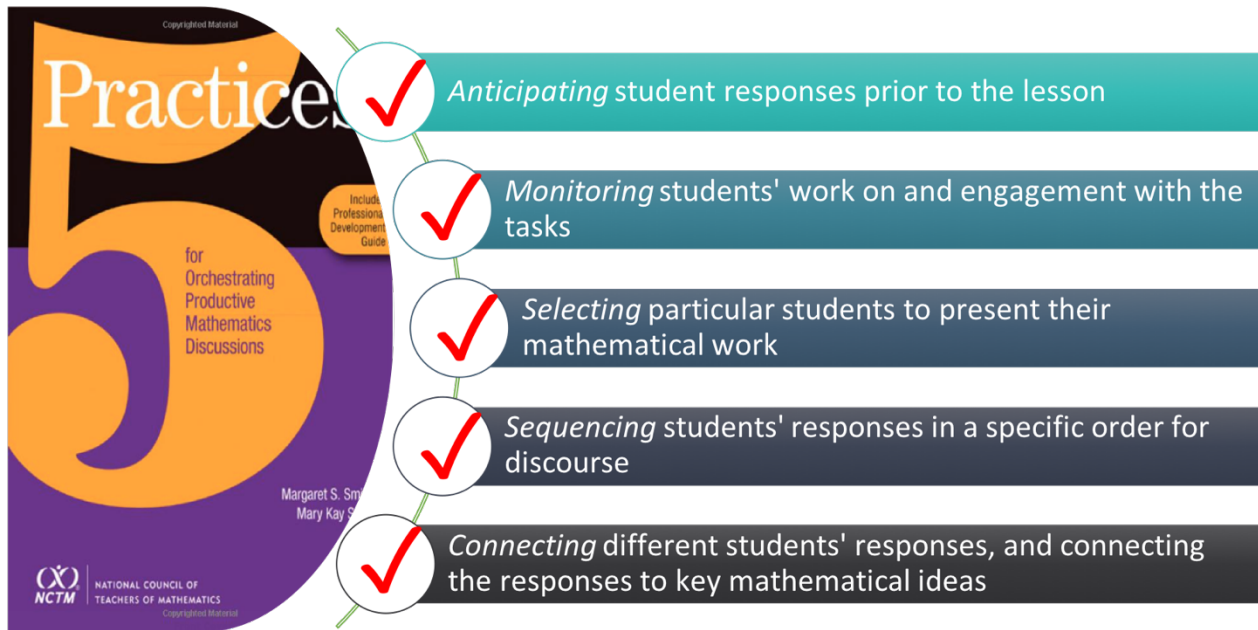- Wrap-up

Mutual Commitments:

Make the learning meaningful
Engage mentally and physically
Notice opportunities to support the learning of others
Take responsibility of own learning
Own the outcomes
Respect the learning environment of self and others

The Mentoring Cycle

Let's Make a Date

The 5 Practices:

- *Anticipating* student responses prior to the lesson
- *Monitoring* students' work on and engagement with the tasks
- *Selecting* particular students to present their mathematical work
- *Sequencing* students' responses in a specific order for discourse
- *Connecting* different students' responses, and connecting the responses to key mathematical ideas

Citation: Smith, M. S., & Stein, M. K. (2011). *5 Practices for Orchestrating Productive Mathematics Discussions.* Reston, VA: National Council of Teachers of Mathematics.

Lesson 2

Objective: Recognize a digit represents 10 times the value of what it represents in the place to its right.

Suggested Lesson Structure

Fluency Practice   (12 minutes)

■ Application Problem   (6 minutes)

Concept Development   (33 minutes)

■ Student Debrief   (9 minutes)

Total Time   **(60 minutes)**
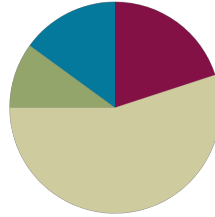
Fluency Practice (12 minutes)

- ▪ Skip-Counting **3.OA.7**   (4 minutes)
- ▪ Place Value **4.NBT.2**   (4 minutes)
- ▪ Multiply by 10 **4.NB5.1**   (4 minutes)

Skip-Counting (4 minutes)

Note: Practicing skip-counting on the number line builds a foundation for accessing higher-order concepts throughout the year.

Direct students to count by threes forward and backward to 36, focusing on the crossing-ten transitions.

Example: (3, 6, 9, 12, 9, 12, 9, 12, 15, 18, 21, 18, 21, 24, 27, 30, 27, 30, 33, 30, 33, 30, 33, 36…). The purpose of focusing on crossing the ten transitions is to help students make the connection that, for example, when adding 3 to 9, 9 + 1 is 10, and then 2 more is 12.

There is a similar purpose in counting down by threes; 12 – 2 is 10, and subtracting 1 more is 9. This work builds on the fluency work of previous grade levels. Students should understand that when crossing the ten, they are regrouping.

Direct students to count by fours forward and backward to 48, focusing on the crossing-ten transitions.

Place Value (4 minutes)

Materials: (S) Personal white board, unlabeled thousands place value chart (Lesson 1 Template)

Note: Reviewing and practicing place value skills in isolation prepares students for success in multiplying different place value units during the lesson.

> T: (Project the place value chart to the thousands place.) Show 5 tens as place value disks, and write the number below it.

S: (Draw 5 tens. Write 5 below the tens column and 0 below the ones column.)

T: (Draw to correct student misunderstanding.) Say the number in unit form.

S: 5 tens.

T: Say the number in standard form.

S: 50.

Continue for the following possible sequence: 3 tens 2 ones, 4 hundreds 3 ones, 1 thousand 2 hundreds, 4 thousands 2 tens, and 4 thousands 2 hundreds 3 tens 5 ones.

Multiply by 10 (4 minutes)

Materials: (S) Personal white board

Note: This fluency activity reviews concepts learned in Lesson 1.

T: (Project 10 ones × 10 = 1 _____.) Fill in the blank.

S: (Write 10 ones × 10 = 1 hundred.)

T: Say the multiplication sentence in standard form.

S: $10 \times 10 = 100$.

Repeat for the following possible sequence: $10 \times$ _____ = 2 hundreds; $10 \times$ _____ = 3 hundreds; $10 \times$ _____ = 7 hundreds; 10 × 1 hundred = 1 _____; $10 \times$ _____ = 2 thousands; $10 \times$ _____ = 8 thousands; 10 × 10 thousands = _____.

Application Problem (6 minutes)

Amy is baking muffins. Each baking tray can hold 6 muffins.

a. If Amy bakes 4 trays of muffins, how many muffins will she have in all?

b. The corner bakery produced 10 times as many muffins as Amy baked. How many muffins did the bakery produce?

Extension: If the corner bakery packages the muffins in boxes of 100, how many boxes of 100 could they make?

a) 4 × 6 = 24
Amy will have 24 muffins in all.

b) 10 × 24 = 240
The bakery produced 240 muffins.

Extension: They could make 2 boxes of 100 muffins.

Note: This Application Problem builds on the concept from the previous lesson of *10 times as many*

Concept Development (33 minutes)

Materials: (S) Personal white board, unlabeled millions place value chart (Template)

Problem 1: Multiply single units by 10 to build the place value chart to 1 million. Divide to reverse the process.

- T: Label ones, tens, hundreds, and thousands on your place value chart.
- T: On your personal white board, write the multiplication sentence that shows the relationship between 1 hundred and 1 thousand.
- S: (Write 10 × 1 hundred = 10 hundreds = 1 thousand.)
- T: Draw place value disks on your place value chart to find the value of 10 times 1 thousand.
- T: (Circulate.) I saw that Tessa drew 10 disks in the thousands column. What does that represent?
- S: 10 times 1 thousand equals 10 thousands. (10 × 1 thousand = 10 thousands.)
- T: How else can 10 thousands be represented?
- S: 10 thousands can be bundled because, when you have 10 of one unit, you can bundle them and move the bundle to the next column.
- T: (Point to the place value chart.) Can anyone think of what the name of our next column after the thousands might be? (Students share. Label the **ten thousands** column.)
- T: Now, write a complete multiplication sentence to show 10 times the value of 1 thousand. Show how you regroup.

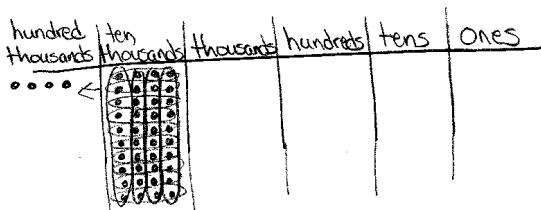- S: (Write 10 × 1 thousand = 10 thousands = 1 ten thousand.)

T: On your place value chart, show what 10 times the value of 1 ten thousand equals. (Circulate and assist students as necessary.)

T: What is 10 times 1 ten thousand?

S: 10 ten thousands.   1 **hundred thousand**.

T: That is our next larger unit. (Write 10 × 1 ten thousand = 10 ten thousands = 1 hundred thousand.)

T: To move another column to the left, what would be my next 10 times statement?

S: 10 times 1 hundred thousand.

T: Solve to find 10 times 1 hundred thousand. (Circulate and assist students as necessary.)

T: 10 hundred thousands can be bundled and represented as **1 million**. Title your column, and write the multiplication sentence.

S: (Write 10 × 1 hundred thousand = 10 hundred thousands = 1 million.)

After having built the place value chart by multiplying by ten, quickly review the process simply moving from right to left on the place value chart and then reversing and moving left to right (e.g., 2 tens times 10 equals
2 hundreds; 2 hundreds times 10 equals 2 thousands; 2 thousands divided by 10 equals 2 hundreds; 2 hundreds divided by 10 equals 2 tens).

Problem 2: Multiply multiple copies of one unit by 10.

T: Draw place value disks, and write a multiplication sentence to show the value of 10 times 4 ten thousands.

T: 10 times 4 ten thousands is…?
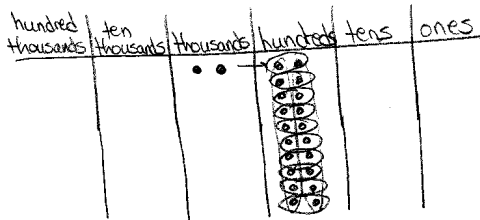
S: 40 ten thousands.   4 hundred thousands.

T: (Write 10 × 4 ten thousands = 40 ten thousands = 4 hundred thousands.) Explain to your partner how you know this equation is true.

Repeat with 10 × 3 hundred thousands.

Problem 3: Divide multiple copies of one unit by 10.

T: (Write 2 thousands ÷ 10.) What is the process for solving this division expression?

S: Use a place value chart.   Represent 2 thousands on a place value chart. Then, change them for smaller units so we can divide.

T: What would our place value chart look like if we changed each thousand for 10 smaller units?

S: 20 hundreds.   2 thousands can be changed to be 20 hundreds because 2 thousands and 20 hundreds are equal.

T: Solve for the answer.

S: 2 hundreds.   2 thousands ÷ 10 is 2 hundreds because 2 thousands unbundled becomes 20 hundreds.   20 hundreds divided by 10 is 2 hundreds.   2 thousands ÷ 10 = 20 hundreds ÷ 10 = 2 hundreds.

**MP.1**

Repeat with 3 hundred thousands ÷ 10.

Problem 4: Multiply and divide multiple copies of two different units by 10.

T: Draw place value disks to show 3 hundreds and 2 tens.

T: (Write 10 × (3 hundreds 2 tens).) Work in pairs to solve this expression. I wrote 3 hundreds 2 tens in parentheses to show it is one number. (Circulate as students work. Clarify that both hundreds and tens must be multiplied by 10.)

T: What is your product?

S: 3 thousands 2 hundreds.

T: (Write 10 × (3 hundreds 2 tens) = 3 thousands 2 hundreds.) How do we write this in standard form?

S: 3,200.

T: (Write 10 × (3 hundreds 2 tens) = 3 thousands 2 hundreds = 3,200.)
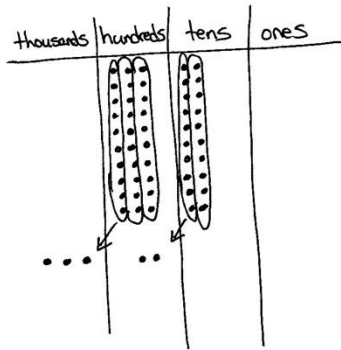
10 × (3 hundreds 2 tens) = 3 thousands 2 hundreds = 3,200

thousands	hundreds	tens	ones
3	3	2	
	2		
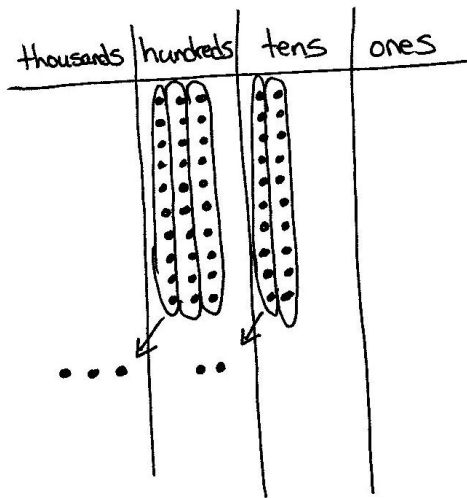
T: (Write (4 ten thousands 2 tens) ÷ 10.) In this expression, we have two units. Explain how you will find your answer.

S: We can use the place value chart again and represent the unbundled units and then divide. (Represent in the place value chart, and record the number sentence (4 ten thousands 2 tens) ÷ 10 = 4 thousands 2 ones = 4,002.)

T: Watch as I represent numbers in the place value chart to multiply or divide by ten instead of drawing disks.
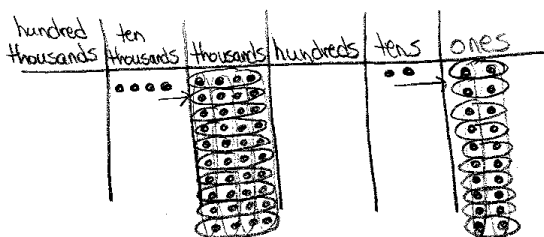
(4 ten thousands 2 tens) ÷ 10 = 4 thousands 2 ones = 4,002

ten thousands	thousands	hundreds	tens	ones
4	4		2	2

Repeat with 10 × (4 thousands 5 hundreds) and (7 hundreds 9 tens) ÷ 10.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students should solve these problems using the RDW approach used for Application Problems.

Student Debrief (9 minutes)

Lesson Objective: Recognize a digit represents 10 times the value of what it represents in the place to its right.

Invite students to review their solutions for the Problem Set and the totality of the lesson experience. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Student Debrief. Guide students in a conversation to debrief the Problem Set.

Any combination of the questions below may be used to lead the discussion.

- How did we use patterns to predict the increasing units on the place value chart up to **1 million**?
  Can you predict the unit that is 10 times 1 million? 100 times 1 million?

- What happens when you multiply a number by 10? 1 **ten thousand** is what times 10?
  1 **hundred thousand** is what times 10?

- Gail said she noticed that when you multiply a number by 10, you shift the digits one place to the left and put a zero in the ones place.
  Is she correct?

- How can you use multiplication and division to describe the relationship between units on the place value chart? Use Problem 1 (a) and (c) to help explain.

- Practice reading your answers in Problem 2 out

loud. What similarities did you find in saying the numbers in unit form and standard form? Differences?

- In Problem 7, did you write your equation as a multiplication or division sentence? Which way is correct?

- Which part in Problem 3 was hardest to solve?

- When we multiply 6 tens times 10, as in Problem 2, are we multiplying the 6, the tens, or both?
  Does the digit or the unit change?

- Is 10 times 6 tens the same as 6 times 10 tens? (Use a place value chart to model.)

- Is 10 times 10 times 6 the same as 10 tens times 6? (Use a place value chart to model 10 times 10 is the same as 1 ten times 1 ten.)

- When we multiply or divide by 10, do we change the digits or the unit? Make a few examples.

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Lesson 2 Problem Set 4•1

Name _____   Date _____

1. As you did during the lesson, label and represent the product or quotient by drawing disks on the place value chart.
   a. 10 × 2 thousands = _____ thousands = _____

   b. 10 × 3 ten thousands = _____ ten thousands = _____

   c. 4 thousands ÷ 10 = _____ hundreds ÷ 10 = _____

2. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit form	Standard Form
10 × 6 tens		
7 hundreds × 10		
3 thousands ÷ 10		
6 ten thousands ÷ 10		
10 × 4 thousands		

3. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit form	Standard Form
(4 tens 3 ones) × 10		
(2 hundreds 3 tens) × 10		
(7 thousands 8 hundreds) × 10		
(6 thousands 4 tens) ÷ 10		
(4 ten thousands 3 tens) ÷ 10		

4. Explain how you solved 10 × 4 thousands. Use a place value chart to support your explanation.

5. Explain how you solved (4 ten thousands 3 tens) ÷ 10. Use a place value chart to support your explanation.

6. Jacob saved 2 thousand dollar bills, 4 hundred dollar bills, and 6 ten dollar bills to buy a car. The car costs 10 times as much as he has saved. How much does the car cost?

7. Last year the apple orchard experienced a drought and did not produce many apples. But this year, the apple orchard produced 45 thousand Granny Smith apples and 9 hundred Red Delicious apples, which is 10 times as many apples as last year. How many apples did the orchard produce last year?

8. Planet Ruba has a population of 1 million aliens. Planet Zamba has 1 hundred thousand aliens.

    a. How many more aliens does Planet Ruba have than Planet Zamba?

    b. Write a sentence to compare the populations for each planet using the words *10 times as many*.

Name _____   Date _____

1. Fill in the blank to make a true number sentence. Use standard form.

    a. (4 ten thousands 6 hundreds) × 10 = _____

    b. (8 thousands 2 tens) ÷ 10 = _____

2. The Carson family saved up $39,580 for a new home. The cost of their dream home is 10 times as much as they have saved. How much does their dream home cost?

Name _____   Date _____

1. As you did during the lesson, label and represent the product or quotient by drawing disks on the place value chart.

    a.   10 × 4 thousands = _____ thousands = _____

    b.   4 thousands ÷ 10 = _____ hundreds ÷ 10 = _____

2. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit Form	Standard Form
10 × 3 tens		
5 hundreds × 10		
9 ten thousands ÷ 10		
10 × 7 thousands		

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3. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit Form	Standard Form
(2 tens 1 one) × 10		
(5 hundreds 5 tens) × 10		
(2 thousands 7 tens) ÷ 10		
(4 ten thousands 8 hundreds) ÷ 10		

4. a. Emily collected $950 selling Girl Scout cookies all day Saturday. Emily's troop collected 10 times as much as she did. How much money did Emily's troop raise?

   b. On Saturday, Emily made 10 times as much as on Monday. How much money did Emily collect on Monday?

Processes for Orchestrating
Productive Mathematical Discourse

Anticipating student responses prior to the lesson

What should you consider?	How is this supported?
● The strategies that students might use to approach or solve a challenging mathematical task ● How to respond to what students produce ● Which strategies are most useful in addressing the mathematics to be learned	● Solving the problem in as many ways as possible ● Solving the problem with other teachers ● Drawing on relevant research when possible ● Documenting student responses year to year

Monitoring students' work on, and engagement with, the task

What does this involve?	How is this supported?
● Circulating while students work, watching and listening ● Recording interpretations, strategies, and points of confusion ● Asking probing questions to get students back "on track" or to advance their understanding	● Anticipating student responses beforehand ● Using a recording tool ● Observing students' actual responses during independent work

Selecting particular students, or groups of students, to present their mathematical work

What does this involve?	How is this supported?
● Choosing students to present because of the mathematics in their responses ● Making sure that over time all students are seen as authors of mathematical ideas and have the opportunity to demonstrate competence ● Gaining some control over the content of the discussion	● Anticipating and monitoring ● Planning in advance which types of responses to select, perhaps considering an incorrect solution to illustrate a typical misconception ● Being ready to consider unanticipated solutions

Sequencing students' responses in a specific order for discussion

What does this involve?	How is this supported?
● Purposefully ordering presentations so the mathematics is accessible to all students ● Building a mathematically coherent story line from prior knowledge to current grade-level standards.	● Anticipating, monitoring, and selecting ● During anticipation work, considering how possible student responses are mathematically related

Ways to *Sequence* Student Responses
● Begin with the strategy used by the majority of students before moving to those strategies that only a few students used. ● Begin with a strategy that is more concrete, then move to strategies that are more abstract. ● Present strategies that address common misconceptions. ● Have related or contrasting strategies presented one right after the other.

Connecting different students' responses, and *connecting* the responses to key mathematical ideas

What does this involve?	How is this supported?
● Encouraging students to make mathematical connections between different student responses through questioning ● Making the key mathematical ideas that are the focus of the lesson salient ● Considering extensions as they come from the students or the teacher	● Anticipating, monitoring, selecting, and sequencing ● Considering how students might be prompted to recognize mathematical relationships between responses ● Cultivating a classroom culture with explicit supports for student discourse.

— Citation: Adapted from Smith, M. S., & Stein, M. K. (2011).
5 practices for orchestrating productive mathematics discussions. Reston, VA:
National Council of Teachers of Mathematics.

Anticipating Student Responses:

Work out the problems yourself:

Exit Ticket Question 1	Exit Ticket Question 2

Share, Review the Lesson Plan, Discuss, and Make Notes:

How else did people solve Question 1?	How else did people solve Question 2?

Which strategies are likely to be the most useful to students in meeting the objective of the lesson?

Which strategies would students most likely use? (These may include strategies not included in this lesson)

What misconceptions might students have?

How would you respond to students who used these strategies or had these misconceptions?

Notes on Anticipating Student Responses

(blank)

Ways to Sequence Work

- Begin with the strategy used by the majority of students before moving to those strategies that only a few students used.

- Begin with a strategy that is more concrete, then move to strategies that are more abstract.

- Present strategies that address common misconceptions.

- Have related or contrasting strategies presented one right after the other.

Notes on Selecting and Sequencing

(blank)

Notes on Connecting Work

Reflection Questions

- What strategies can you use to ensure that **ALL** students engage in mathematical discourse in your classroom?

- What can you do to leverage incorrect or incomplete reasoning or solutions to strengthen the learning of all students?

- Based on your learning for this section, what action step(s) might you take in order to foster a safe and positive environment for student discourse in your classroom?

- How can you apply your understanding of productive math discourse to facilitate your mentee's growth?

Module 5 Afternoon Outcomes:

- Write a clear and concise coaching plan that enables you to plan interventions aligned to mentee goals.
- Model best practices through co-teaching.

Plan for Interventions: 3 Key Components

- Clarify the new learning

- Align the intervention method

- Write a coaching plan

Clarify the new learning

Content	Practice
What does my mentee need to understand?	What do I lean on in my teaching practice in order to do this?
What does the Tier 1 resource recommend?	What does my mentee need to be able to do?
How could my mentee gain this knowledge?	How could my mentee gain this skill?

Sample SMART Goal

During the next unit, the teacher will solve each task she's planning to discuss in at least 3 different ways prior to teaching in order to better understand the mathematics behind the task so that she can lead more effective math discourse.	

Types of Co-Teaching

- One teaches, one observes students

- One teaches, one assists

- Station teaching

- Parallel teaching

- Supplemental teaching

- Alternative or differentiated teaching

- **Team Teaching**

Types of Team Teaching

Jigsaw:	Whisper-in:
Teach, pause, discuss:	Share roles:

Mentor Coaching Plan

Mentee SMART goal(s)

The teacher will understand the math students are working on and the different ways a task focused on that math can be tackled by solving each conceptual understanding task in the next unit in at least 3 different ways prior to teaching the task with students so that she can lead more effective math discourse.

What activities and resources will mentor and mentee engage in to achieve goal(s)?

Specific Activity or Resource	How is it aligned to the goal(s)?	Why will it be effective?	How will you integrate relationship building?	Projected timeline
Co-Planning: Work out task together and solve in as many ways as possible	Direct practice in working out tasks in multiple ways; discussion will focus on understanding the math in the task	We'll do the work together; mentor is there to model if needed	Model growth mindset - both learning the math. May need to consult outside sources.	Thursday planning period, 1:30-2:15

How will you monitor your mentee's progress toward the identified goals?

Mentor Coaching Plan

Mentee SMART goal(s)

What activities and resources will mentor and mentee engage in to achieve goal(s)?

Specific Activity or Resource	How is it aligned to the goal(s)?	Why will it be effective?	How will you integrate relationship building?	Projected timeline

How will you monitor your mentee's progress toward the identified goals?

Mentor Coaching Plan

Mentee SMART goal(s)

What activities and resources will mentor and mentee engage in to achieve goal(s)?

Specific Activity or Resource	How is it aligned to the goal(s)?	Why will it be effective?	How will you integrate relationship building?	Projected timeline

How will you monitor your mentee's progress toward the identified goals?

Mentor Coaching Plan

Mentee SMART goal(s)

What activities and resources will mentor and mentee engage in to achieve goal(s)?

Specific Activity or Resource	How is it aligned to the goal(s)?	Why will it be effective?	How will you integrate relationship building?	Projected timeline

How will you monitor your mentee's progress toward the identified goals?

Reflect: Cumulative Learning

Yesterday I….

Today I….

Now I ….

Plan for Interventions: Key Takeaway

Coaching plans keep mentor and mentee on track to achieve SMART goals.

Co-Teaching: 3 Key Components

- Co-plan instruction and co-teaching method

- Co-teach the lesson

- Debrief the lesson

Co-Plan Instruction

- Revisit **agreements.**

- Confirm the **purpose/goal** of the lesson and **connection to SMART goal.**

- Create a **"look-fors" checklist** based on the goal of the lesson or activity.

- Select **best model for co-teaching** to achieve student and teacher learning outcome.

- **Make thinking visible** as you co-plan what the lesson requires to be successful, including any tweaks you need to make to integrate your chosen co-teaching model.

Co-Planning Conversation Transcript (Segment)

[The mentor and mentee have already begun their co-planning meeting. They've greeted each other and confirmed the timing and date of the lesson they'll be co-teaching].

Mentor - So I've been looking through the lesson we said we'd be teaching and I brought my copy with me that I made some notes on. Did you have a chance to read through it?

Mentee - I didn't, I'm sorry. I have it right here. I meant to over lunch but then I had a couple kids stay in for extra help.

Mentor - Next time we're going to co-plan, try to read through the lesson the night before. Lunch and recess are so unpredictable - it's best if you don't leave stuff until that time. The impact of you not reading through it already means you won't be prepared for our conversation. But for this time, I'll share my thinking as we go through it.

Mentee - Yeah, I will. And I think I'm getting more familiar with how Eureka lessons go…there seems to usually be some fluency practice, an application problem, some concept development with a problem set, and then a debrief.

Mentor - That's the general structure, yep… and this lesson follows that structure, you can see it here. Anticipating student responses is really going to come up in the Student Debrief.

Mentee - So that's where I've been really struggling. I think I told you this already when we debriefed, but I try to use the questions they have there to lead the conversation but it just seems to go all over the place. The kids don't seem to get a lot out of it.

Mentor - Yeah - I was thinking about that. Because you've been getting more comfortable with teaching Eureka lessons and your goal is around anticipating student responses, when I'm in your room to co-teach with you we can….

[Mentor writes on the lesson plan]

Mentor - ...be in the room together for the whole lesson. You'll teach the fluency practice, application problem, and the concept development. I will be right there with you during those times. We can use a strategy called "teach, pause, discuss". Anytime you want to pause in your teaching for us to discuss how it's going or if you have any wonderings you can just pause and we can take a quick time-out to discuss. At the beginning of the lesson, I'll explain to the kids how it's going to go so they're not surprised.

Mentee - So I'll just, pause?

Mentor - Or give me a signal...I'll make sure to stay close by so it's easy for us to pause and

discuss. If I have a thought and want to call a pause, what's the best way for me to do that?

Mentee - Um. I don't know - I've never had that happen before.

Mentor - How about I just give you a little hand signal? Yeah? We can try it and if it doesn't work we can try something different next time.

Mentee - Sure.

Mentor - And then once you get the kids started working on the problem set, you and I should share the role of going around and selecting the students work for the debrief. Then how about I lead the debrief and you watch?

Mentee - I was hoping you'd say that.

Mentor - No problem - so I think to get ready to observe the students while they're working, we should take some co-planning time to work out the math together for the problem set problems now. Then, we can discuss what we've noticed about the ways we've worked the problems out and discuss what we might see the students do. I was thinking we could work out problems 4 and 5 together and use those for the discussion...see, those two problems are much more meaty than problems 1-3...

[Mentor and mentee each start independently working on problems 4 and 5…]

TRY IT OUT: Look-For's Checklist

Look-For's	Observation Notes
● Using a recording sheet with anticipated responses to take notes while students are working	

Look-For's Checklist

Look-For's	Observation Notes

Video: Co-Teaching a Lesson
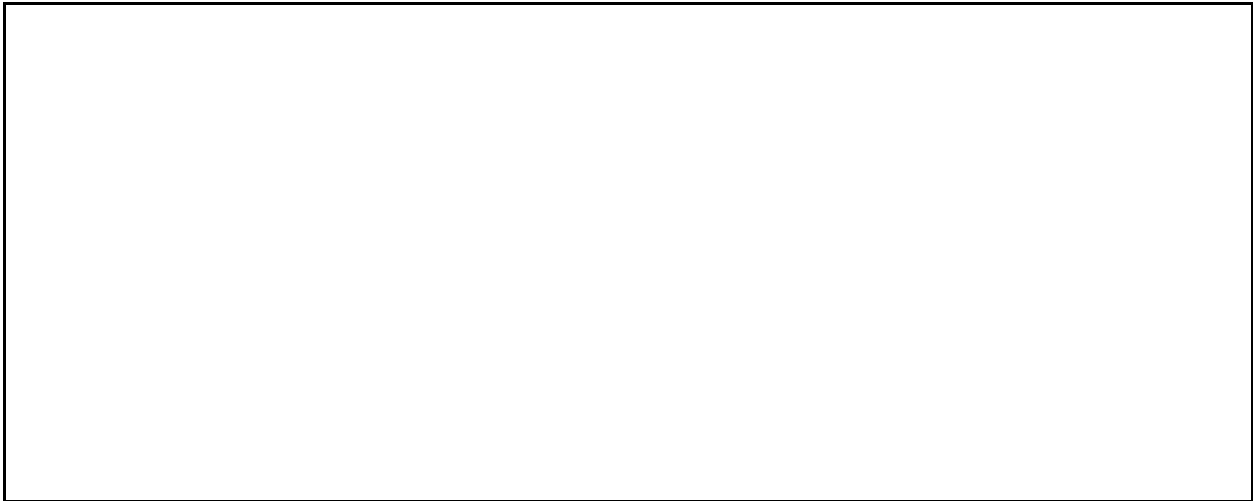
Reflect on Co-Teaching

- What are you most looking forward to when it comes to co-teaching with your mentee?

Debrief Co-Taught Lesson

- Mentor and mentee both reflect using look-fors

- What worked and what can be improved upon

- Review the lesson impact on student learning

- Reflect on co-teaching and how to strengthen in the future

Co-Teaching: Debrief the lesson

Suggested Guiding Questions for Discussion	Debrief Planning Notes	Debrief Meeting Notes
Primary Questions		
How did this co-teach lesson or activity help you and your students in reaching desired outcomes?		
What was most effective about the co-teaching strategy on impacting student learning and teaching practices?		
What was not effective about the co-teaching strategy on impacting student learning and teaching practices?		
Application Questions		
What will you continue implementing into your teaching practice as a result of this co-teach?		
What would you change/modify if you were teaching this lesson on your own and why?		
Clarifying Questions		
What are, if any, lingering questions you may have regarding how the lesson went or the implementation of the co-teach strategy used?		
Closing Questions		
What is/are the top learnings you are taking away from this co-teaching experience?		
How can I support you as you continue working on this SMART goal?		
How can we improve our agreements and processes for future co-teaching opportunities?		

Co-Teaching: Debrief the lesson

Suggested Guiding Questions for Discussion	Debrief Planning Notes	Debrief Meeting Notes
Primary Questions		
How did this co-teach lesson or activity help you and your students in reaching desired outcomes?		
What was most effective about the co-teaching strategy on impacting student learning and teaching practices?		
What was not effective about the co-teaching strategy on impacting student learning and teaching practices?		
Application Questions		
What will you continue implementing into your teaching practice as a result of this co-teach?		
What would you change/modify if you were teaching this lesson on your own and why?		
Clarifying Questions		
What are, if any, lingering questions you may have regarding how the lesson went or the implementation of the co-teach strategy used?		
Closing Questions		
What is/are the top learnings you are taking away from this co-teaching experience?		
How can I support you as you continue working on this SMART goal?		
How can we improve our agreements and processes for future co-teaching opportunities?		

Debriefing Conversation Transcript (Segment)

Mentor - Thanks for taking the time to meet with me. I had a great time co-teaching with you in your classroom and now just want to take some time to debrief about how it went and hopefully some new learning that occurred for you during this process.

Mentee - Yeah I really enjoyed co-teaching with you as well. I've never done anything like that before and I felt like I was really learning.

Mentor - So how do you think the co-teach lesson went overall?

Mentee - Well I really enjoyed co-teaching. It was nice to have another adult in the room to bounce ideas off of in real time and to have that in the moment support when working on this goal. Overall I was very happy with the lesson. I feel like doing the math ahead of time got me more ready to monitor their work - and plus having you there with me...you pointed out things in their work I don't know if I would have noticed on my own.

Mentor - That's great! I agree - I feel like we were really set up to monitor their work. What do you think was most effective about us team teaching that directly impacted student learning and your teaching practices?

Mentee - I really liked how we had the lesson divided up ahead of time because I knew exactly what areas I needed to focus on. I also liked how I got to see you in action working with the students when you led the discussion. I gained some new ideas on how to do that.

Mentor - That's wonderful! I also thought you did a great job referring to the strategies we wrote on the recording sheet - like when you were looking at Shawn's work you were using it to figure out how he was getting started. Is there anything looking back, that you would change or modify about how the lesson went?

Mentee - Hmmmm, let me think for a minute. Maybe the pacing. I think because there were two of us monitoring we really got into it and lost track of time a little bit and I was late starting my reading lesson.

Mentor - I agree with you on that point. And I think that's something that can happen when you're monitoring student work, especially if the kids are really into the work. Next time let's try setting a timer to help us take on track. So what are your top take-aways from this co-teaching experience?

[Mentor and mentee continue conversation]

Co-Teaching: Key Takeaway

Mentors use co-teaching to demonstrate growing confidence in mentees and support achievement of their SMART goals.

Make a Commitment to Start the Year Strong!

1. How will you establish a strong relationship with your mentee?

2. How will you engage in beginning of the year mentoring?

Module 4-5 Survey

http://tinyurl.com/y5kyoz9c