Math Module 1 Overview

Module Title: Setting the Foundation for Implementing the Curriculum

Module 1 establishes knowledge and understanding critical to implementing a high-quality curriculum with fidelity. This knowledge serves as the foundation for learning in sessions throughout Modules 2–6.

In Session 0, participants understand the rationale for the overall scope of work and goals of the initiative. In Session 1, teachers define the three key shifts of the Louisiana Student Standards of Mathematics (LSSM) and identify examples of each within the EngageNY curriculum. In Session 2, participants use the Louisiana Focus documents and the Student Achievement Partners Coherence Maps to visualize and understand focus and coherence in the standards. In Session 3, participants gain clarity on how the content standards manifest in the secondary classroom and how they look when executed well in curriculum and instruction by experiencing an EngageNY lesson. The mathematics learning experience gives context for Session 4. Teachers unpack the structure of the EngageNY lesson connected to the mathematics learning experience in Session 3 and identify implications for planning and delivering high-quality, standards-aligned mathematics instruction. Session 5 highlights the need for establishing a productive classroom culture and building strong learning mindsets in students to support perseverance in problem solving. Teachers identify ways in which educators' beliefs about learning are reflected in the culture of the classroom and how these beliefs influence students' beliefs and behaviors.

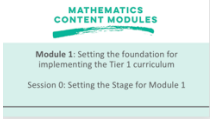
Key Understandings

After Module 1, participants will know:

- The key shifts play a critical role in the implementation of the LSSM:
  - Focus — by narrowing in on fewer topics in a lesson or unit to ensure teachers have adequate time to push students towards mastery of key mathematical concepts.
  - Coherence — by viewing the standards as interconnected across grade-levels and across domains within a grade-level rather than as isolated events.
  - Rigor — by ensuring that conceptual understanding, procedural skills, and fluency drive the exploration of mathematical content at greater depths, culminating with the ability to apply mathematics to solve real-world problems.
- When instruction using the EngageNY curriculum is executed well, the key shifts are evident and visible in every lesson.
- The importance of intentional planning and attention to all the EngageNY lesson components.
- Establishing a positive classroom culture is essential to support perseverance in solving problems.

Module 1: Facilitation Recommendations	
Session Length	Six-hour module including: Session 0: Setting the Stage for Module 1 (10 minutes) Session 1: Rigor of the LSSM (60 minutes) Session 2: Focus and Coherence of the LSSM (90 minutes) Session 3: Key Shifts in Action Through an EngageNY Lesson (60 minutes) Session 4: Exploring the EngageNY Curriculum (90 minutes) Session 5: Classroom Culture (50 minutes) Plus: Module 1 Closing Slides and Participant Evaluation Survey (20 minutes)
Session Pairing Options	The recommended facilitation of Module 1 is to be done as a full six-hour day of professional learning, with all five sessions facilitated back to back. If Module 1 must be facilitated in separate sessions, it is highly recommended to facilitate Sessions 3 and 4 together in one session. Facilitators should plan for participants to take the Module 1 participant evaluation survey immediately following Session 5, preferably before leaving the session.

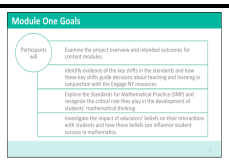
Time & Slide Thumbnail	Facilitator Notes Session 0	Materials


Slide 1
Time Allotted: 3 minutes
	Session 0: Setting the Stage for Module 1
	Slides 1–4: 10 minutes
	
	Critical Idea
	• It is important to set a positive tone for learning.
	
	Step-By-Step Instructions
	• Before each session, use handout **M1_CL-01 Posters and Handouts Guide** to organize your preparation.
	• As participants come in for the day, ask them to sit in mixed grade-level groups of 4. This grouping is critically important for the work in Sessions 1 and 2.
	• Welcome the group. Say, "Throughout the learning sessions, you will engage in mathematics tasks and discussions designed to strengthen your understanding of the LSSM, and you will have multiple opportunities to consider ways that you can continue to support student learning of mathematics content through the high-quality curriculum."
	• Take care of "housekeeping" items prior to starting the session:
	  ○ Scheduled start and stop times
	  ○ Breaks
	  ○ Lunch
	  ○ Location of restrooms
	  ○ Silencing of cell phones
	  ○ Orienting participants to the handouts for the day, including the handout of the slides (**M1_P-00 Module 1 Presentation Slides**)
	
	Words of Wisdom
	• If you perceive any resistance, the basic strategy is:
	(1) acknowledge the resistance,
	(2) honor and validate it with a reason or two,
	(3) provide a rationale for engaging, and
	(4) tie it to the work of the session.	

 Slide 2 Time Allotted: 1 minute	***Critical Idea*** • For participants to buy in to the project, it is important to provide them with the goal and purpose. ***Step-By-Step Instructions*** • Say, "The work in which you are engaged is part of a bigger picture, and this first learning session will help establish the foundation for future learning. The overarching goal of the initiative is to improve the quality of instruction in math classrooms by developing deep mathematical content knowledge of teachers and connecting that content knowledge to the practical implementation of a quality curriculum." ***Words of Wisdom*** • This slide provides participants with the goal of the three-year initiative. Image credit: Chad Baker/Jason Reed/Ryan McVay/Photodisc/ Thinkstock (Item number: AA014176)	

Time & Slide Thumbnail	Facilitator Notes Session 0	Materials

Slide 3
Time Allotted: 5 minutes
	Critical Idea
	• Being clear about how a group is expected to collaborate will create an environment that fosters intellectual risk-taking and reflection.
	
	Step-By-Step Instructions
	• Say,
	  ○ "We will use a set of group norms that will guide collaboration today and throughout future learning sessions. The norms are not about logistics. This set of norms is intended to support individual and group learning by influencing how we act and learn together. In addition, these norms will help remind us that mistakes are a natural part of learning and that we need to value mistakes for the learning opportunities they provide."
	  ○ "Read the slide independently and highlight one or two norms you will focus on to help support collaborative learning throughout Module 1."
	• Call on a few participants to share the norm(s) highlighted and explain why they chose to focus on the norm.
	
	Words of Wisdom
	• Norm-setting is an important step that sets the tone for professional learning. Allowing participants to share the norms they will focus on encourages ownership and buy-in to these guidelines.
	
	Citation:
	These norms have been adapted from recommendations in a variety of sources, including: National Research Council. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: The National Academies Press.
	The last norm ("Mistakes are expected, respected, and inspected") was shared by Jo Boaler in an early version of her online course. A current version, "How to learn math: For teachers," is available here: http://scpd.stanford.edu/ppc/how-learn-math-teachers	

 Slide 4 Time Allotted: 1 minute	***Critical Idea*** • The lens for learning is beginning with the end in mind. ***Step-By-Step Instructions*** • Ask participants to quietly read the Module 1 learning expectations. • Summarize the slide: "Module 1 is about setting the foundation for implementing a high-quality curriculum aligned to the LSSM." ***Words of Wisdom*** • This slide should be brief and is about clarifying the learning expectations of Module 1.	

Math Module 1, Session 1 Overview

Session Title: Key Shifts of the LSSM

Grade Band 6–9

Session Overview *What are the overarching goals of this session? Why are those goals important?* *How do they connect to what has come before and what will come after?*	
In Session 1, participants define the key shifts of focus, coherence, and rigor and identify examples of each within the EngageNY curriculum. In addition, participants identify the implications for teaching and learning as described by the key shifts. In Session 2, teachers determine evidence of focus and coherence in the standards through an exploration of the Louisiana Math Focus documents and the Student Achievement Partners Coherence Maps.	
Session Key Points *What are the 2 to 4 most important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*

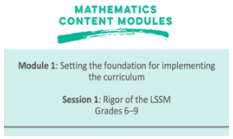
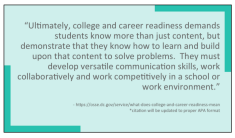
Participants will know:
• The key shifts play a critical role in the implementation of the LSSM:
  ○ Focus — by narrowing in on fewer topics in a lesson or unit to ensure teachers have adequate time to push students towards mastery of key mathematical concepts.
  ○ Coherence — by viewing the standards as interconnected across grade levels and across domains within a grade level rather than as isolated events.
  ○ Rigor — by ensuring that conceptual understanding, procedural skills, and fluency drive the exploration of mathematical content at greater depth, culminating with the ability to apply mathematics to solve real-world problems. Rigor is about giving equal intensity to conceptual understanding, procedural skills and fluency, and application to real-life situations. It is not about giving students more or harder problems.
• The components of rigor are evident within the EngageNY lessons.
• The key shifts require teachers to focus instruction on the major work of each grade level/course while carefully connecting the learning within and across grades. Teaching and learning should demonstrate a balance in time for developing conceptual understanding, procedural skill and fluency, and application skills.
	• Produce a poster that aligns the components of rigor of an EngageNY lesson to the LSSM for grades 6–9. Teachers identify the component of rigor addressed in each of the components of an EngageNY lesson.

Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will… • Define the key shifts in the standards and how these key shifts guide decisions about teaching and learning in conjunction with the EngageNY resources. (CK, CP, CS) • Identify the components of rigor in the EngageNY resources. (CK, CS) CK: Content Knowledge CP: Content Pedagogy CS: Curriculum Skills	• Open conversation to define the meaning of "college and career readiness." • Use text protocol **M1_CL-03 Save the Last Word for ME** with handout **M1_P-01 Key Shifts in Mathematics** to define focus, coherence, and rigor in the standards. • Align sample EngageNY problems to the LSSM. • Identify the components of rigor addressed in each of the problems from the previous activity. • Reflect on Session 1.

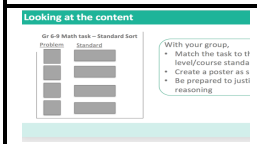
Facilitation Recommendations	
Session Length	60 minutes
Time of Year	Beginning of the year

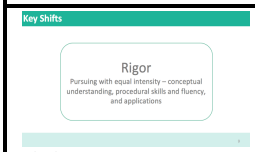
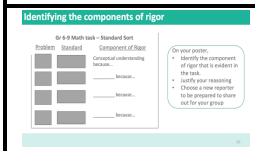
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	
Session Materials: • Handout **M1_P-01 Key Shifts in Mathematics** **Additional Supplies:** • Chart paper (1 paper for every 4 participants) • Markers • Glue • Sticky notes	**Facilitator Pre-Work and Prep:** • Print and cut handout **M1_CL-02 EngageNY Tasks — Standards Card Sort** (1 set per every 4 participants). • Print participant handouts (1 per participant). • Review **M1_CL-03 Save the Last Word for ME**.

Participant Pre-Work *What should participants bring to this session? What should they do to prepare in advance of this session?*	
Participants must bring: • Laptop or mobile device	**Before this session, participants should:** • N/A

Time & Slide Thumbnail	Facilitator Notes Session 1	Materials
 Slide 5 Time Allotted: < 1 minute	**Session 1: Rigor of the LSSM** **Slides 5–12: 60 minutes** ***Critical Idea*** • This slide is an introductory slide for Session 1. ***Step-By-Step Instructions*** • Welcome participants to Session 1 and then transition to the next slide. ***Words of Wisdom*** • All timing is based on the recommended group size of 12 to 36 participants. For Session 1, participants should be sitting in mixed grade-level groups of 3.	
 Slide 6 Time Allotted: 2 minutes	***Critical Idea*** • The quote highlights that students' attainment of the LSSM is critical to becoming college and career ready. Students must develop strong problem-solving and communication skills in addition to understanding the content. ***Step-By-Step Instructions*** • Say, "Silently read the quotation on the slide. As you read, make note of any words or phrases that resonate with you." • After participants have read the quote, ask 2 or 3 participants to share a phrase within the quote that stands out. • Say, "It is necessary to acknowledge that students' attainment of the LSSM is critical to becoming college and career ready. The quote highlights the point that we must teach students more than just the content; students must have frequent opportunities to develop a diverse set of collaborative and problem-solving skills. As we continue through this session and future sessions this year, we will build on your understanding of how this will look in the classroom and the implications it will have on teaching and learning. " ***Words of Wisdom*** • Allowing participants to share their thoughts and reflections about learning provides the opportunity to find common thinking among our colleagues. This helps to build a stronger sense of community among participants. • Take heed of comments about traditional mindsets of teaching and be prepared to address the comments throughout the rest of the module.	

Slide 7
Time Allotted: 20 minutes
	Critical Idea
	● The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning.
	
	Step-By-Step Instructions
	• Say, "The LSSM require shifts in educators' thinking for curriculum, instruction, and assessment to be aligned. The shifts are called out specifically in three areas. We will do a text protocol to clarify each of the three key shifts. Turn to handout **M1_P-01 Key Shifts in Mathematics**."
	• Divide participants into groups of 3. Assign:
	  ○ Tallest person to be responsible for focus.
	  ○ Middle-height person to be responsible for coherence.
	  ○ Shortest person to be responsible for rigor.
	• Direct participants to follow **M1_CL-03 Save the Last Word for ME** text protocol.
		M1_P-01 Key Shifts in Mathematics
		
		M1_CL-03 Save the Last Word for ME

Time & Slide Thumbnail	Facilitator Notes Session 1	Materials
	○ Participants should do the text protocol in groups of 3 instead of 4 to study the three key shifts. • When all groups are done, **animate the slide**. Say, "Here are definitions for each of the shifts. Do you see your discussion points on this slide?" • Describe the three shifts as displayed on the screen. Say, ○ "Focus: This shift is about moving away from a mathematics curriculum that is a mile wide and an inch deep. Focus can inform educators on how to allocate their time, energy, and resources in the mathematics classroom because the standards call out the major work for each grade level/course, making each grade/course unique." ○ "Coherence: This shift is about moving away from teaching topics in isolation to the interconnectedness of mathematics and students' making sense of the mathematics within a grade and among grades. This shift requires educators to move away from considering a standard as an isolated event." ○ "Rigor: This shift is about moving away from a sole emphasis on procedures, conceptual understanding, or real-life situations, and gives equal value to all three aspects. This shift is not about giving students more or harder problems." ○ "We will use these definitions to guide our learning in future sessions." ***Words of Wisdom*** • A copy of this protocol is in your facilitator resources packet, or can be found here: http://www.nsrfharmony.org/system/files/protocols/save_last_word_0.pdf	
 Slide 8 Time Allotted: 12 minutes	***Critical Idea*** • A strong understanding of the LSSM is critical for teachers to implement the Tier 1 resources with fidelity and integrity. Teachers must be able to use the language of the standards to guide high-quality, standards-aligned teaching and learning. ***Step-By-Step Instructions*** • Say, "To make sense of the learning expectations of each grade level and how students will be learning the mathematics content, we will spend the next few minutes analyzing sample problems pulled directly from the Problem Set component of your EngageNY lessons." • Pass out a sheet of chart paper and a card set for each group. (The card set is on handout **M1_CL-02 EngageNY Tasks — Standards Card Sort**. Prior to the session, a set of cards should be copied on cardstock, cut apart, and placed in a plastic bag for each group.) • Say, ○ "Your group has a set of 8 cards." ○ "Four of the cards include an EngageNY math task, one for each of the grades 6–9." ○ "The other 4 cards include the grade level or course standard that the task is aligned to." ○ "You will notice that the grade level and standard coding are not listed for each of the tasks." ○ "Your group's task is to read through each of the tasks and identify the standard the task is aligned to." ○ "As you read and discuss, think about how the task is aligned to the language of the standards."	Chart paper Markers Glue **M1_CL-02 EngageNY Tasks — Standards Card Sort**

Time & Slide Thumbnail	Facilitator Notes Session 1	Materials
	○ "When your group has come to a consensus, place your cards on chart paper as shown on screen." ○ "Then choose a representative from your group to share and justify your placement of the standards." • Allow 8 to 10 minutes for groups to discuss and create their posters. • When groups have completed the task, debrief with a whole group discussion. ○ Ask, "How did the language of the standards help you identify the match and place the tasks into a progression?" ○ Have representatives from each group share a few specific examples of language from the standards that helped them to determine their placement. • **Animate the slide** to reveal the actual order of the standards from grades 6–9. ***Words of Wisdom*** • Move around groups, monitoring conversations, answering questions, and prompting discussions around the mathematics in the standards.	
 Slide 9 Time Allotted: 1 minute	***Critical Idea*** • The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning. ***Step-By-Step Instructions*** • Say, "The K–12 LSSM lay the foundation that allows students to become mathematically proficient by focusing on the key shift of rigor. Rigor includes three areas: conceptual understanding, procedural skill and fluency, and application. For this next activity, please refer to the definition of the components of rigor on handout **M1_P-01 Key Shifts in Mathematics**. Use these definitions to ground your discussion." ***Words of Wisdom*** • It is critical that teachers use the definitions of the components of rigor from handout **M1_P-01 Key Shifts in Mathematics** to ground their conversation on the next slide.	**M1_P-01 Key Shifts in Mathematics**
 Slide 10 Time Allotted: 12 minutes	***Critical Idea*** • For instruction to be rigorous, teachers must have a clear understanding of the components of rigor. This activity allows teachers to identify each of the components of rigor in the EngageNY tasks sorted on slide 9. ***Step-By-Step Instructions*** • Say, ○ "As a group, revisit the tasks on your poster. For each of the tasks, come to a consensus on the component(s) of rigor that is evident in the task." ○ "On your poster, choose a recorder to write whether you think the task requires conceptual understanding, procedural skill and fluency, and/or application <u>and</u> provide justification. Use the definitions from handout **M1_P-01 Key Shifts in Mathematics** to guide your discussion." ○ "It is important to note that application requires the other two components; thus, it's not necessary to add them in addition to application if that's the primary component identified." ○ "Choose a new reporter to be prepared to share with the whole group when time is up." • Give participants 10 minutes to discuss in small groups.	**M1_P-01 Key Shifts in Mathematics**

Time & Slide Thumbnail	Facilitator Notes Session 1	Materials

	• Debrief the activity by asking the reporter of each group to share their thinking about one of the grade levels. The first table group should begin with grade 6, the next table group with grade 7, etc., until all four problems have been discussed.
	• If it has not surfaced yet in conversation, summarize the debrief by reiterating the following:
	  ○ Each of the components of rigor is equally important to student mastery.
	  ○ Rigorous teaching in mathematics does not simply mean increasing the difficulty or complexity of practice problems.
	  ○ Incorporating rigor into classroom instruction and learning means exploring at a greater depth the standards and the ideas with which students are grappling.
	  ○ For instruction to be rigorous, teachers must have a clear understanding of the components of rigor and make connections to these components in the Tier 1 resources.
	  ○ The element of rigor assigned to each standard is intended to help teachers understand how to facilitate the learning. For example, if the standard explicitly calls for conceptual understanding, then the focus of the instruction will be on building student understanding of how the math works with visual models. While if the standard explicitly calls for procedural skills and fluency, then the instruction may continue to make use of those visual models but should be pushing for students to transition into more efficient strategies.
	
	Words of Wisdom
	• This activity is a great opportunity for teachers to make connections to the EngageNY resources. As you circulate around the room, make note of points of contention in small group discussions (regarding the key shifts) and be prepared to clarify misconceptions heard in the whole group debrief.	

  Slide 11 Time Allotted: 7 minutes	***Critical Idea*** • In order to prepare students to be college and career ready, they must have ***regular*** opportunities in the classroom to develop a diverse set of skills including grit, humility, problem solving, and communication skills. ***Step-By-Step Instructions*** • Transition to this slide by referencing the quote from the opening slide of this session. Restate the end of the quote and say, *"…demands students know more than just content, but demonstrate that they know how to learn and build upon that content to solve problems. They must develop versatile communication skills, work collaboratively, and work competitively in a school or work environment."* • Leave the slide as it is (with the graphic on it) for the beginning of this conversation. <u>Do not animate the slide yet</u> or the list will appear and discussion will stop. • Ask participants, "What skills do employers value most?" • Prompt participants to talk with an elbow partner and brainstorm at least three skills they anticipate will be included on the list. • After 3 minutes, call on 2 or 3 participants to share with the group one of the skills they brainstormed. • **<u>Animate the slide</u>** to reveal the list of skills from *Forbes* magazine. If any skills on the list were not mentioned in discussion, ask participants to reflect on why the skills might have been included.	

Time & Slide Thumbnail	Facilitator Notes Session 1	Materials

	• **<u>Animate the slide</u>**. Ask participants to discuss with their same elbow partner the questions on the screen. Say,
	  ○ "What implications does this have on planning and instruction?"
	  ○ "How do the implications connect to the key shifts of the LSSM?"
	
	Words of Wisdom
	• Giving participants time to brainstorm a list of skills with a partner will help generate a more meaningful conversation.
	
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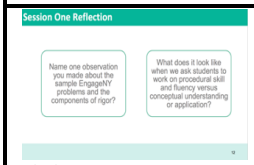
 Slide 12 Time Allotted: 5 minutes	***Critical Idea*** • Reflecting on our learning is important to solidifying understanding and making progress toward accomplishing the goals of the initiative. ***Step-By-Step Instructions*** • Give participants 3 minutes to reflect on the questions. Participants should record their responses on handout **M1_P-00 Module 1 Presentation Slides**. • Once participants have completed their reflections, collect the papers to review after the session. • Close the session by revisiting the goal of Session 1. Say, ○ "The goal of Session 1 was to define the key shifts in the standards, describe how these key shifts guide decisions about teaching and learning, and identify specific examples of how the components of rigor manifest in the EngageNY resources. We will build on this knowledge in Session 2 when we explore the key shifts of focus and coherence." • If participants have any lingering questions after the session, direct them to place the questions on the Parking Lot poster before they leave the session. If necessary, address the questions in Session 2. ***Words of Wisdom*** • This is an opportunity for participants to share their learning from Session 1. • Again, if you perceive any resistance, the basic strategy is: (1) acknowledge the resistance, (2) honor and validate it with a reason or two, (3) provide a rationale for engaging, and (4) tie it to the work of the day.	

Math Module 1, Session 2 Overview

Session Title: Focus and Coherence of the LSSM

Grade Band 6–9

Session Overview *What are the overarching goals of this session? Why are those goals important?* *How do they connect to what has come before and what will come after?*	
In Session 2, participants acknowledge mathematics standards are not isolated concepts. Participants use the Louisiana Focus documents and the Student Achievement Partners Coherence Maps to visualize and understand the key shifts of focus and coherence in the standards. Participants identify the major work of each grade level and describe how the major work builds student understanding by linking together concepts within and across grades. In Session 3, participants apply their understanding of the key shifts to identify evidence of focus, coherence, and rigor in an EngageNY lesson.	
Session Key Points *What are the 2 to 4 most important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*

Participants will know:
• The key shifts play a critical role in the implementation of the LSSM:
  ○ Focus — by narrowing in on fewer topics in a lesson or unit to ensure teachers have adequate time to push students towards mastery of key mathematical concepts.
  ○ Coherence — by viewing the standards as interconnected across grade levels and across domains within a grade level rather than as isolated events.
• The major work for each grade level/course is identified in the Louisiana Focus documents and illustrates focus in the standards.
• Student Achievement Partners Coherence Maps shows connections between the standards for mathematics.
	• Use chart paper to create a description of coherence between three related standards across grade levels.

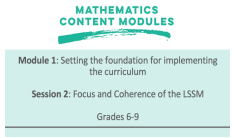
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will… • Describe focus and coherence in the standards and how these key shifts guide decisions about teaching and learning. (CK, CP) • Use resources that clarify the major work of each grade level/course. (CS) CK: Content Knowledge CP: Content Pedagogy CS: Curriculum Skills	• Revisit the definitions of focus and coherence in the LSSM • Use the Louisiana Focus documents to summarize the major and supporting work of grades 6–9. • Watch Achieve the Core video (William McCallum) to explain the importance of connections within mathematics. • Explore the Student Achievement Partners Coherence Maps to identify connections between related standards. • Reflect on Session 2.

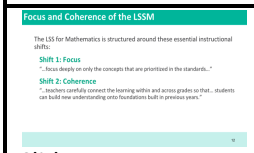
Facilitation Recommendations	
Session Length	90 minutes
Time of Year	Beginning of the year

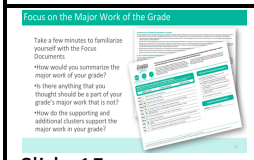
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	

Session Materials:
• Optional handout: Louisiana Focus documents hard copy
 	
Additional Supplies:
• Chart paper (1 paper for every 4 participants)
• Markers
• Glue
• Sticky notes
	Facilitator Pre-Work and Prep:
	• Print participant handouts (1 per participant).
	• Review the following to familiarize with the documents:
	  ○ Louisiana Focus documents.
	  ○ Student Achievement Partners Coherence Maps.

Participant Pre-Work *What should participants bring to this session? What should they do to prepare in advance of this session?*	
Participants must bring: • Laptop or mobile device	**Before this session, participants should:** • N/A

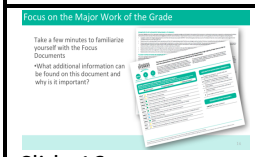
Time & Slide Thumbnail	Facilitator Notes Session 2	Materials
 Slide 13 Time Allotted: < 1 minute	**Session 2: Focus and Coherence of the LSSM** **Slides 13–25: 90 minutes** ***Critical Idea*** • This slide is an introductory slide for Session 2. ***Step-By-Step Instructions*** • Say, "We will now begin Session 2." ***Words of Wisdom*** • For Session 2, participants should be sitting in mixed grade-level groups of 3 or 4. You may choose to switch the groups or keep them in the same triads from Session 2.	


Slide 14
Time Allotted: 3 minutes
	Critical Idea
	• The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning.
	
	Step-By-Step Instructions
	• Say,
	  ○ "In the previous session, we introduced the three key shifts of the LSSM and closely examined the key shift of rigor. For this session, we are going to explore how the other two shifts of focus and coherence play a significant role in implementing the LSSM."
	• **<u>Animate the slide</u>**. Say,
	  ○ "When referring to the focus of the standards, we are making reference to how the standards focus deeply on concepts that are prioritized in the standards."
	  ○ "The Louisiana Student Standards for Mathematics are manageable with fewer standards than before, and clearly state what is expected of the students at each grade level."
	• **<u>Animate the slide</u>**. Say,
	  ○ "Coherence is about making the math make sense. This is accomplished in two ways."
	  ○ "First, you will see coherence across grades as the standards direct us to have students apply learning from a previous grade to learn a new topic."
	  ○ "Second, you will also see coherence within a grade in the standards as they direct us to reinforce a major topic in a grade by utilizing a supporting topic."
	• **<u>Animate the slide</u>**. Say,
	  ○ "Let's begin by taking a closer look at the key shift of focus."
	
	Words of Wisdom
	• Keep this slide simple and brief.	

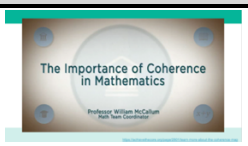
 Slide 15 Time Allotted: 10 minutes	***Critical Idea*** • The LSSM focus deeply on concepts prioritized by the major work of the grade level/course. ***Step-By-Step Instructions*** • Have participants select their grade-level Focus documents from https://www.louisianabelieves.com/resources/library/k-12-math-year-long-	https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning

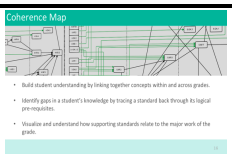
Time & Slide Thumbnail	Facilitator Notes Session 2	Materials

	planning, or have the documents printed for each person prior to the session.
	• Say,
	  ○ "The front of this document shows the domains and cluster headings for your specific grade level."
	  ○ "You will see that some of the cluster headings are marked with green squares. These indicate the major clusters for this grade and are the main focus of the grade."
	  ○ "The other content listed here, the supporting clusters (blue squares) and the additional clusters (yellow circles) are also important. All standards should be covered for a grade level; these supporting and additional clusters are just standards that support the learning of the main focus of the grade."
	  ○ "The green squares represent concepts students must leave their grade knowing. Without a solid foundation of these ideas, they will be set up for failure as they continue through the years."
	  ○ "You will notice in a footnote at the bottom of the page a statement that says 65 to 85 percent of class time should be devoted to the major work of the grade."
	• **Animate the slide**. Say, "Take a few minutes to explore and familiarize yourself with this document. When you have had a chance to read over it, have a conversation with your group around these questions."
	• Allow 5 minutes for participants to read and discuss the questions.
	• Have several participants share responses to the questions.
	
	Words of Wisdom
	• Major work for a grade level should be a summary that encompasses all of the major clusters. The supporting clusters should be presented in the context of the major work.
		or
		
		Print the Focus documents for each participant for their specific grade.

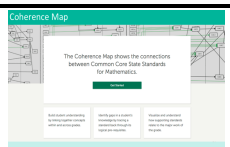

Slide 16
Time Allotted: 7 minutes
	Critical Idea
	• The LSSM focus deeply on concepts prioritized by the major work of the grade level/course.
	
	Step-By-Step Instructions
	• Say,
	  ○ "This document includes important information in addition to the major focus of the grade level."
	  ○ "Take a minute to examine the additional information that is provided for you on the back of this document and discuss with your group why this information is important for your grade level."
	• Allow 5 minutes for participants to read and discuss the additional information found on the back of the document.
	• Choose several participants to share key findings and describe the importance of each finding.
	
	Words of Wisdom
	• Make sure the participants notice the Examples of Key Advances from the previous grade as well as the Fluency Expectations.	

Time & Slide Thumbnail	Facilitator Notes Session 2	Materials


Slide 17
Time Allotted: 12 minutes
	Critical Idea
	• Coherence in mathematics is identifying how ideas logically flow from previous understandings to higher order structures.
	
	Step-By-Step Instructions
	• Say,
	  ○ "The standards are related to one another in a variety of ways. One way is the relationship you just explored, where standards within a grade level address or support the major work for that grade."
	  ○ "Another way that standards relate is across grade levels. You can see the coherence across the grades as you see how the students apply learning from the previous grade to learn a new topic."
	  ○ "We are going to watch a short video with one of the lead writers of the Common Core standards, William McCallum. In this video, he explains the importance of connections within mathematics and the value of students understanding the structure and coherence of the subject."
	  ○ "As you watch the video, I would like for you to think about two or three key takeaways from what you hear about coherence. Be ready to share these takeaways with your group when the video is over."
	• Play video on slide 17 (also located here: https://vimeo.com/81639437) [5-minute video].
	• Once video is complete, allow no more than 5 minutes for participants to share with their group their key takeaways from the video.
	• Have several participants share one takeaway they discussed in their small group.
	• Possible responses:
	  ○ Students don't see the connections in math even though they have memorized steps and procedures.
	  ○ In math, different ideas later become unified.
	  ○ Standards are not intended to be a list of discrete bullets.
	
	Words of Wisdom
	• N/A
		https://vimeo.com/81639437


Slide 18
Time Allotted: 3 minutes
	Critical Idea
	• Slides 18–23 guide participants through how to use the Coherence Map.
	
	Step-By-Step Instructions
	• Tell participants:
	  ○ "The Coherence Map is an interactive website that illustrates the coherent structure of the standards for mathematics K–8. This site provides one representation of how the standards are connected to each other and is derived from the wiring diagram you see in this image."
	  ○ "The Coherence Map can be used to:" (**Animate each bullet point**.)
	  ▪ "Build student understanding by linking together concepts within and across grades."
	  ▪ "Identify gaps in a student's knowledge by tracing a standard back through its logical prerequisites."
	  ▪ "Visualize and understand how supporting standards relate to the major work of the grade."
	
	Words of Wisdom	

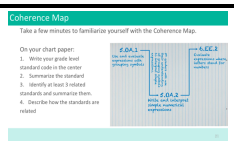
Time & Slide Thumbnail	Facilitator Notes Session 2	Materials
	• It is important to clarify that the Coherence Maps were created for the CCSSM, not the LSSM. Acknowledge that this is not overly problematic, but there are cases where this is problematic. *Image credit:* https://achievethecore.org/coherence-map/	


Slide 19
Time Allotted: 2 minutes
	Critical Idea
	• Slides 18–23 guide participants through how to use the Coherence Map.
	
	Step-By-Step Instructions
	• Provide participants with the link to the Coherence Map (https://achievethecore.org/coherence-map/) and invite them to follow along as you guide them through how to use/navigate the site.
	• Say,
	  ○ "When you arrive at the opening page for the Coherence Map, you will notice the same statements that we just discussed listed here as a reminder."
	  ○ "You will begin exploring the Coherence Map by clicking on the 'Get Started' button in the center of the screen."
	
	Words of Wisdom
	• N/A
		https://achievethecore.org/coherence-map/

Slide 20
Time Allotted: 1 minute
	Critical Idea
	• Slides 18–23 guide participants through how to use the Coherence Map.
	
	Step-By-Step Instructions
	• Say,
	  ○ "The standards in the Map are organized by grade."
	  ○ "Select the grade you wish to explore on this page."
	
	Words of Wisdom
	• N/A	

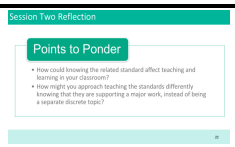
Slide 21
Time Allotted: 1 minute
	Critical Idea
	• Slides 18–23 guide participants through how to use the Coherence Map.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Once you have selected your grade level, the standards within that grade are organized by domain."
	  ○ "Select the domain 'Operations and Algebraic Thinking.'"
	
	Words of Wisdom
	• N/A	

 Slide 22 Time Allotted: 5 minutes	***Critical Idea*** • Slides 18–23 guide participants through how to use the Coherence Map. ***Step-By-Step Instructions*** • Say, ○ "Now you will see a list of all the standards falling under that domain for your grade level."	

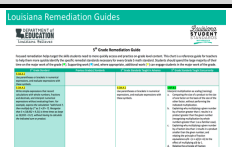
Time & Slide Thumbnail	Facilitator Notes Session 2	Materials
	○ "They are organized by cluster and are in order by their standard number." • **Animate the slide**. Say, "When you click on the 'Map Standard' button for a standard, it will open up a wire diagram showing all the related standards for this standard." • **Animate the slide**. Say, ○ "To read this diagram, the arrows indicate related standards in cases where a student who cannot meet A is not likely to be able to meet B." ○ "In this example on the screen, if a student has not had experience with standard 5.OA.A.1, then they are unlikely to be successful with 5.OA.A.2." ○ "The same could be said for the other side: If a student does not get sufficient experience with the selected standard of 5.OA.A.2, then they are unlikely to be successful with any of these related 6th grade standards in the following year." ○ "You should know that sometimes the prerequisite standards identified on the map are from a previous grade level, but sometimes there are prerequisite standards within the same grade level as well, as you see here." • **Animate the slide**. Say, "The dashed lines that appear on the map represent related standards that are not necessarily intended to come before or after, but can be taught as support concurrently with the selected standard." ***Words of Wisdom*** • N/A	
 Slide 23 Time Allotted: 25 minutes	***Critical Idea*** • To plan for remediation, it is critical that teachers understand how standards are related. ***Step-By-Step Instructions*** • Say, "Take a few minutes to explore the Coherence Map and familiarize yourself with its structure." • Allow no more than 5 minutes for participants to explore the Coherence Maps. While participants are exploring, pass out chart paper and markers. • Ask 1 or 2 participants to share an observation about the Coherence Maps. ○ If it hasn't surfaced already, acknowledge that only grades K–8 have active Coherence Maps. Student Achievement Partners will publish high school maps in the future. Until then, teachers will use the Louisiana Algebra I Remediation Guide to support exploration of standards. • Say, ○ "For this activity, we will explore the coherence of the standards we used in Session 1 for the rigor card sort activity." ○ "Locate your grade level's standard from Session 1 and find that standard on the site." – 6th grade: 6.RP.A.1 – 7th grade: 7.RP.1.2c – 8th grade: 8.EE.B.5 – Algebra: F-LE.A.1b NOTE: 9th-grade teachers will not be able to locate their standard on a Coherence Map. Direct Algebra teachers to access the Louisiana Algebra I Remediation guide (either online or give them a hard copy) and look up standard F-LE.A.1b. The previous grade standards identified in the remediation guide will be the standards they will explore on the	Chart paper Markers Algebra teachers will need to access the Louisiana Algebra I Remediation Guide online or you can choose to print a hard copy (1 copy for every 4 Algebra participants).

Time & Slide Thumbnail	Facilitator Notes Session 2	Materials

	Coherence Map.
	• **Animate the slide**. Say, "I am going to explain what you will do for the rest of this activity before I release you to work with your groups."
	• **Animate the slide**. Say, "First, on your chart paper, you are going to write the grade-level standard code in the center."
	• **Animate the slide**. Say, "Then, you will work with your group to summarize the main focus of that standard."
	• **Animate the slide**. Say, "Next, using the Coherence Map, you will identify at least three related standards and summarize them. Try to place them in similar locations on your chart as they are on the Coherence Map. Don't forget to draw the arrows or dashed lines to show the relationship."
	• **Animate the slide**. Say,
	  ○ "Finally, you will work with your group to discuss how the standards are related and write a description of that relationship near the arrows. For example, in this visual, students will use what they learned about evaluating expressions with grouping symbols in 5.OA.1 to write and interpret simple numerical expressions in 5.OA.2."
	  ○ "Are there any questions about what you are going to do?"
	• Answer any clarifying questions.
	• Before releasing them to work, say, "Remember the most important part of this activity is the conversation around the relationships of the standards. Don't rush this conversation; take your time to discuss how standards are related and why that is important."
	• Allow 20 minutes for the participants to complete this activity.
	
	Words of Wisdom
	• Algebra teachers will use the Louisiana Algebra I Remediation Guide to identify previous grade standards to explore on the Coherence Maps.
	• Don't rush this conversation. It is crucial for teachers to see the relationships between the standards in order to make adjustments for remediation and to identify gaps in learning.	

 Slide 24 Time Allotted: 10 minutes	***Critical Idea*** • To plan for remediation, it is critical that teachers understand how standards are related. ***Step-By-Step Instructions*** • Say, "Take a moment and do some personal reflection on what we just learned in Session 2. As you think about the answers to these questions, write your thoughts down on a sticky note." • Wait no more than 2 minutes for participants to reflect quietly. • Say, "Locate someone in the room you haven't talked to today. Take your sticky note with you and share your thinking around these questions." • Allow 5 minutes for participants to find a new partner and share their reflections. • Have several participants share what they discussed. • Tell participants to return to their original seats. ***Words of Wisdom*** • N/A	Sticky notes Markers

Time & Slide Thumbnail	Facilitator Notes Session 2	Materials


Slide 25
Time Allotted: 10 minutes
	Critical Idea
	• To plan for remediation, it is critical that teachers understand how standards are related.
	
	Step-By-Step Instructions
	• Say,
	  ○ "On the Louisiana Believes site, there is a resource called a 'Remediation Guide.'"
	  ○ "Take a look at some of the information on this document."
	• Participants can either navigate to the document on their laptops (https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning) or just look at the example on the slide.
	• Say, "Have a quick discussion at your table groups. What information does this document provide for you? How does this information relate to what we just learned? How will this document be helpful for you when planning?"
	• Allow no more than 5 minutes for participants to discuss and then have a few participants share.
	• Possible responses:
	  ○ The Remediation Guide connects our grade-level standards to any related standards, whether it be from a previous grade level, the same grade level that should be taught in advance, or from the same grade level that can be taught concurrently.
	  ○ It also shows the color coding for which standards are part of the major work or supporting the major work.
	  ○ This is similar to the Coherence Map in that it shows me the related standards for my grade level (although it does not show the related standards for the next grade level).
	  ○ This document can help when planning around gaps in student learning by showing me what prerequisite standards to refer back to for support.
	
	Words of Wisdom
	• N/A	

Math Module 1, Session 3 Overview

Session Title: Key Shifts in Action Through an EngageNY Lesson

Grade Band 6–9

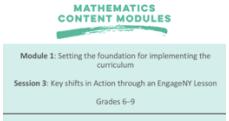
Session Overview *What are the overarching goals of this session? Why are those goals important?* *How do they connect to what has come before and what will come after?*	
In Session 3, participants experience an EngageNY lesson from a learner perspective to gain clarity on how the mathematics standards look when executed well in curriculum and instruction. Intentional teacher moves will support focus, coherence, and rigor around the mathematics content of proportional relationships and linear equations. In Session 4, participants unpack the structure of the EngageNY lesson connected to the mathematics learning experience and discuss implications for planning and delivering high-quality, standards-aligned mathematics instruction.	
Session Key Points *What are the 2 to 4 most important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*
Participants will know: • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. • Mathematical discourse gives students opportunities to share ideas and clarify understanding. • Graphs, tables, and equations can be used interchangeably to understand connections between proportional relationships and linear equations.	• Record evidence of focus, coherence, and rigor using handout **M1_P-03 Looking for Evidence of Student Engagement in the Key Shifts**. • Engage in the classwork and exercises sections of an EngageNY lesson on handout **M1_P-04 Engaging in the Mathematics**.

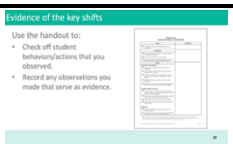
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will… • Gain clarity on how the mathematics standards manifest in the secondary classroom when executed well in curriculum instruction. (CK, CP) • See effective instructional strategies in action that can be implemented directly in their classrooms. (CP) • Identify implications for delivering high-quality, standards-aligned mathematics instruction using the EngageNY resources. (CK, CP) CK: Content Knowledge CP: Content Pedagogy CS: Curriculum Skills	• Revisit definitions of the key shifts. • Introduce handout **M1_P-02 Looking for Evidence of the Key Shifts**. • Experience an EngageNY lesson. • Use handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts** to cite specific observations of focus, coherence, and rigor in the lesson. • Reflect on Session 3.

Facilitation Recommendations	
Session Length	60 minutes
Time of Year	Beginning of the year

Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	

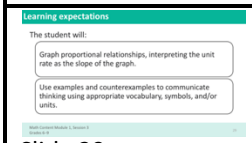
Session Materials:
• Handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**
• Handout **M1_P-03 Engaging in the Math**
 	
Additional Supplies:
• Chart paper
• Markers
	Facilitator Pre-Work and Prep:
	• Print participant handouts (1 per participant).
	• Study handout **M1_P-04 EngageNY Lesson 11: Constant Rate** (Math G8 M4 TB L11 Teacher) and the facilitator notes for Session 3 to prepare for teaching the EngageNY lesson.
	• Content leaders should designate each corner of the room as A-B-C-D.
	• Write the following statements on a piece of chart paper:
	  ○ Average rate is the rate in which something can be done over a specific interval of time.
	  ○ Constant rate assumes the average rate is the same at any time interval.
	• Create a blank Frayer model on chart paper to match the image on slide 35.

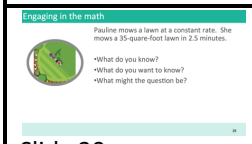
Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
 Slide 26 Time Allotted: < 1 minute	**Session 3: Key Shifts in Action Through an EngageNY Lesson** **Slides 26–39: 60 minutes** ***Critical Idea*** • This slide is an introductory slide for Session 3. *Step-By-Step Instructions* • Say, "We will now transition into Session 3. The purpose of this lesson is to deepen your own mathematical knowledge for effective instruction. It is important to keep in mind that you may experience some aha moments in this section that will not come as quickly and as easily to your students so it is important to abide by the pacing of the EngageNY curriculum, which is designed to be more developmentally appropriate for the students." *Words of Wisdom* • Direct participants to sit in mixed grade-level groups of no more than 4. • Reiterate throughout the session that it is important for participants to abide by the pacing of the EngageNY curriculum, which is designed to be more developmentally appropriate for the students.	
 Slide 27 Time Allotted: 1 minute	***Critical Idea*** • The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning. ***Step-By-Step Instructions*** • Say, "In Sessions 1 and 2, we defined the three key shifts of the LSSM and identified evidence of focus, coherence, and rigor in the standards. For this session, it is important to think about how these key shifts surface in the classroom. To ground our thinking, please revisit the definitions of the key shifts on the slide." ***Words of Wisdom*** • Keep this slide simple and brief.	

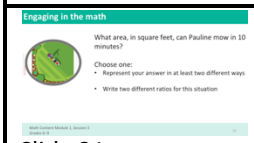
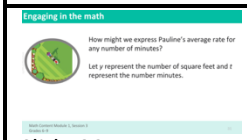

Slide 28
Time Allotted: 5 minutes
	Critical Idea
	• The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning.
	
	Step-By-Step Instructions
	• Say,
	  ○ "We are going to engage in a mathematics lesson from EngageNY to give you an opportunity to observe how the key shifts come to life in the classroom while students engage in the mathematics content."
	  ○ "It is important to note that, although the task may not be aligned to the grade level you teach, the experience is intended to surface ways in which you can connect the EngageNY lessons to inform your teaching and learning. By the end of the six modules, you will have the opportunity to experience a lesson from each of the grade levels 6–9."
	  ○ "In order to help you with this experience, we have designed a tool that will help you look for and document evidence of student engagement in the key shifts."
		M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts

Time & Slide Thumbnail	Facilitator Notes Session 3	Materials

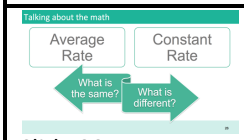
	• Ask participants to locate handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**.
	  ○ Direct participants to read the directions on the slide and then orient participants to the handout. Say,
	  ▪ "The left-hand column contains descriptors of the key shifts. Next to each descriptor is a box that can be used to check off any of the student actions that you observe in the lesson."
	  ▪ "The right-hand column should be used to document observations of specific actions that can be used as evidence for the descriptors that have been checked off in the left-hand column."
	• Give participants time to look over the information on the handout and to ask questions if they need further clarification.
	
	Words of Wisdom
	• Make sure all participants have an opportunity to read through the document to familiarize themselves with the descriptors of the key shifts. They will use these descriptors to make observations while they engage in the math lesson.	

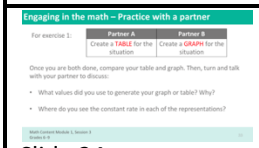

 	
Slide 29
Time allotted: 1 minute
	Critical Idea
	• Participants take on the student perspective to experience an EngageNY lesson related to the big idea studied in Session 1.
	
	Step-By-Step Instructions
	• Review the learning expectations for the day (on a poster that you created and hung on the wall ahead of time).
	  ○ Graph proportional relationships, interpreting the unit rate as the slope of the graph.
	  ○ Use examples and counterexamples to communicate thinking using appropriate vocabulary, symbols, and/or units.
	
	Words of Wisdom
	• Participants may want to discuss the lesson or talk about changes they would like to make—do not allow that to happen during the lesson. Make sure to stay in your role as the "teacher" and encourage the teachers to stay in their role as the "students."
		Create a poster of the learning expectations for the EngageNY lesson.

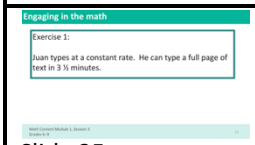
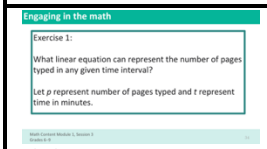

 	
Slide 30
Time Allotted: 5 minutes
	Critical Idea
	• Intentional teacher moves support focus, coherence, and rigor around the mathematics content.
	
	Step-By-Step Instructions
	• Say, "Please take out handout **M1_P-03 Engaging in the Math**."
	• Read the scenario on screen. **<u>Animate the slide</u>**.
	• Give participants 1 minute to independently respond to the questions on screen using handout **M1_P-03**.
	  ○ What do you know?
	  ○ What do you want to know?
	  ○ What might the question be?
	• After time is up, call on a few participants to share. Record responses on a piece of chart paper.
		M1_P-03 Engaging in the Math
		
		Chart paper
		
		Markers

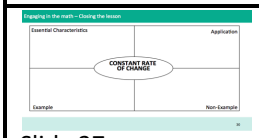
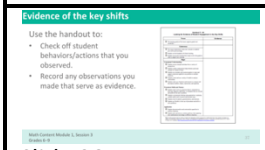
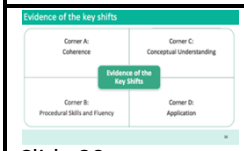
Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
	Words of Wisdom • The purpose of this slide is to show teachers how to develop conceptual understanding by encouraging multiple entry points, discussion, and active inquiry into the content. Image credit: cjp/iStock/Thinkstock (Item number: 164455730)	
 Slide 31 Time Allotted: 5 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say, "Now work in pairs to find a solution to the problem on the screen. As you work together to solve the problem, choose one of the options on the screen to justify your solution." • After 3 minutes (or when participants are finished solving), ask for participants to share their solutions with the whole group. ***Words of Wisdom*** • The purpose of this slide is to show participants how to develop conceptual understanding by encouraging multiple entry points, discussion, and active inquiry into the content. Image credit: cjp/iStock/Thinkstock (Item number: 164455730)	**M1_P-03 Engaging in the Math**
 Slide 32 Time Allotted: 5 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say, "Now that we've made sense of the situation and have created appropriate representations for the problem, work with your partner to express Pauline's average rate for any number of minutes. Let y represent the number of square feet and t represent the number of minutes." • While participants are working, circulate around the room and make note of participant work. Look for different types of representations, specifically work that includes a verbal, tabular or visual representation. Also, look for participants who created similar equations for the situation. Make note of this particular student work. • After 3 minutes (or when participants are finished solving), debrief as a whole group. Call on participants that you made note of in the previous bullet point. Ask them to share their solutions with the whole group. ***Words of Wisdom*** • The questions on the slide do not direct participants to create an equation for the situation, but rather asks them to determine an appropriate way to express Pauline's average rate for any number of minutes. The questions intentionally allow participants to choose an appropriate way to describe the relationship between the square feet and number of minutes. Possible responses might include a verbal, algebraic, visual or tabular representation.	**M1_P-03 Engaging in the Math**

Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
	• When facilitating the whole group debrief in the last bullet point, use the opportunity to select and sequence participant work that includes different representations of the problem. Make connections between the various representations and emphasize that equations are a way to summarize patterns and the relationship that exists between quantities. In this particular context, the equation will represent the number of square feet that Pauline can mow for any given time, when mowing at a constant rate. Image credit: cjp/iStock/Thinkstock (Item number: 164455730)	


Slide 33
Time Allotted: 2 minutes
	Critical Idea
	• Intentional teacher moves support focus, coherence, and rigor around the mathematics content.
	
	Step-By-Step Instructions
	• Say, "Quietly think about the similarities and differences between the terms 'Average Rate' versus 'Constant Rate.'"
	• Give participants 1 minute to discuss with a partner.
	• Call on 2 volunteers to share one idea they discussed with their partners.
	• When the class has agreed upon a definition, reveal the chart paper with definitions, as stated in the EngageNY Concept Development section:
	  ○ Average rate is the rate in which something can be done over a specific interval of time.
	  ○ Constant rate assumes the average rate is the same at any time interval.
	
	Words of Wisdom
	• This slide provides a break in the lesson to allow for student discourse about two key terms in the lesson. It will be critical to take time here to allow participants to discuss.
		Chart paper with definitions for Average Rate and Constant Rate (which you created prior to the session)


Slide 34
Time Allotted: 2 minutes
	Critical Idea
	• Intentional teacher moves support focus, coherence, and rigor around the mathematics content.
	
	Step-By-Step Instructions
	• Say,
	  ○ "You will be working with a partner to apply your knowledge of constant rate to two different contexts."
	  ○ "For the first exercise, one partner will be assigned letter A and the other partner letter B."
	  ○ "Read the scenario on handout **M1_P-03** for exercise 1. Partner A will create a table for the given situation and Partner B will create a graph for the same situation."
	• **<u>Animate the slide</u>**.
	• Say,
	  ○ "Once you are both done, compare your table and graph and discuss the questions on the slide."
	  ○ "What values did you use to generate your table or graph? Why?"
	  ○ "Where do you see the constant rate in each of the representations? "
	
	Words of Wisdom
	• Creating a table or graph for the situation and then allowing participants to
		M1_P-03 Engaging in the Math

Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
	compare and discuss their representations allow for deeper conceptual understanding of the constant rate of change and how the constant rate of change is used to generate tables or graphs.	
 Slide 35 Time Allotted: 10 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Call on 1 participant to read aloud the scenario for exercise 1. Answer clarifying questions if necessary. Then set the pairs to work on creating the table and graph of the situation on handout **M1_P-03**. • After participants have had enough time to complete their representations and have a discussion, transition to the next slide. ***Words of Wisdom*** • Creating a table or graph for the situation and then allowing participants to compare and discuss their representations allow for deeper conceptual understanding of the constant rate of change and how the constant rate of change is used to generate tables or graphs.	**M1_P-03 Engaging in the Math**
 Slide 36 Time Allotted: 8 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say, "Now that we've made sense of the situation and have created a table and graph for the problem, work with your partner to represent the number of pages typed in any given time interval. Let p represent the number of pages typed and t represent the time in minutes." • Prompt participants to answer the question on the slide on handout M1_P-03. • While participants are working, circulate around the room and make note of participant work just as you did in the opening problem. Look for participants who have created different versions of the same linear equation for the situation, and make note of this particular student work. • After 5 minutes (or when participants are finished solving), debrief as a whole group. Call on participants that you made note of in the previous bullet point. Ask them to share their solutions with the whole group. • Before transitioning to the next slide, tell participants that if this were a real classroom, the next part of class would direct students to repeat the process for a second exercise problem. Students should switch roles (Partner A now creates a graph, and Partner B now creates a table) before completing the same process with a partner. For the sake of time, today you will not facilitate that piece of the lesson. ***Words of Wisdom*** • When facilitating the whole group debrief, use the opportunity to select and sequence participant work that includes different versions of the same linear equation. Make connections between the various equations. Ask participants to compare and contrast the equations, and to identify how the equations are related. Press the participants to answer the following questions: ○ "How are the equations equivalent ways to summarize the situation?"	**M1_P-03 Engaging in the Math**

Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
	○ "How do these linear equations describe (algebraically) the relationship that exists between the pages typed in any given time interval?"	
 Slide 37 Time Allotted: 10 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say, "To close the lesson, we will summarize our learning from today by completing the Frayer model on handout **M1_P-03**. Take 2 minutes and summarize what you have learned about constant rate of change." • Give participants 2 minutes to record their thinking on handout **M1_P-03**. • Ask several participants to share one idea from their paper. Record their thoughts on the sample Frayer model on chart paper. • Close the lesson by saying, "If this were a high school class, students would complete an exit ticket to find out what they have learned about constant rate of change. Because of the nature of the session, we will now close the activity." ***Words of Wisdom*** • This is an example of a closing activity to summarize learning. • Circulate around the room while participants are completing their Frayer models. Make note of accurate responses, but also use this opportunity to look for misconceptions. A common misconception that may be observed in participants working at the 6th and 7th grade levels is that an essential characteristic of a constant rate of change is that it is a proportional relationship. It is important to be prepared to create a sample graph and/or equation of a non-proportional relationship with a constant rate of change (linear relationship) and to ask participants to debate why we cannot include proportional relationships as an essential characteristic.	Blank Frayer model on chart paper Markers **M1_P-03 Engaging in the Math**
 Slide 38 Time Allotted: 3 minutes	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say, "It is essential that we take a deliberate pause in our work to reflect on this experience. During the lesson, you were asked to use handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts** to check off student behaviors/actions observed in the lesson. Please take 3 minutes of independent think time to record specific evidence of the descriptors in the right-hand column of the page." ***Words of Wisdom*** • Participants need time to think about, reflect on, and share their observations of what they observed in the lesson.	**M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**
 Slide 39 Time Allotted: 7	***Critical Idea*** • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. ***Step-By-Step Instructions*** • Say,	**M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**

Time & Slide Thumbnail	Facilitator Notes Session 3	Materials
minutes	○ "Please look over the evidence you just recorded on handout **P-02**. Which key shift did you engage in the most?" ○ "Your response to this question will indicate which corner of the room to report to. When you get to your corner, each person should share at least one piece of evidence he/she observed in the lesson. Please take your handout **M1_P-02** with you to your corner so you can refer to it in your conversation." • Give participants time to move to a corner of the room. Once all participants have moved, direct the groups to begin their discussions. • After all participants have the opportunity to share, call on 1 participant from each corner to summarize their discussion. • Summarize Session 3 by saying, "Now that you have experienced an EngageNY lesson from start to finish and made connections between the learning experience and the key shifts of the LSSM, we will tie it all together in Session 4 when we unpack the structure of the EngageNY lesson and discuss implications for planning and instruction." ***Words of Wisdom*** • Facilitator should designate each corner of the room as A-B-C-D ahead of time. • Be prepared for participants to identify evidence of student engagement in any of the three components of rigor. If necessary, remind participants that they were documenting evidence as learners. Students may make use of all three components of rigor at any time during a lesson. What is important is that the teacher approaches instruction of the lesson based upon the intended component of rigor in the Louisiana Rigor document. • Don't rush this conversation. Participants need time to think about, reflect on, and share what they observed in the lesson.	

Math Module 1, Session 4 Overview

Session Title: Exploring the EngageNY Curriculum

Grade Band 6–9

Session Overview *What are the overarching goals of this session? Why are those goals important?* *How do they connect to what has come before and what will come after?*
In Session 4, teachers unpack the structure of the EngageNY lesson connected to the mathematics learning experience in Session 3, with a focus on the content standards and teacher moves that promoted student engagement in the key shifts. By analyzing the components of the EngageNY lesson and considering intentional instructional strategies that were used in the facilitation, teachers identify implications for their own planning. A major goal of this session is to build teacher proficiency in using the EngageNY lessons for planning and instruction to better meet the intent of the standards. Teachers consider ways to strategically incorporate mathematical discourse to illuminate the mathematics content. Session 4 sets the stage for Session 5, surfacing the need for establishing a positive classroom culture that supports and encourages mathematical thinking. Session 5 gives special attention to establishing a productive classroom culture and building strong learning mindsets in students that support perseverance in problem solving. The session will also identify ways in which educators' beliefs about learning are reflected in the classroom culture and how these beliefs influence students' beliefs and behaviors.

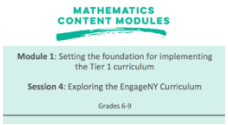
Session Key Points *What are the 2 to 4 most important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*
Participants will know: • Intentional planning and teaching of the EngageNY resources will promote the key shifts of focus, coherence, and rigor. • Instructional strategies foster conceptual understanding, procedural skill and fluency, and application. • There is a purpose for each EngageNY lesson component. • It is necessary to establish a classroom culture that supports making sense of and persevering in solving problems.	• Unpack the EngageNY lesson facilitated in Session 3 using handout **M1_P-05 Diamond Reflection: Unpacking the EngageNY Lesson**.

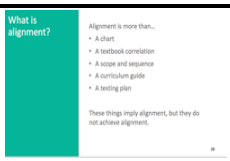
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*

Participants will…
• Identify implications for delivering high-quality, standards-aligned mathematics instruction. (CP, CS)
• Analyze EngageNY lesson components to ensure alignment to the standards. (CS)
• Implement instructional strategies that foster conceptual understanding, procedural skill and fluency, and application skills with students. (CP)
 	
CK: Content Knowledge
CP: Content Pedagogy
CS: Curriculum Skills
	• Open conversation to calibrate the meaning of alignment within the context of the Louisiana K–12 setting.
	• Unpack the EngageNY lesson connected to the mathematics learning experience in Session 3, including:
	  ○ Analyze and describe the purpose of each of the components of the EngageNY lesson.
	  ○ Identify how instruction was guided by the lesson components.
	• Reflect on Session 4.

Facilitation Recommendations	
Session Length	90 minutes
Time of Year	Beginning of the year

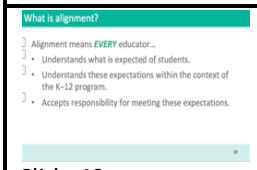
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	
Session Materials: • Handout **M1_ P-04 EngageNY Lesson 11: Constant Rate** (ENY Math G8 M4 TB L11 Teacher) • Handout **M1_P-05 Diamond Reflection: Unpacking the EngageNY Lesson** **Additional Supplies:** • Markers • Sticky notes	**Facilitator Pre-Work and Prep:** • Print participant handouts (1 per participant). • Study handout **M1_P-04 EngageNY Lesson 11: Constant Rate** (ENY Math G8 M4 TB L11 Teacher) and the facilitator notes.

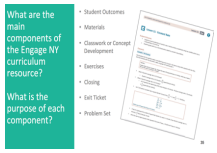
Time & Slide Thumbnail	Facilitator Notes Session 4	Materials
 Slide 40 Time Allotted: < 1 minute	**Session 4: Exploring the EngageNY Curriculum** **Slides 40–47: 90 minutes** ***Critical Idea*** • This slide is an introductory slide for Session 4. ***Step-By-Step Instructions*** • Say, "We will now begin Session 4." ***Words of Wisdom*** • N/A	


Slide 41
Time Allotted: 5 minutes
	Critical Idea
	• Alignment is not a thing or a set of documents but an ideal state that an educator should strive for.
	
	Step-By-Step Instructions
	• Say, "We spent time in previous sessions investigating the key shifts of the standards in order to help us, as educators, make good, aligned decisions about curriculum, instruction, and assessment."
	• Ask participants to read the statement on the slide.
	• Say,
	  ○ "Do you agree? Disagree?"
	  ○ "What, then, is alignment?"
	• Ask participants to consider the questions and discuss for a few moments. It is not necessary to share responses with the whole group.
	• Say, "The intent is not to define 'alignment' but to have planted the idea that alignment is an ideal state we are always moving toward. There are many approaches, strategies, and tactics that one might employ to get to alignment."
	
	Words of Wisdom
	• This slide launches the conversation around alignment. Participants will be spending the remaining time in the session investigating this idea.	

Slide 42
Time Allotted: 10 minutes
	Critical Idea
	• Alignment is not a thing or a set of documents but an ideal state educator should strive for.
	
	Step-By-Step Instructions
	• Say,
	  ○ "The image depicted on the slide illustrates the basic alignment principle."
	  ○ "The written component of this visual refers to the written frameworks that exist in systems to support the implementation of the standards, such as a scope and sequence, units of study, and your EngageNY resource."
	• Direct participants to turn to a partner and "say something" about this principle. Ask 2 or 3 participants to share what this visual is communicating about alignment. Sample responses might include:
	  ○ Cyclical; not linear.
	  ○ All aspects of the visual are equally important.
	  ○ Each aspect influences the others.
	  ○ You can begin anywhere in the cycle.	

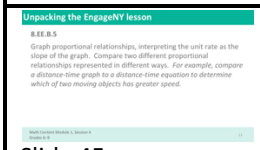
Time & Slide Thumbnail	Facilitator Notes Session 4	Materials
	• Ask participants, "How do you know when you have alignment?" • **<u>Animate "Louisiana State Standards for Mathematics."</u>** • Share that this principle is anchored in the standards. • Ask participants to write "LSSM" in the middle of the graphic on their presentation slides to emphasize this idea. ***Words of Wisdom*** • Improved student achievement is typically an indicator of increased alignment of the written, tested, and taught curriculum.	


Slide 43
Time Allotted: 2 minutes
	Critical Idea
	• Alignment requires ownership and acceptance of responsibility from every educator.
	
	Step-By-Step Instructions
	• Before showing the slide, say, "Part of achieving alignment in our classrooms includes adopting a quality curriculum and following it with fidelity."
	• **<u>Animate the slide</u>.** Say, "This means that every educator... "
	• **<u>Animate the slide</u>.** Say,
	  ○ "…understands what is expected of students."
	  ○ "This understanding comes from knowing the standards."
	• **<u>Animate the slide</u>.** Say,
	  ○ "It also means that we understand these expectations within the context of the K–12 program."
	  ○ "This means that we need to understand how our standards align cohesively from one grade level to the next."
	  ○ "Your main curriculum resource (Eureka/EngageNY) does a good job of helping to meet this need by applying consistent strategies throughout the curriculum, and by referencing prerequisite standards throughout, in places like the Fluency section."
	• **<u>Animate the slide</u>.** Say,
	  ○ "Finally, it means that we all accept responsibility for meeting these expectations."
	  ○ "This means that we understand our role in ensuring that we meet the needs of our students, and that we do our part to know the intent of each lesson and how it aligns to the intent of the standards."
	
	Words of Wisdom
	• This slide is a very important talking point. It helps make the case for common standards across the K–12 system. The content on this slide is minimal, but critical. Therefore, do not rush through this slide.
	• Participants may not fully understand the magnitude of these ideas yet, but continue to reiterate these talking points throughout the session.	

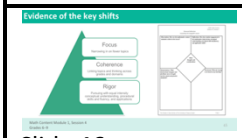
 Slide 44 Time Allotted: 20 minutes	***Critical Idea*** • A strong understanding of the LSSM is critical for teachers to implement the Tier 1 resources with fidelity and integrity. Teachers must be able to use the language of the standards to guide high-quality, standards-aligned teaching and learning. ***Step-By-Step Instructions*** • Direct participants to read the questions on the slide. • Participants should locate handout **M1_P-04 EngageNY Lesson 11: Constant Rate**	**M1_P-04 EngageNY Lesson 11: Constant Rate** (Math G8 M4 TB L11 Teacher)

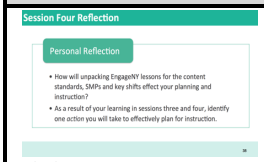
Time & Slide Thumbnail	Facilitator Notes Session 4	Materials

	(ENY Math G8 M4 TB L11 Teacher).
	• Allow 5 minutes for the participants to look through and discuss the main components of an EngageNY lesson and the purpose of each component.
	• Once they have discussed, **animate each component** and ask for responses from the group for the main purpose of each component.
	  ○ Possible responses include:
	  ▪ Student Outcomes: Learning expectations of the lesson.
	  ▪ Materials: To be used throughout the lesson.
	  ▪ Classwork/Concept Development: Main component of the lesson. Develops new learning around the standard. May include discussion questions, Math Modeling, or Exploratory Challenges.
	  ▪ Exercises: Provides student practice around the new learning established in the classwork.
	  ▪ Closing: Offers a review of the new learning for the lesson. Provides an opportunity for lingering misconceptions to surface.
	  ▪ Exit Ticket: Can serve as a formative assessment to the new learning.
	  ▪ Problem Set: Additional practice on new learning.
	• Transition to the next slide by explaining that we will explore these components and the roles they play in effectively implementing these standards throughout the learning modules.
	
	Words of Wisdom
	• N/A	


Slide 45
Time Allotted: 10 minutes
	Critical Idea
	• A strong understanding of the LSSM is critical for teachers to implement the Tier 1 resources with fidelity and integrity. Teachers must be able to use the language of the standards to guide high-quality, standards-aligned teaching and learning.
	
	Step-By-Step Instructions
	• Say,
	  ○ "When planning with any resource, it is important that we consider how the lesson, task, or activity aligns with the standards."
	  ○ "Only when we truly understand how the standards manifest in the lesson can we ensure that our instruction will align with the full intent of the standards."
	  ○ "On the slide, you will find the standards that this lesson was intended to address."
	• Give participants a few moments to read the standards on the slide.
	• Say, "It is important to note that the LSSM should be understood as a set of corresponding and connected standards. On the slide, we stated both the content standard the lesson was intended to address."
	• Direct participants to reflect on the math learning experience from Session 3.
	• Say, "For the next several minutes, I would like for your table groups to discuss the lesson and look for evidence of how this lesson meets the intent of the content standard listed on the slide."
	• Allow 5 minutes for the groups to look for and discuss evidence of the content standard in the lesson.
	• When time is up, ask for a representative from a few table groups to share. Probe for specific evidence demonstrated in the lesson that meets the standard.
	• Transition to the next slide by saying, "Not all lessons address every aspect of a standard. Often, we will find that a lesson covers only a piece of the standard. This	

Time & Slide Thumbnail	Facilitator Notes Session 4	Materials
	is why it is important to consider not only the individual lesson, but also how that lesson fits into the full scope and sequence. Only then can we tell if a standard is covered to its full intent." ***Words of Wisdom*** • It is important to emphasize the last statement from both a teaching perspective <u>and</u> learning perspective. The Tier 1 curriculum is built so that students develop understanding of the content over several lessons and experiences. In many instances, it will take more than one lesson for students to reach intended learning goals.	


Slide 46
Time Allotted: 32 minutes
	Critical Idea
	• Participants should be able to identify evidence of each of the three key shifts in the EngageNY lesson.
	
	Step-By-Step Instructions
	• Say,
	  ○ "It is also important that we understand how our resource materials address the key shifts of the Louisiana State Standards."
	  ○ "As you will recall from the beginning of our day, the key shifts are focus, coherence, and rigor."
	  ○ "Take a few minutes to refamiliarize yourselves with these key shifts and their definitions."
	  ▪ "Focus: Rather than racing to cover many topics in a mile-wide, inch-deep curriculum, the standards ask math teachers to significantly narrow and deepen the way time and energy are spent in the classroom."
	  ▪ "Coherence: The standards are designed around coherent progressions from grade to grade. Learning is carefully connected across grades so that students can build new understanding onto foundations built in previous years."
	  ▪ "Rigor: To help students meet the standards, educators will need to pursue with equal intensity three aspects of rigor in the major work of each grade: conceptual understanding, procedural skills and fluency, and application."
	• Give participants a few minutes to read over the slide.
	• Say,
	  ○ "With your table groups, unpack the lesson using handout **M1_P-05 Diamond Reflection: Unpacking the EngageNY Lesson**. Discuss the questions and record your responses on the paper."
	  ○ "Be prepared to share specific places in the lesson that you see each of the key shifts being addressed."
	  ○ "Remember: When looking for evidence of rigor, you will first need to discuss which aspect of rigor (conceptual understanding, procedural skills and fluency, or application) is addressed with this standard."
	• Give participants time to discuss the lesson and to look for evidence of the key shifts.
	• Have 2 or 3 groups share what they discussed as evidence for each shift.
	
	Words of Wisdom
	• N/A
		M1_P-05 Diamond Reflection: Unpacking the EngageNY Lesson

Time & Slide Thumbnail	Facilitator Notes Session 4	Materials
 Slide 47 Time Allotted: 10 minutes	***Critical Idea*** • Adults do not learn from experience, but rather from reflecting on experience. ***Step-By-Step Instructions*** • Say, "It is essential that we take a deliberate pause in our work to reflect on this experience." • Display the reflection questions and ask participants to get a sticky note to write their own reflections on the question. • Ask participants to make eye contact with someone in the room with whom they have not worked thus far and to share their reflections with that person. • Solicit comments from the group for the reflection question. ***Words of Wisdom*** • Don't rush this conversation. Participants need time to think about, reflect on, and share how this process will help them in planning a lesson.	Sticky notes Markers

Math Module 1, Session 5 Overview

Session Title: Classroom Culture

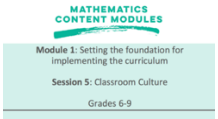
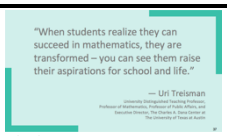
Grade Band 6–9

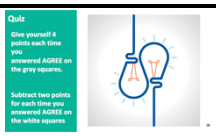
Session Overview *What are the overarching goals of this session? Why are those goals important?* *How do they connect to what has come before and what will come after?*	
Session 5 establishes the need for a productive classroom culture and the importance of building strong learning mindsets in students that support perseverance in problem solving. Teachers identify ways in which educators' beliefs about learning are reflected in the culture of the classroom and how these beliefs influence students' beliefs and behaviors by reading Carol Dweck's article, "The Perils and Promises of Praise." Teachers leave Session 5 with six ways to support a growth mindset with students. In Module 2, teachers discuss ways to foster grit with students.	
Session Key Points *What are the 2 to 4 most important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*
Participants will know: • Their own beliefs about learning can influence students. • Carol Dweck's research informs the ways in which educators interact with their students. • Intentional actions can make a tremendous impact on students' belief that they can succeed (in mathematics). • There are six instructional strategies that support a growth mindset.	During the session: • Take a personal inventory quiz to determine beliefs about learning. After the session: • Implement six strategies to support growth mindsets in students.

Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will… • Determine teacher moves that promote a positive classroom culture and support perseverance in solving problems. (CP) • Reflect on their own beliefs about learning and how these beliefs influence students. (CP) • Implement strategies that support a growth mindset with students. (CP) CK: Content Knowledge CP: Content Pedagogy CS: Curriculum Skills	• Open discussion with a quote about mindsets. • Take personal inventory quiz to reflect on beliefs about learning. • Read Carol Dweck's article, "The Perils and Promises of Praise, available here: http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx" • Participate in small and whole group discussions to reflect on the Dweck article. • Summarize consequences of fixed and growth mindsets. • Learn six ways to support growth mindsets with students • Reflect on Session 65. • Review Module 1 closing slides: ○ Metaphor statement activity

Facilitation Recommendations	
Session Length	50 minutes
Time of Year	Beginning of the year

Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	
Session Materials: ● Handout **M1_P-06 What's Your Mindset?** **Additional Supplies:** ● Sticky notes ● Markers	**Facilitator Pre-Work and Prep:** • Take the quiz on page 1 of handout **M1_P-06 What's Your Mindset?** • Read the article "The Perils and Promises of Praise," available here: http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx ○ During the session, have this link available for participants. • Review handout **M1_CL-04 LDOE Secondary Math Content Module Organization**.

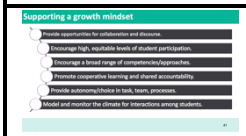
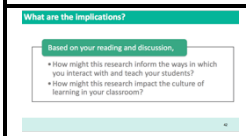
Time & Slide Thumbnail	Facilitator Notes Session 5	Materials
 Slide 48 Time Allotted: < 1 minute	**Session 5: Classroom Culture** **Slides 48–54: 50 minutes** ***Critical Idea*** • This slide is an introductory slide for Session 5. ***Step-By-Step Instructions*** • Say, "We will now begin Session 5." ***Words of Wisdom*** • For Session 5, the facilitator may want to organize participants in new mixed grade-level groups to encourage conversation between different teachers.	
 Slide 49 Time Allotted: 3 minutes	***Critical Idea*** • Students must have opportunities to realize that they can succeed in mathematics or any other subject in order to develop grit and agility for school and life. ***Step-By-Step Instructions*** • Direct participants to silently read the quotation on the slide. • Say, "Think of a student who doesn't believe they can perform successfully." • Ask (rhetorically), "Do you believe this child can do the work?" ***Words of Wisdom*** • This quote can be connected to the list of skills that employers want from Session 1. One of the four skills highlighted is "grit and agility." Citation (for reference): Schunk, D.H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 16-31). San Diego, CA: Academic Press.	


Slide 50
Time Allotted: 8 minutes
	Critical Idea
	• This activity is a self-reflection regarding mindset.
	
	Step-By-Step Instructions
	• Tell participants to locate handout **M1_P-06 What's Your Mindset?** and answer the 8 questions on the quiz.
	• **<u>Animate the slide</u>** to assess.
	• Explain the scores:
	  ○ Less than 5: You have a growth mindset.
	  ○ Between 5 and 10: You have a growth mindset with some fixed ideas.
	  ○ Between 11 and 15: You have a mostly fixed mindset.
	  ○ Above 15: You have a solidly fixed mindset.
	• Direct the participants to put their "scores" aside. Ask, "So, how does this relate to our work?"
	
	Words of Wisdom
	• This is a personal reflection and not scientific. It helps participants to gauge their current mindset.
	• Do not share results with others. The quiz is meant to be a personal reflection only.
		M1_P-06 What's Your Mindset?

Time & Slide Thumbnail	Facilitator Notes Session 5	Materials
	Image credit: ARTQU/iStock/Thinkstock (Item number: 474842030)	

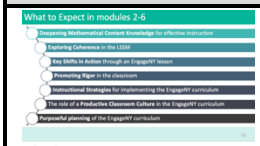
Slide 51
Time Allotted: 20 minutes
	Critical Idea
	• Research informs our practice and allows teachers to reflect on their beliefs.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Educators have different attitudes and beliefs about learning, and our beliefs are reflected in how we teach and in the learning environment we create for students, both of which affect how students learn."
	  ○ "The goal for this session of learning will focus on a few key ideas that, when effectively and consistently applied, have the power to dramatically reshape outcomes of teaching, learning, and instructional systems**."**
	  ○ "Each of our subsequent sessions will extend and enrich the ideas discussed today—this is just the beginning of the conversation."
	  ○ "As we investigate these ideas, you will be asked to consider strategies that enable you to apply findings from research in the classroom and enact changes in the culture of your classrooms and schools."
	  ○ "Remember: Educators' beliefs are crucial to influencing students' beliefs and behaviors; therefore, there is a need for educators to examine their beliefs about learning. You will use an article by Carol Dweck to begin this conversation."
	• Have participants to find the article "The Perils and Promises of Praise" from http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx.
	• **Animate the questions on the slide**. Say,
	  ○ "Professor Carol Dweck's research examines the development of self-beliefs and the ways in which those beliefs affect behavior and achievement."
	  ○ "Use the questions on the slide to frame the reading of the article 'The Perils and Promises of Praise.'"
	  ▪ "What confirms your current knowledge and beliefs?"
	  ▪ "What questions does this research raise for you?"
	  ○ "You will have 15 minutes to **individually** read the article and reflect on the questions."
	  ○ "You will finish at different times, so please resist the urge to immediately begin discussing it with a neighbor."
	• After participants have completed the reading, ask them to use the questions on the slide to guide a discussion with those at their tables.
	
	Words of Wisdom
	• It is important that participants have time to read the article and independently reflect on the questions before sharing their thinking with others. Encourage them to write down their thinking regarding the questions, which will help reflect deeply on their own understanding and beliefs about the reading selection.
	• If time is an issue, having teachers read the first 2 full pages to the top of the third page will start a good discussion.
		http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx

	Critical Idea • It is important that educators within a system have an accurate and common understanding of fixed versus malleable intelligence.	*Optional:* Chart paper

Time & Slide Thumbnail	Facilitator Notes Session 5	Materials
Slide 52 Time Allotted: 5 minutes	***Step-By-Step Instructions*** • Once participants finish discussing the questions on the previous slide, call participants back to whole group. • Check for understanding of the salient ideas from the article. Say, "Based on your reading of the article, what were some of the characteristics or behaviors of students who view intelligence as fixed?" • Allow time for participants to first share with an elbow partner, then allow them to popcorn out a few responses. • **Animate the bullet points on the left side of the chart.** Give participants time to read the ideas listed. • Say, "In contrast, what are some of the characteristics or behaviors of students who view intelligence as malleable?" • **Animate the bullet points in the right side of the chart**. Give participants time to read the ideas listed. • Say, "With this in mind, let's take some time to reflect on what we've discussed." ***Words of Wisdom*** • Use the animation to help guide the whole group discussion of the information in the Dweck article. However, if you have time, chart out the participants' responses instead of using the animation. • Do not ask participants to draw conclusions. The reflection questions on the next slide are designed for that purpose.	Markers
 Slide 53 Time Allotted: 3 minutes	***Critical Idea*** • This slide provides recommendations for supporting a growth mindset with students. ***Step-By-Step Instructions*** • Say, "Individually, think about how you could support a growth mindset in your classroom." • Ask participants to talk with their tablemates and create a list of 3–5 ways. • **Animate the slide**. Share the recommendations. • Ask participants to share any additional recommendations they brainstormed that may not be included on this list. ***Words of Wisdom*** • Intentional actions can make a tremendous impact on students to believe that they can succeed (in mathematics).	
 Slide 54 Time Allotted: 10 minutes	***Critical Idea*** • Research that points to new ways of thinking about learning can help us find ways to be more effective in our work as educators. ***Step-By-Step Instructions*** • Say, "Now that we have surfaced important insights and initial thoughts regarding the Dweck article, let's consider the implications for teaching and learning in our own classrooms." • Give participants 1 or 2 minutes to read and individually reflect on the questions on the slide. • In order to share their thinking, participants will share using the Stand Up, Hand Up, Pair Up strategy (Kagan, 2011). Explain the following directions:	

Time & Slide Thumbnail	Facilitator Notes Session 5	Materials
	○ All participants will stand up and put their hands up. ○ Participants mingle, introduce themselves, and find a partner (someone they have not worked with yet in this session). ○ When participants find a partner, they will sit together and put their hands down. ○ In pairs, participants will share their responses to the questions on the slide. • After pairs have had time to discuss, debrief with the whole group. Say, ○ "The reflection questions are designed to help start the conversation about how we can enhance our practice in ways that will foster learning." ○ "This article typically promotes excellent conversation and raises important questions for many readers. Some key points that should emerge." ▪ "Student beliefs can be shaped with modest interventions by adults." ▪ "Changing the way we praise students takes practice and persistence." ▪ "Dweck's findings have implications for the way we grade and evaluate students' system wide." • As you transition to the next slide, say, ○ "Like effective praise, the types of experiences we choose to provide for students in our mathematics classrooms can have a positive influence on students' beliefs about their own abilities to learn. When we are intentional in selecting tasks and games that allow students to grow as mathematicians, students have opportunities to develop skills and understandings, such as fluency, that are critical in mathematics." ***Words of Wisdom*** • Some educators may find this unsettling; however, this is intended to start a conversation about important issues and encourage teachers to discuss further on their campuses. • Don't rush the conversation. There are important points made in the article that might be difficult for some participants to come to terms with as they begin to think about the implications for their own practice. • Encourage participants to use the norm "Look for solutions, not blame," even when thinking about their own practice in light of this research. Citation for the Kagan strategy: Clowes, G. (2011 Spring). *The essential 5: A starting point for Kagan cooperative learning.* San Clemente, CA: Kagan Publishing. Kagan Online Magazine. www.KaganOnline.com	

Time & Slide Thumbnail	Facilitator Notes Module 1 Closing Slides	Materials


Slide 55
Time Allotted: 2 minutes
	Module 1 Closing and Participant Evaluation Survey
	Slides 55–57: 20 minutes
	
	Critical Idea
	• This slide provides participants with an overview of the content in Modules 2–6.
	
	Step-By-Step Instructions
	• Say, "Before we conclude Module 1, we will preview the content and structure of Modules 2–6. Just as in Module 1, the learning sessions in future modules will include mathematics tasks and discussions designed to strengthen your understanding of the LSSM to support students' learning of mathematics content through the high-quality curriculum."
	• **<u>Animate the slide one bullet point at a time.</u>**
	• As each bullet point animates, say, "In each module, we will:"
	  ○ "Analyze the major work of grades 6–9 to **Deepen Mathematical Content Knowledge** for effective instruction."
	  ○ "**Explore Coherence** between and within the grade-level standards in the LSSM."
	  ○ "See the **Key Shifts in Action** through an EngageNY lesson related to the major work of grades 6–9."
	  ○ "Study the Standards for Mathematical Practice to **Promote Rigor** in the classroom."
	  ○ "Identify the role of a **Productive Classroom Culture** in the EngageNY curriculum."
	  ○ "Apply knowledge of the LSSM to guide **Purposeful Planning** of the EngageNY curriculum."
	• Summarize the slide. Say, "Please keep at the forefront of your mind that the work in which you are engaged is part of a bigger picture, and this first module serves as the foundation for learning in Modules 2–6."
	• Thank the participants for their time and effort in Module 1.
	
	Words of Wisdom
	• This slide should be brief and is about clarifying the learning expectations of Modules 2–6. Review handout **M1_CL-04 LDOE Secondary Math Content Module Organization** to see the detailed outline of Modules 2–6.
		M1_CL-04 LDOE Secondary Math Content Module Organization

 Slide 56 Time Allotted: N/A	***Critical Idea*** • This slide provides references for Module 1. ***Step-By-Step Instructions*** • Say, "These are the references for Module 1." • Transition to the next slide. ***Words of Wisdom*** • This slide should be brief.	
 Slide 57	***Critical Idea*** • Participant feedback is highly valued and is critical in informing future learning sessions. ***Step-By-Step Instructions*** • Say, "In order to gather feedback of your learning experience, you will take a	http://www.utdanacenter.org/ldoe/surveys

Time & Slide Thumbnail	Facilitator Notes Module 1 Closing Slides	Materials
Time Alotted: 13 minutes	module evaluation survey. Your responses are very important, so you will use the next 15 minutes to complete the survey." ***Words of Wisdom*** • Participants should complete the evaluation survey during the session.	