Math Module 1 Overview Plan
Module Title: Setting the Foundation for Implementing the Curriculum
Grade Band: K–5

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

In Session 0, participants understand the rationale for the overall scope of work and goals of the initiative.

In Session 1, participants define the three key shifts of the Louisiana Student Standards for 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 Map to visualize and understand focus and coherence in the standards.

In Session 3, participants gain clarity on how the key shifts of the content and practice standards manifest in the classroom—and how those standards look when executed well in curriculum and instruction—by experiencing an EngageNY lesson.

In Session 4, the mathematics learning experience from Session 3 provides context. In this session, participants unpack the structure of the EngageNY lesson connected to the mathematics learning experience in Session 3. They 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 their 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.

Elementary Mathematics Module 1: 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 toward 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.
- Intentional planning and attention to all the EngageNY lesson components is important to successful implementation.
- Establishing a positive classroom culture is essential to support student perseverance in solving problems.

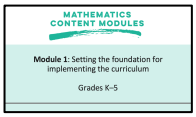
Module 1: Facilitation Recommendations	
Session Length	Six-hour module including: **Session 0: Introduction to Module 1** (10 minutes) **Session 1: Rigor of the Louisiana Student Standards for Mathematics (LSSM)** (60 minutes) **Session 2: Focus and Coherence of the LSSM** (90 minutes) **Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson** (60 minutes) **Session 4: Exploring the EngageNY Curriculum** (80 minutes) **Session 5: Classroom Culture** (60 minutes) **Plus: Module 1 Closing Slide and Participant Evaluation Survey** (25 minutes)
Session Pairing Options	Recommended delivery: One full 6-hour day of professional learning, with all 5 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 evaluation immediately following Session 5, preferably before leaving the session.
Time of Year	Beginning of the school year

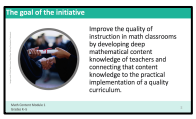
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*		
Session Materials		
Facilitator Handouts • **M1_CL-00a** Math Module 1 Overview Plan: Module Title: Setting the Foundation for Implementing the Curriculum • **M1_CL-00b** Facilitator copy of Math Module 1 slides: Module Title: Setting the Foundation for Implementing the Curriculum • **M1_CL-01** Posters and Handouts Guide: Elementary Mathematics • **M1_CL-02** EngageNY Tasks: Standards Card Sort • **M1_CL-03** "Save the Last Word For Me" ○ Note that this activity requires that facilitators have access to the following article available online: National School Reform	**Participant Handouts** • **M1_P-00** Elementary Math presentation slides (2 slides to a page): Title: "Module 1: Setting the foundation for implementing the Tier 1 curriculum: Grades K–5" • **M1_P-01** Key Shifts in Mathematics • **M1_P-02** Looking for Evidence of Student Engagement in the Key Shifts • **M1_P-03** EngageNY Lesson 4: Math G8 M4 TB L11 Teacher • **M1_P-04** Diamond Reflection: Unpacking the EngageNY Lesson • **M1_P-05a** What's Your Mindset? and	**Facilitator Pre-Work and Prep** **Review the session materials for** participants and facilitator, particularly: • **M1_CL-00a** Math Module 1 Overview Plan (this document) • **M1_CL-00b** Facilitator copy of Math Module 1 Slides • **M1_CL-01** Posters and Handouts Guide **Secure supplies, including** • Chart paper • Table supplies, including ○ Markers ○ Scissors ○ Sticky notes ○ Glue sticks or tape

Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*		
Faculty; Patricia Averette. (No date). "Save the Last Word for Me." Developed in the field by educators affiliated with NSRF. Bloomington, Indiana: National School Reform Faculty, Harmony Education Center. 2018 May 24 retrieved via https://www.dev.wordpress.nsrfharmony.org/nsrf_protocol_selection_tool/text-other-media or http://schoolreforminitiative.org/doc/save_last_word.pdf	**M1_P-05b** "The Perils and Promises of Praise." ○ Note that the next part of this activity requires that participants have access to the following article by Carol Dweck, available online: Dweck, C. S. (2007). The perils and promises of praise. *Educational leadership: Early intervention at every age* [issue theme], 65(2), 34–39. Available at http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx • **M1_P-06** LDOE Elementary Math: Content Module Organization	**Print participant handouts**, 1 per participant • Make a "**Parking Lot" poster** on chart paper • Prepare **M1_CL-02** EngageNY Tasks: Standards Card Sort for participants: should be printed on cardstock and cut out in advance; 1 set for each group of 4 participants

Math Module 1, Session 0
Session Title: Introduction to Module 1

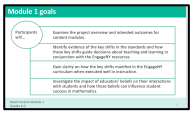
Time & Slide Thumbnail	Facilitator Notes Session 0: Introduction to Module 1	Materials


Slide 1
Time Allotted:
3 minutes
	Module 1: Setting the Foundation for Implementing the Curriculum
	
	Session 0: Introduction to Module 1
	
	Slides 1–4 Time Allotted: 10 minutes
	
	Critical Idea
	• It is important to set a positive tone for learning.
	
	Step-By-Step Instructions
	• Before each session, use **M1_CL-01 Posters and Handouts Guide** to organize your preparation.
	• As participants arrive 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 Louisiana Student Standards for Mathematics (LSSM), and you will have multiple opportunities to consider ways that you can continue to support students' 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** Elementary Math Module 1 presentation slides, printed 2 slides to a page)
	
	Words of Wisdom
	• If you perceive any resistance, the basic strategy is to
	(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.
		M1_CL-01 Posters and Handouts Guide
		
		M1_P-00 Elementary Math presentation slides (2 slides to a page)

 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."	

Time & Slide Thumbnail	Facilitator Notes Session 0: Introduction to Module 1	Materials
	Words of Wisdom • This slide provides participants with the goal of this 3-year initiative.	

Slide 3
Time Allotted:
4 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 to guide our collaboration today and throughout future learning sessions. These 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 to 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. Asking 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: 2 minutes	***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. Say, "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: Rigor of the Louisiana Student Standards for Mathematics (LSSM)

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?*
The overarching goals of Session 1 are for participants to define the key shifts of the Louisiana Student Standards for Mathematics (LSSM) in *focus*, *coherence*, and *rigor* and to identify examples of each within the EngageNY curriculum. In addition, teachers will identify the implications for teaching and learning as described by the key shifts. Looking ahead, in Session 2, teachers will identify evidence of focus and coherence in the standards through an exploration of the Louisiana Math Focus Documents and the Student Achievement Partners Coherence Map.

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?*
Through Session 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 toward 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; and ○ *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 applications 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 for teaching and learning have important implications.	• During Session 1, participants will produce a poster that aligns tasks from different grade levels of EngageNY lessons to the LSSM for grades K–5. • Participants will also identify the component of rigor addressed in each of the components of an EngageNY lesson.

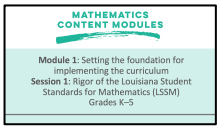
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will … • Define the key shifts in the standards and how these key shifts guide decisions about teaching and 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	• Define, through an opening conversation, the meaning of *college and career readiness.* • Use **M1_CL-03 Save the Last Word for Me** with **M1_P-01 Key Shifts in Mathematics** to define *focus*, *coherence*, and *rigor* in the standards. • Engage in a small-group activity to align sample problems to the LSSM. • Identify the components of rigor addressed in each of the problems from the previous activity. • Reflect on Session 1.

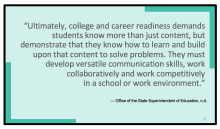
Facilitation Recommendations	
Session Length	60 minutes
Time of Year	Beginning of the year

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

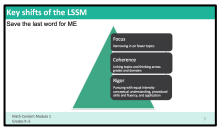
Session Materials
• Participant handouts
  ○ **M1_P-01 Key Shifts in Mathematics**
 	
Additional Supplies
• Chart paper (1 sheet for every 4 participants)
• Markers
• Glue or tape
• Sticky notes
	Facilitator Pre-Work and Prep
	• Print and cut out handout
	  ○ **M1_CL-02 EngageNY Tasks: Standards Card 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 or prepare in advance of this session?*	
Participants must bring: • Laptop or mobile device	**Before this session, participants should:** • Not applicable

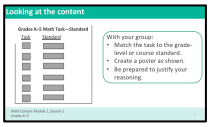
Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials
 Slide 5 Time Allotted: < 1 minute	**Session 1: Rigor of the Louisiana Student Standards for Mathematics (LSSM)** **Slides 5–12 Time Allotted: 60 minutes** ***Critical Idea*** • This slide introduces Session 1. ***Step-By-Step Instructions*** • Welcome participants to Session 1, and then transition to the next slide. ***Words of Wisdom*** • All timing for this session is based on the recommended whole-group size of 12 to 36 participants. • For Session 1, participants should be sitting in mixed-grade-level groups of 4.	


Slide 6
Time Allotted:
2 minutes
	Critical Idea
	• The quotation highlights that students' attainment of the knowledge and skills described in the LSSM is critical to their becoming college and career ready. Therefore students, in addition to understanding the content, must develop strong problem-solving and communication skills.
	
	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 two or three participants to share a phrase within the quote that stands out for them.
	• Summarize,
	  ○ "It is necessary to acknowledge that students' attainment of the LSSM is critical to becoming college and career ready. The quotation 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 student attainment of the LSSM will look in the classroom and the implications it will have for teaching and learning."
	
	Words of Wisdom
	• Asking 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.	

Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials

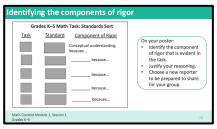

 	
Slide 7
Time Allotted:
20 minutes
	Critical Idea
	• The key shifts are what make the LSSM different from previous standards. These key shifts should guide decisions about teaching and learning.
	
	Step-By-Step Instructions
	• Say, "The LSSM require shifts in educators' thinking so that we can ensure that curriculum, instruction, and assessment are 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*.
	• Walk participants through the steps outlined in your copy of **M1_CL-03 Save the Last Word For Me**
	  ○ Modification: Participants could follow the protocol in groups of 3 instead of 4 to study the three key shifts.
	• When all groups are done, send them back to their original groups and then **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 how to allocate their time, energy, and resources in the mathematics classroom because the standards for grades K–8 call out the major work for each grade level or course, making each grade/course unique."
	  ○ "***Coherence***: This shift is about moving away from teaching topics in isolation toward teaching topics within the context of the interconnectedness of mathematics; it is about helping students make sense of the mathematics within a grade and across grades. This shift requires educators to move away from considering each standard as an isolated topic."
	  ○ "***Rigor***: This shift is about moving away from an emphasis solely on procedures, conceptual understanding, or real-life situations, and toward an emphasis on giving equal value to all three aspects. This shift is *not* about giving students more and/or harder problems."
	  ○ "We will use these definitions to guide our learning in future sessions."
	
	Words of Wisdom
	• Not applicable
		M1_P-01 Key Shifts in Mathematics
		
		M1_CL-03 Save the Last Word For Me
		
		Citation: National School Reform Faculty; Patricia Averette. (No date). "Save the Last Word For Me." Developed in the field by educators affiliated with NSRF. Bloomington, Indiana: National School Reform Faculty, Harmony Education Center. https://www.dev.wordpress.nsrfharmony.org/nsrf_protocol_selection_tool/text-other-media
		
		or
		
		http://schoolreforminitiative.org/doc/save_last_word.pdf

Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials


 	
Slide 8
Time Allotted:
12 minutes
	Critical Idea
	• A strong understanding of the LSSM is critical for teachers to implement the Tier 1 curriculum 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 of how students will be learning the mathematics content, we will spend the next few minutes analyzing some sample problems."
	• 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 12 cards."
	  ○ "Six of the cards include a problem, one for each of the grades K–5."
	  ○ "The other six cards include the grade-level or course standard that the problem is aligned to."
	  ○ "You will notice that the grade-level and standard coding are not listed for each of the problems."
	  ○ "Your group's task is to read through each of the problems and identify the standard the problem is aligned to."
	  ○ "As you read and discuss, think about how the problem is aligned to the language of the standards."
	  ○ "When your group has come to a consensus, place your cards on chart paper as shown on the slide."
	  ○ "Then choose a representative from your group to be prepared to share and justify your placement of the standards."
	• Allow 8 to 10 minutes for table 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 between task and standard so you could place the tasks into a progression?"
	  ○ Ask representatives from each group share a few specific examples of language from the standards that helped them to determine their placement.
	• Review the actual order of the standards, from grades K through 5, in case there are any discrepancies.
	
	Words of Wisdom
	• Move around groups, monitoring conversations, answering questions, and prompting discussions around the mathematics in the standards.
		M1_CL-02
		EngageNY Tasks: Standards Card Sort

Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials

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,
	  ○ "By focusing on the key shift of ***rigor***, the K–12 Louisiana Student Standards for Mathematics lay the foundation for students to become mathematically proficient.
	
	  "*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. You will have the chance to connect these components of rigor to the EngageNY curriculum."
	
	Words of Wisdom
	• It is critical that teachers use the definitions of the components of rigor from **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 enables teachers to identify each of the components of rigor in the tasks they sorted on slide 8.
	
	Step-By-Step Instructions
	• Say,
	  ○ "As a group, revisit the problems on your poster. For each of the problems, come to a consensus on the component(s) of rigor evident in the problem."
	  ○ "For your poster, choose a recorder to write whether you think the problem requires conceptual understanding, procedural skill and fluency, and/or application. In addition, provide justification. Use the definitions from handout **M1_P-01 Key Shifts in Mathematics** to guide your discussion."
	  ○ "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.
	• Debrief the activity by asking the reporter for each group to share the group's thinking about one of the grade levels. The first table group should begin with grade K, the next table group with grade 1, and so on, until all six 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 of mathematics.
	  ○ Rigorous teaching in mathematics does not mean simply 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.	

Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials
	○ For instruction to be rigorous, teachers must have a clear understanding of the components of rigor and make connections to these components in the curriculum. ○ 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, likely using visual models. If, on the other hand, 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 students to transition into more efficient strategies. ○ When working on a standard, a student may make use of more than one component of rigor to complete a task. For example, a student may use *conceptual understanding* to demonstrate their *procedural skills and fluency* with solving a problem. ***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 any 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*** • To prepare students to be college and career ready, teachers must provide them with ***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 quotation from the opening slide of this session. Restate the end of the quotation. 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. **Do not** animate the slide yet 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 employers value most. • After 3 minutes, call on 2 or 3 participants to share one of the skills they brainstormed. • **Animate the slide** 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. • Next, ask participants to discuss with their same elbow partner the following questions. Say, ○ "What implications could this information have for planning and instruction?" ○ "How do these implications connect to the key shifts of the LSSM?"	Images credits: • Nik01ay/iStock/Thinkstock (Item number: 669754720) • AVIcons/iStock/Thinkstock (Item number: 672332514) • Ylivdesign/iStock/Thinkstock (Item number: 680529576) • ARTQU/iStock/Thinkstock (Item number: 474842030)

Time & Slide Thumbnail	Facilitator Notes Session 1: Rigor of the LSSM	Materials
	Words of Wisdom • Giving participants time to brainstorm a list of skills with a partner will help generate a more meaningful conversation.	
  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 reflections on a sticky note. • Once participants have completed their reflections, collect the sticky notes to review after the session. • Close the session by revisiting the goal of Session 1. Say, ○ "The goals of Session 1 were 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 to (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.	Sticky notes

Math Module 1, Session 2
Session Title: Focus and Coherence of the LSSM

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 understand and acknowledge that 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. They identify the major work of each grade level, and they describe how the major work builds student understanding by connecting concepts within and across grades. Looking ahead, in Session 3, participants will 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?*

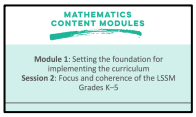
Through Session 2, participants will know:
• The key shifts in the standards play a critical role in the implementation of the LSSM:
  ○ *Focus*—by narrowing in on fewer topics in a lesson or unit to ensure teachers have adequate time to push students toward mastery of key mathematical concepts;
  ○ *Coherence*—by viewing the standards as interconnected across grade levels and across domains within a grade level rather than as isolated events; and
  ○ *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.
• The major work for each grade level/course is identified in the Louisiana Focus Documents and illustrates focus in the standards.
• The Student Achievement Partners Coherence Maps show connections between the standards for mathematics.
	• Participants 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 curriculum 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 K–5. • Watch Achieve the Core video (William McCallum) that explains 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

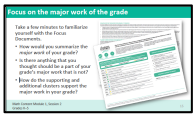
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	
Session Materials • Participant handouts ○ Printed copies of grade-level Focus Documents (only if participants do not have access to their computers or the internet). **Additional Supplies** • Chart paper (1 paper for every 4 participants) • Markers • Sticky notes	**Facilitator Pre-Work and Prep** • Print participant handouts if not already printed (1 per participant)

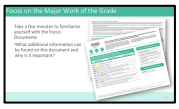
Participant Pre-Work *What should participants bring to this session? What should they do or prepare in advance of this session?*	
Participants must bring: • Laptop	**Before this session, participants should:** • Not applicable

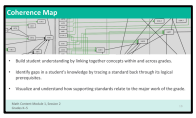
Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials
 Slide 13 Time Allotted: < 1 minute	**Session 2: Focus and Coherence of the LSSM** **Slides 13–25 Time Allotted: 90 minutes** ***Critical Idea*** • This slide introduces Session 2. ***Step-By-Step Instructions*** • Say, "We will now begin Session 2." ***Words of Wisdom*** • For Session 2, participants should be sitting in mixed-grade-level groups of four.	

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 slide</u>.** Say,
	  ○ "When referring to the *focus* of the standards, we referring to how the standards focus deeply on concepts that are prioritized in the standards."
	  ○ "The Louisiana Student Standards for Mathematics are more manageable, as they include fewer standards than before, and the LSSM clearly state what is expected of the students at each grade level."
	• **<u>Animate 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 guide us to have students apply learning from a previous grade to learn a new topic."
	  ○ "You will also see coherence within a grade in the standards as they direct us to reinforce a major topic in a grade by using a supporting topic."
	• **<u>Animate 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.	

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials


 	
Slide 15
Time Allotted:
10 minutes
	Critical Idea
	• The LSSM focus deeply on concepts prioritized by the major work of the grade level or 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-planning, **or, if participants do not have access to the documents on the internet, print the documents for each person prior to the session.**
	• Say,
	  ○ "The front part of this document shows the LSSM's *domains* and *cluster headings* for your specific grade level."
	  ○ "You will see that some of the cluster headings are marked with green squares. The green squares indicate the *major clusters* for this grade. These clusters are the things that 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, indicating major clusters, are therefore marking concepts that students MUST leave their grade knowing. Without a solid foundation of these ideas, students will be set up for failure as they continue to the next grade level or course."
	  ○ "You will notice—in a footnote at the bottom of the page—a statement that says 65 percent to 85 percent of class time should be devoted to the major work of the grade."
	• **Animate slide**. Say,
	  ○ "Take a few minutes to explore and familiarize yourself to this document. After you have read it over, have a conversation with your group around the questions on the slide."
	• Give 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 the major clusters. The supporting clusters should be presented in the context of the major work.
		Participant access to this resources on the internet:
		
		https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning
		
		or
		
		A printed copy of the Focus Documents for each participant for their specific grade


 	
Slide 16
Time Allotted:
7 minutes
	Critical Idea
	• The standards focus deeply on concepts that are prioritized.
	
	Step-By-Step Instructions
	• Say,
	  ○ "This document includes lots of additional important information besides the major focus of the grade level.
	  ○ Take a minute to look at some of 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.
	• Ask a few to share key findings and describe the importance of each.	

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials
	Words of Wisdom • Make sure participants notice the Examples of Key Advances from the previous grade and the Fluency Expectations.	
  Slide 17 Time Allotted: 12 minutes	***Critical Idea*** • *Coherence* is about making the math make sense. ***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 standards, William McCallum." ○ "In this video, McCallum 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 2 or 3 key takeaways from what you hear about *coherence*. Be ready to share these takeaways with your group when the video is over." • Play the 5-minute video on the slide (also located here: https://vimeo.com/81639437). • Once the video is over, allow no more than 5 minutes for participants to share with their groups their key takeaways from the video. • Have several participants share one takeaway they discussed in their small group. • Possible responses: ○ *Students do not 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, separate, concepts.* ***Words of Wisdom*** • This video is setting the stage for an exploration of the Coherence Map of the standards.	William McCallum. (2014). The Importance of Coherence in Mathematics. https://vimeo.com/81639437 (5-minute video)
 Slide 18 Time Allotted: 3 minutes	***Critical Idea*** • The Coherence Map, developed by Student Achievement Partners (Achieve the Core), makes explicit many of the connections between and across the standards. As noted on the Coherence Map website: "Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards." ***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. It is derived from the 'wiring' diagram you see in this image." ○ "The Coherence Map can be used to:	**Citation:** Student Achievement Partners (Achieve the Core). (n.d.) Learn more about the Coherence Map. 2018 April 22 retrieved from https://achievethecore.org/page/2801/learn-

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials
	(**Animate** each bullet.) – 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*** • Slides 18–23 help participants learn how to use the Coherence Map. • It is important to clarify that the Coherence Maps were created for the Common Core State Standards for Mathematics (CCSSM), not for the Louisiana Student Standards for Mathematics (LSSM). Acknowledge that this is not typically problematic, but there may be some situations where the Coherence Maps are therefore not exactly aligned with the LSSM.	more-about-the-coherence-map and the interactive Coherence Map from: https://achievethecore.org/coherence-map

Slide 19
Time Allotted:
2 minutes
	Critical Idea
	• The Coherence Map makes explicit many of the connections between and across the standards. As noted on the Coherence Map website, "Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards."
	
	Step-By-Step Instructions
	• Provide participants with the link to the Coherence Map (https://achievethecore.org/coherence-map) and invite them to follow along on their devices as you guide them through how to navigate and use the site.
	• Say,
	  ○ "When you arrive at the opening page for the Coherence Map, you will notice the same statements that we just discussed."
	  ○ "Begin exploring the Coherence Map by clicking on the *Get Started* button in the center of the screen."
	
	Words of Wisdom
	• Slides 18–23 help participants learn how to use the Coherence Map.
		https://achievethecore.org/coherence-map

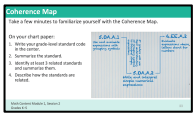
Slide 20
Time Allotted:
1 minute
	Critical Idea
	• The Coherence Map makes explicit many of the connections between and across the standards. As noted on the Coherence Map website, "Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards."
	
	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
	• Slides 18–23 help participants learn how to use the Coherence Map.	

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials

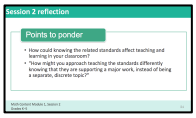
Slide 21
Time Allotted:
1 minute
	Critical Idea
	• The Coherence Map makes explicit many of the connections between and across the standards. As noted on the Coherence Map website, "Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards.
	
	Step-By-Step Instructions
	• Tell participants:
	  ○ "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
	• Slides 18–23 help participants learn how to use the Coherence Map.	

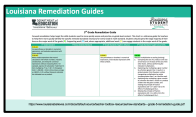
Slide 22
Time Allotted:
5 minutes
	Critical Idea
	• The Coherence Map makes explicit many of the connections between and across the standards. As noted on the Coherence Map website, "Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Now you will see a list of all the standards that fall under that domain for your grade level."
	  ○ "The standards are organized by cluster, and they are organized in order by their standard number."
	• **<u>Animate slide</u>**. Say,
	  ○ "When you click on the 'Map Standard' button for a standard, it will open up a wire diagram—a graphical representation—showing all the related standards for the standard you selected."
	• **<u>Animate slide</u>**. 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."
	  ○ "So in this example on the screen, if a student has not had experience with standard 5.OA.A.1, then they are likely to be unsuccessful with 5.OA.A.2."
	  ○ "The same could be said for the other side of the screen: 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 Grade 6 standards in the following year."
	  ○ "You should know that while sometimes the prerequisite standards identified on the map are from a previous grade level, it is also the case that sometimes the prerequisite standards are from within the same grade level, as you see here."
	• **<u>Animate slide</u>**. 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 supporting standards concurrently with the selected standard."
	
	Words of Wisdom
	• Slides 18–23 help participants learn how to use the Coherence Map.	

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials


 	
Slide 23
Time Allotted:
25 minutes
	Critical Idea
	• Understanding how standards are related is crucial in planning for remediation.
	
	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. Then call their attention back to the whole group.
	• While participants are exploring, pass out chart paper and markers.
	• Say,
	  ○ "We are going to do an activity to help familiarize us with the coherence of our standards."
	  ○ "For this activity, we are going to explore the coherence of the standards we used in Session 1 for the Rigor activity."
	  ○ Locate your grade level's standard from Session 1 and find that standard on the site."
	• **Animate 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 slide.** Say,
	  ○ "First, on your chart paper, you are going to write the grade-level standard code in the center."
	• **Animate slide**. Say,
	  ○ "Then you will work with your group to summarize the main focus of that standard."
	• **Animate slide**. Say,
	  ○ "Next, using the Coherence Map, you will identify at least 3 related standards and summarize them. Try to place them on your chart in locations similar to their locations on the Coherence Map. Don't forget to draw the arrows or dashed lines to show the relationships among the standards."
	• **Animate slide**. Say,
	  ○ "Finally, you will work with your group to discuss how the standards are related, and you will 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.A.1 to write and interpret simple numerical expressions in 5.OA.A.2."
	  ○ "Are there any questions about what you are going to do?"
	• Answer any clarifying questions.
	• Before releasing participants 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 the standards are related and why that is important."
	• Allow 20 minutes for the participants to complete this activity.
	
	Words of Wisdom
	• 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.
		Chart paper
		
		Markers
		
		Laptops

Time & Slide Thumbnail	Facilitator Notes Session 2: Focus and Coherence of the LSSM	Materials


 	
Slide 24
Time Allotted:
10 minutes
	Critical Idea
	• Understanding how standards are related is crucial in planning for remediation.
	
	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 yet today. Take your sticky notes 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.
	• Ask participants to return to their original seats.
	
	Words of Wisdom
	• Not applicable
		Sticky notes


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

Math Module 1, Session 3
Session Title: Seeing the Key Shifts in Action: Experience an EngageNY Lesson

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's 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 addition and subtraction. Looking ahead, in Session 4, teachers 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.

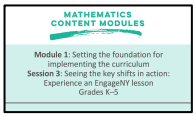
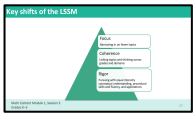
Session Key Points *What are the 2 to 4* most *important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*
Through Session 3, participants will know: • Intentional teacher moves support focus, coherence, and rigor around the mathematics content. • Mathematical discourse gives students opportunities to share ideas and clarify understanding.	• Participants record evidence of focus, coherence, and rigor using handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**

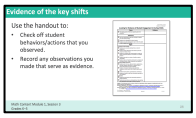
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will … • Gain clarity on how the mathematics standards manifest in the elementary classroom when executed well in curriculum and 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 Student Engagement in 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	90 minutes

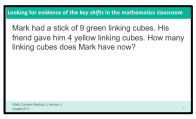
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	

Session Materials
• Participant handouts
  ○ **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**
  ○ **M1_P-03 EngageNY Lesson 4 (Math G2 M1 TB L4 Teacher)**
Additional Supplies
• Chart paper
• Markers
• Sticky notes
	Facilitator Pre-Work and Prep
	• Print participant handouts (1 per participant)
	• Study handout **M1_P-03 EngageNY Lesson 4 (Math G2 M1 TB L4 Teacher)** and the facilitator notes for Session 3 to prepare for teaching the EngageNY lesson.

Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials
 Slide 26 Time Allotted: < 1 minute	**Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson** **Slides 26–31 Time Allotted: 60 minutes** ***Critical Idea*** • This slide introduces Session 3. ***Step-By-Step Instructions*** • Say, ○ "We will now begin Session 3." ***Words of Wisdom*** • For Session 3, participants should be sitting in mixed-grade-level groups of four.	
 Slide 27 Time Allotted: 4 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 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 though 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 6 modules, you will have had the opportunity to experience a variety of lessons from grades K–5."
	  ○ "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."
	• Ask participants to locate handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**. Ask participants to read the instructions on the slide. Then orient participants to the handout. Say,
	  ○ "The left-hand column contains descriptors of how the students may engage in the key shifts. Next to each descriptor is a checkbox you can use 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 any specific actions that can be used as evidence for the descriptors that you checked off in the left-hand column."
		M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts

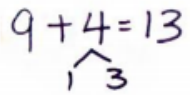
Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials
	• Give participants time to look over the information on the handout and to ask questions if they need further clarification. ***Words of Wisdom*** • Make sure all participants 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:
20 minutes
	Critical Idea
	• Rigorous mathematics teaching and learning should intentionally integrate the Standards for Mathematical Practice (SMPs) with mathematics content.
	
	Step-By-Step Instructions
	• Say, "I would like for you to engage in the math as learners as if you were the students, but I would like you at the same time to also be looking for and documenting evidence of the key shifts in the standards as we engage in the lesson."
	• **<u>Animate slide</u>** with the word problem, and ask participants to read the problem.
	• Say:
	  ○ "What do we know about the problem?"
	  – *Mark has 9 green linking cubes.*
	  – *His friend gave him 4 yellow linking cubes.*
	  ○ "What do we want to know?"
	  – *How many linking cubes does Mark have now?*
	  ○ "Work with your shoulder partner to solve the problem, using pictures, numbers, and words."
	  ○ "I should be able to understand the strategy you used to solve the problem based on your visual representations."
	• Give participants about 5 minutes to complete the problem with their visuals.
	• While they are working, monitor each group and intentionally look for strategies that you can connect to the intended strategy (*making ten*).
	• You may need to use probing questions as you visit each group to help you make sense of their strategy or to guide them to the making ten strategy.
	• Possible probing questions:
	  ○ *What was the first step you did to solve this problem?*
	  ○ *What do you know about the number 9?*
	  ○ *How can that help you to solve this problem?*
	  ○ *How does that visual help you make sense of your strategy?*
	• It is okay if the *making ten* strategy does not come up directly. You will need to be prepared to connect one or more of the strategies the participants use to the making ten strategy.
	• After the 5 minutes are up, ask several participants to share their strategies with the whole group. (You should strategically call on the specific group strategies that you noticed as you walked around. It is not necessary for each group to share, only the ones with the strategies that you wish to highlight.)
	• Note: this is intended to be an opportunity for you to model using the *5 Practices for Orchestrating Productive Mathematics Discussions.* This open-ended approach to the EngageNY lessons may be different from what the participants are used to. Be prepared to explain that the instructional moves are intentional and will be discussed in depth in later modules.
	• On a chart, with visuals, write up each strategy as it is shared. (It would be ideal to have 3 to 4 different strategies.)
		M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts
		
		Related resource: Smith, M. S., & Stein, M. K. (2018, second edition.). *5 practices for orchestrating productive mathematics discussions.* Reston, VA: National Council of Teachers of Mathematics. Available at https://www.nctm.org/Store/Products/5-Practices-for-Orchestrating-Productive-Mathematics-Discussion,-2nd-Edition

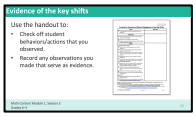
Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials

	• Tell participants:
	  ○ "We just solved this problem using your own strategies."
	  ○ "Now I am going to solve this problem using a specific strategy."
	  ○ "I would like for you to compare it to the strategy you used and see if it makes sense to you."
	• Write **9 + 4** on a new piece of chart paper.
	• Make sure the chart paper with the participants' strategies is still visible.
	• Tell participants, "Let's draw to solve this problem using circles and Xs."
	• Draw and count aloud 9 circles in a 5-group column as seen in this image.
	
	• Say,
	  ○ "This drawing represents the 9 green cubes from our problem. We are going to represent the yellow cubes using Xs. How many Xs do we need to add?" [*4 Xs*]
	• Draw the Xs, and count them aloud by first completing the ten and then drawing the other 3 Xs to the right as seen in this image.
	
	• "What do you notice I did as I added the Xs?" [*Completed the ten and then added the 3 more]*
	• If this answer does not come up right away, probe by asking, "Where did I put the first X? Why do you think I chose to do this?"
	• Ask participants, "What other math expression, besides 9 + 4, do you see represented in my drawing?" [*10 + 3*]
	• If participants do not come up with this expression on their own, probe further by directing them back to the model and asking, "How did I group my objects in the model?"
	• Tell participants:
	  ○ "What does 10 + 3 equal?" [*13*]
	  ○ "How can we use this information to help us solve 9 + 4?"
	  ○ "Talk with your shoulder partner to answer this question."
	• Allow 1 to 2 minutes for partners to discuss and then have a few groups share out.
	• Possible response:
	  ○ *I know that if I have 9, I need 1 more to make 10. I can take the one from the 4 to get my 10 and add the 3 more to get 10 + 3 = 13*
	• Ask participants, "How can decomposing the 4 help to solve the problem 9 + 4?"
	• Ask for a few share outs from the whole group.
	• Ask participants, "How can I represent decomposing the 4 using a number bond?" [*Draw the number bond under the 4 showing that you decomposed it into 1 and 3.]*	

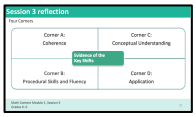
Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials

	
	• Tell participants:
	  ○ "Let's look back at the original strategies we discussed at the start of the lesson."
	  ○ "How could you connect or adapt the strategies that you used to the 'making ten' strategy that you just experienced?"
	• Be prepared to guide participants in adapting their strategies to the making ten strategy.
	• Write the expression 9 + 5 on the chart paper.
	• Tell participants to solve this problem using the strategy of making ten and to show their work using a number bond that shows how they decomposed to make 10.
	• Give participants a few minutes to solve and discuss in their groups.
	• Ask for share outs from the group on how they solved the problem using the making ten strategy.
	• **<u>Animate slide</u>**.
	• Tell participants to work with their shoulder partner to solve the expressions using the making ten strategy.
	• Remind them to show their work, using either pictures or a number bond that shows how they decomposed the number to make ten.
	• Allow several minutes for partners to work through the problems.
	• Call the whole group back together.
	• Tell participants,
	  ○ "Look at the problems you just solved where one part, or *addend*, is 9. Talk to your partner about what pattern you notice when adding 9."
	• Allow a quick discussion and then take a couple share outs from the groups.
	• Possible response:
	  ○ *You will always decompose the other addend to take 1 out to make ten.*
	• Ask participants, "What pattern do you notice when one of the addends is 8? Talk to your partner about what you notice."
	• Allow another quick discussion and then take a couple of share outs.
	• Possible response:
	  ○ *You will always decompose to take 2 out to add to the 8 and make 10.*
	• Ask participants,
	  ○ "How is adding 9 + 4 different from adding 8 + 4?"
	• Allow another quick discussion and then take a couple of share outs.
	• Possible response:
	  ○ *We used 2 to make 10 when we added to 8, and we used 1 to make 10 when we added to 9.*
	
	Words of Wisdom
	• The focus is on how the practices enable the teaching and learning of the mathematics that leads to deeper conceptual understanding and multiple opportunities to apply those understandings in order to develop procedural skills and fluency in mathematics.	

Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials


 	
Slide 30
Time Allotted:
7 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."
	• Once participants are done, have a few participants share out specific evidence they documented from the lesson.
	• Ask,
	  ○ "What component of rigor did the students engage in the most throughout this lesson?"
	• Be prepared for participants to say any of the three components of rigor. If necessary, remind them 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 the delivery of the lesson from the lens of the intended component of *rigor* as identified in the Louisiana Rigor Documents. (The Louisiana Rigor Documents by grade level or course—e.g., "Grade 1 LSSM Alignment to Rigor"—are available here: https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning)
	
	Words of Wisdom
	• Possible evidence that may surface from the activity:
	  ○ ***Focus****: The goal of the lesson is part of the major work of the grade—using the* **making ten** *strategy for addition and subtraction.*
	  ○ ***Coherence****: Students use previous knowledge of strategies for addition and subtraction from first grade, and they extend that understanding to develop mental strategies in second grade.*
	  ○ ***Rigor****: Students develop procedural skills and fluency by selecting strategies that are useful for the problem and by looking for patterns, generalizations, and shortcuts.*
		M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts
		
		The **Louisiana Rigor Documents** for each grade-level or course—e.g., "Grade 1 LSSM Alignment to Rigor"—are available here: https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning

Time & Slide Thumbnail	Facilitator Notes Session 3: Seeing the Key Shifts in Action: Experience an EngageNY Lesson	Materials


 	
Slide 31
Time: 5 minutes
	Critical Idea
	• Adults do not learn from experience but rather from reflecting on experience.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Please look over the evidence you just recorded on handout **M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts**. 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 1 minute to report 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. Say,
	  ○ "Now that you have experienced a portion of an EngageNY lesson 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
	• Don't rush this conversation. Participants need time to think about, reflect on, and share their observations of what they observed in the lesson.
		Facilitator should designate each corner of the room as A-B-C-D.
		
		M1_P-02 Looking for Evidence of Student Engagement in the Key Shifts.

Math Module 1, Session 4
Session Title: Exploring the EngageNY Curriculum

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, participants 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 the key shifts. By analyzing the components of the EngageNY lesson and considering intentional instructional strategies that were used in the facilitation, teachers will identify implications for their own planning. A major goal of this session is for teachers to understand how to use the EngageNY lessons to guide their instruction, and how the lessons foster for students conceptual understanding, procedural skill and fluency, and application. Teachers consider how mathematical discourse was used 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. Looking ahead, in Session 5, participants will give special attention to establishing a productive classroom culture and • building strong learning mindsets in students that support perseverance in problem solving (SMP1—Standard for Mathematical Practice 1: "Make sense of problems and persevere in solving them") and • identifying ways in which educators' beliefs about learning are reflected in the culture of the classroom 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?*
Through Session 4, participants will know: • Intentional planning and teaching of the EngageNY resources will promote the key shifts of focus, coherence, and rigor. • How to use instructional strategies that foster conceptual understanding, procedural skill and fluency, and application. • The purpose of each of the EngageNY lesson components. • The necessity of establishing a classroom culture that supports making sense of—and persevering in solving—problems.	• Participants unpack the EngageNY lesson facilitated in Session 3, using handout **M1_P-04 Diamond Reflection: Unpacking the EngageNY Lesson.**

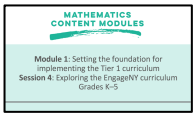
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*

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 with students. (CP)
CK: Content Knowledge
CP: Content Pedagogy
CS: Curriculum Skills
	• Open with a conversation to calibrate the meaning of *alignment* within the context of the K–12 setting in Louisiana.
	• Unpack the EngageNY lesson that is connected to the mathematics learning experience in Session 3, including:
	  ○ Analyzing and describing the purpose of each of the components of the EngageNY lesson, and
	  ○ Identifying how instruction was guided by the lesson components.
	• Reflect on Session 4 .

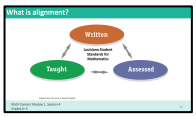
Facilitation Recommendations	
Session Length	90 minutes

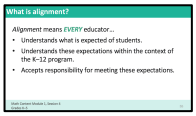
Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prepare for the actual session?*	

Session Materials
• Participant handouts
  ○ **M1_P-03 EngageNY Lesson 4—ENY Math G2 M1 TB L4 Teacher**
  ○ **M1_P-04 Diamond Reflection: Unpacking the EngageNY Lesson**
 	
Additional Supplies
• Markers
• Sticky notes
	Facilitator Pre-Work and Prep
	• Print participant handouts (1 per participant)

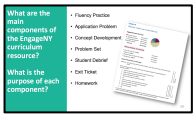
Time & Slide Thumbnail	Facilitator Notes Session 4: Exploring the EngageNY Curriculum	Materials
 Slide 32 Time Allotted: < 1 minute	**Session 4: Exploring the EngageNY Curriculum** **Slides 32–39 Time Allotted: 90 minutes** ***Critical Idea*** • This slide introduces Session 4. ***Step-By-Step Instructions*** • Say, "We will now begin Session 4." ***Words of Wisdom*** • Not applicable	

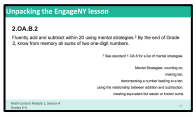
Slide 33
Time Allotted:
5 minutes
	Critical Idea
	• *Alignment* is not a thing or a set of documents; it is an ideal state we are continually moving toward.
	
	Step-By-Step Instructions
	• Say,
	  ○ "We spent time in previous sessions investigating the key shifts of the standards in order to help us 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 plant 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.	

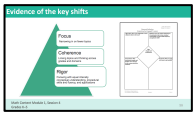

Slide 34
Time Allotted:
10 minutes
	Critical Idea
	• *Alignment* is not a thing or a set of documents; it is an ideal state we are continually moving toward.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Though we may not necessarily agree upon the approaches, strategies, and tactics that one might employ to get to alignment, there is a common thing these are oriented toward, and that is the basic **principle of alignment depicted on this slide**."
	  ○ "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, for your work, the EngageNY resource."
	• Ask 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:	

Time & Slide Thumbnail	Facilitator Notes Session 4: Exploring the EngageNY Curriculum	Materials
	○ *cyclical; not linear* ○ *all aspects of the visual are equally important* ○ *each aspect influences the others* ○ *you can begin anywhere in the cycle.* • Ask participants, ○ "How do you know when you have alignment?" • **Animate "Louisiana State Standards for Mathematics**." • Share that this principle is anchored in the standards. • Ask participants to write "**LSSM**" in the middle of the graphic to remind them of this idea. ***Words of Wisdom*** • Improved student achievement is typically an indicator of increased alignment of the written, tested, and taught curriculum.	
 Slide 35 Time Allotted: 2 minutes	***Critical Idea*** • *Alignment* requires acceptance—and ownership—of responsibility by 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." • **Animate slide**. Say, ○ "This means that every educator... " • **Animate slide**. Say, ○ "Understands what is expected of students." ○ "This understanding comes from knowing the standards." • **Animate slide**. Say, ○ "It also means we understand these expectations within the context of the K–12 program." ○ "This means we need to understand how our standards align cohesively from one grade level or course to the next." ○ "Your main curriculum resource (Eureka Math / 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 such as the curriculum's Fluency section." • **Animate slide**. Say, ○ "Finally, it means we all accept responsibility for meeting these expectations." ○ "This means 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 this piece. • Participants may not yet fully understand the magnitude of these ideas, but continue to reiterate these talking points throughout the session.	

Time & Slide Thumbnail	Facilitator Notes Session 4: Exploring the EngageNY Curriculum	Materials

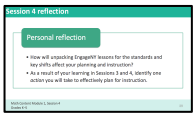

 	
Slide 36
Time Allotted:
15 minutes
	Critical Idea
	• A strong understanding of the LSSM is critical for teachers to implement the Tier 1 curriculum resources with fidelity and integrity. Teachers must be able to use the language of the standards to guide high-quality, standards-aligned teaching and learning.
	
	Step-By-Step Instructions
	• Direct participants to read the questions on the slide.
	• Pass out handout **M1_P-03 EngageNY Lesson 4—ENY Math G2 M1 TB L4 Teacher)**. Allow 5 minutes for participants to look through and discuss the main components of an EngageNY lesson and the purpose of each component.
	• Once participants have had some time to discuss, **animate each component on the slide one at a time**, and ask the group to share out their ideas on the main purpose of each piece.
	• Possible responses Include:
	  ○ *Fluency Practice: To build student efficiency in strategies and basic facts necessary for solving problems.*
	  ○ *Application Problem: Provides context to the concept development; reviews skills from previous lesson necessary for new learning in the concept development.*
	  ○ *Concept Development: Main component of the lesson. Develops new learning around the standard.*
	  ○ *Problem Set: Provides opportunities for student practice around the new learning established in the concept development.*
	  ○ *Student Debrief: 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 for the new learning.*
	  ○ *Homework: Additional practice on new learning.*
	• Transition to the next slide by explaining that we will explore these pieces and the role they play in effectively implementing these standards throughout the learning modules.
	
	Words of Wisdom
	• Not applicable
		M1_P-03
		EngageNY Lesson 4 ENY Math G2 M1 TB L4 Teacher


 	
Slide 37
Time Allotted:
10 minutes
	Critical Idea
	• A strong understanding of the LSSM is critical for teachers to implement the Tier 1 curriculum 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 content 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 standard."
	  ○ "Let's take a deeper look at the lesson we just experienced."
	  ○ "On the slide, you will find the standard that this lesson was intended to address."
	  ○ "You will notice that this standard has a footnote that references a standard from the previous year for the list of mental strategies."	

Time & Slide Thumbnail	Facilitator Notes Session 4: Exploring the EngageNY Curriculum	Materials
	○ "For the sake of this discussion, we have provided the list of mental strategies from that standard here on the slide." ○ "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 this standard." • Allow about 5 minutes for the groups to look for and discuss evidence of the standard in the lesson. • When time is up, ask for a few table groups to share out. As they share, ask probing questions seeking specific evidence demonstrated in the lesson that meets the standard. • Possible response: ○ *The lesson focuses on the mental strategy of making ten, which is one of the strategies called out by 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 is why it is important to consider not only the individual lesson, but also how that lesson fits into the full scope and sequence of your material. Only then can we tell if a standard is covered to its full intent." ***Words of Wisdom*** • Not applicable	
 Slide 38 Time Allotted: 22 minutes	***Critical Idea*** • Participants should be able to identify—in the EngageNY lesson—evidence of each of the three key shifts of the Louisiana Student Standards for Mathematics (LSSM). ***Step-By-Step Instructions*** • Say, ○ "It is also important that we understand how our resource materials address the *key shifts* of the Louisiana Student Standards for Mathematics (LSSM)." ○ "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 prior skills and knowledge." – **"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-04 Diamond Reflection: Unpacking the EngageNY Lesson**. Discuss the questions and record your responses on the paper." ○ "Be prepared to share out 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	**M1_P-04** Diamond Reflection: Unpacking the EngageNY Lesson

Time & Slide Thumbnail	Facilitator Notes Session 4: Exploring the EngageNY Curriculum	Materials

	which aspect of rigor (conceptual understanding, procedural skills and fluency, or application) is addressed with this standard."
	• Give participants several minutes to discuss the lesson and look for evidence of the key shifts.
	• Have some groups share out what they discussed as evidence for each shift.
	• Possible evidence that they found could include:
	  ○ *Focus—The lesson focuses on one specific mental strategy (making a ten) instead of trying to cover all the strategies at once.*
	  ○ *Coherence The lesson uses a strategy that was covered in first grade as a mental strategy and builds on that understanding to include sums up to 20.*
	  ○ *Rigor—The lesson focuses on building procedural skills and fluency by encouraging the use of the strategy of* making ten *in order to make students more efficient at adding numbers.*
	
	Words of Wisdom
	• Not applicable	

 Slide 39 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 and individually write their reflections on the question. • Ask participants to make eye contact with someone in the room whom they have not worked with 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 their thoughts on how this process will help them in planning a lesson.	

Math Module 1, Session 5 Overview
Session Title: Classroom Culture

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 will focus on establishing a productive classroom culture and the importance of building strong learning mindsets in students that support perseverance in problem solving (SMP1—Standard for Mathematical Practice 1: "Make sense of problems and persevere in solving them"). Teachers will 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 the Carol Dweck article, "The Perils and Promises of Praise." As a result of this session, teachers will walk away with six ways to support a growth mindset with students.

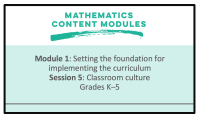
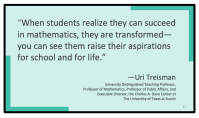
Session Key Points *What are the 2 to 4* most *important takeaways from this session?*	**Session Products** *What will participants produce during the session? Immediately following the session?*
Through Session 5, participants will know: • Their own beliefs about learning and how these beliefs can influence students. • Carol Dweck's research and how it informs the ways in which educators interact with their students. • Intentional actions can make a tremendous impact on students' beliefs that they can succeed (in mathematics). • Six instructional strategies that they can use to support a growth mindset.	• Participants will take a personal inventory quiz to determine their own beliefs about learning. After the session: • Participants will implement six strategies to support growth mindsets in students.

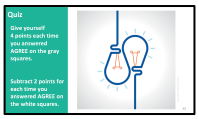
Session Objectives *What will participants know, believe, and be able to do as a result of this session?*	**Session Agenda at a Glance** *What is the overall flow of this session?*
Participants will … • Determine teacher moves that promote a positive classroom culture and support perseverance in solving 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	• Participate in an opening discussion—discuss a quotation regarding mindsets. • Take a 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-group and whole-group discussions to reflect on the Dweck article. • Summarize some consequences of "fixed" versus "growth" mindsets.

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?*
	• Learn 6 ways to support growth mindsets with students. • Reflect on Session 5. Module 1 will conclude with a brief activity in which participants create a metaphor statement to reflect on their learning over the course of the five sessions.

Facilitation Recommendations	
Session Length	60 minutes

Preparing to Facilitate *What materials and supplies are needed to facilitate this session?* *What must the facilitator do to prep for the actual session?*	
Session Materials: • Participant handouts ○ **M1_P-05a What's Your Mindset?** **Additional Supplies:** • Markers • Sticky notes	**Facilitator Pre-Work and Prep** • Take the quiz on page 1 of handout **M1_P-05a What's Your Mindset?** • Read the article referenced for **M1_P-05b "The Perils and Promises of Praise."** Note that this part of this activity requires that participants have access to the following article by Carol Dweck: Dweck, C. S. (2007). The perils and promises of praise. *Educational Leadership: Early intervention at every age* [issue theme], 65(2), 34–39. Available at http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx

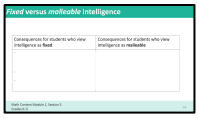
Time & Slide Thumbnail	Facilitator Notes Session 5: Classroom Culture	Materials
 Slide 40 Time Allotted: < 1 minute	**Session 5: Classroom Culture** **Slides 40–47 Time Allotted: 60 minutes** ***Critical Idea*** • This slide introduces Session 5. ***Step-By-Step Instructions*** • Say, "We will now begin 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 41 Time Allotted: 3 minutes	***Critical Idea*** • Students must have opportunities in the classroom to realize they can succeed – in mathematics and in other subjects—in order to develop grit and agility for school and for 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 student can do the work?" ***Words of Wisdom*** • This quotation can be connected to the list of skills that employers want that we saw in Session 1. One of the four skills highlighted is "grit and agility." Students must have opportunities to realize they can succeed—in mathematics and in other subjects—in order to develop grit and agility. **Citation**: 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: Academic Press.	**Citation**: 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: Academic Press.


 	
Slide 42
Time Allotted:
8 minutes
	Critical Idea
	• This activity is a self-reflection regarding mindset.
	
	Step-By-Step Instructions
	• Tell participants to take the quiz on **M1_P-05a What's Your Mindset?**
	• **<u>Animate slide</u>** to assess. Explain the scores:
	  ○ Fewer 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 pretty fixed mindset.
	• Ask participants to put their "scores" aside. Ask,
	  ○ "So, how does this context relate to our work?"
	
	Words of Wisdom
	• This quiz is **not scientific**; it's intended as a tool to help participants reflect on their current mindset.
	• Do not share results with others. The quiz is meant to be a personal reflection.
		M1_P-05a
		What's Your Mindset?
		
		Credit: Image from: ThinkstockPhotos-474842030.jpg

Time & Slide Thumbnail	Facilitator Notes Session 5: Classroom Culture	Materials

Slide 43
Time Allotted:
20 minutes
	Critical Idea
	• Research informs our practice and enables 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."
	  ○ "Our goal right now is to focus on a few key ideas that—when effectively and consistently applied—can dramatically reshape outcomes for teaching, learning, and instructional systems**."**
	  ○ "Each of our subsequent sessions will extend and enrich the ideas discussed today—this is just the beginning of our 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 influence students' beliefs and behaviors, so educators should examine their beliefs about learning. You will read an article by Carol Dweck to begin this conversation."
	• Ask participants to find Carol Dweck's article, "The perils and promises of praise": **M1_P-05b "The Perils and Promises of Praise."**
	• **<u>Animate the questions on the slide</u>**. 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 in this article 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 likely finish at different times, so please resist the urge to immediately begin discussing the article with a neighbor."
	• After participants have finished reading, ask them to use the questions on the slide to guide a discussion with their colleagues 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 participants to write down their thinking in regard to the questions, which will help them reflect deeply on their own understanding and beliefs regarding the reading selection.
	• If time is an issue, asking teachers to read just the first 2 full pages to the top of the third page will get a good discussion.
	
	Citation: Dweck, C. S. (2007). The perils and promises of praise. *Educational Leadership: Early intervention at every age [*issue theme], 65(2), 34–39. Available at http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx
		M1_P-05b "The perils and promises of praise."
		
		Note that this part of this activity requires that participants have access to the following article by Carol Dweck, available online: Dweck, C. S. (2007). The perils and promises of praise. *Educational Leadership: Early intervention at every age* [issue theme], 65(2), 34–39. Available at http://www.ascd.org/publications/educational-leadership/oct07/vol65/num02/The-Perils-and-Promises-of-Praise.aspx

Time & Slide Thumbnail	Facilitator Notes Session 5: Classroom Culture	Materials

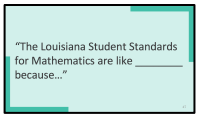

 	
Slide 44
Time Allotted:
5 minutes
	Critical Idea
	• It is important that educators within a system have an accurate and common understanding of what is meant by a *fixed* mindset regarding intelligence versus a *malleable* mindset regarding intelligence.
	
	Step-By-Step Instructions
	• Once participants finish discussing at their table groups the questions on the previous slide, call them 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*?"
	• Give some time for participants to first share with an elbow partner, then ask them to popcorn out a few responses to the whole group.
	• **Animate the bullet points in 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 information in mind, let's take some time to reflect."
	
	Words of Wisdom
	• Use the animation to help guide the whole-group discussion of the information in the Dweck article. If you have time, chart out the participants' responses instead of using the animation on the slide.
	• Do not ask participants to draw conclusions. The reflection questions on the next slide are designed for that purpose.	

  Slide 45 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 the classroom." • Ask participants to talk with their tablemates and create a list of 3 to 5 ways. • **Animate 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 have a tremendous impact on helping students believe they can succeed in mathematics.	

Time & Slide Thumbnail	Facilitator Notes Session 5: Classroom Culture	Materials

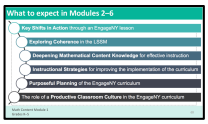
Slide 46
Time Allotted:
10 minutes
	Critical Idea
	• Research that points to new ways of thinking about learning can help us find ways to be more effective in our work as educators.
	
	Step-By-Step Instructions
	• Say,
	  ○ "Now that we have surfaced important insights and initial thoughts regarding Carol Dweck's research, let's consider the implications for teaching and learning in our own classrooms."
	• Give participants 1 to 2 minutes to read and quietly reflect on the questions on the slide.
	• Ask participants to share their thinking, using a "Stand Up, Hand Up, Pair Up" strategy. Explain:
	  ○ All participants will stand up and put their hands up.
	  ○ Participants mingle, introduce themselves, and find a partner—someone they haven't yet worked with in this session.
	  ○ When participants find a partner, they will sit together and put their hands down.
	  ○ As pairs, participants will share with each other 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 start a 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 give feedback 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,
	  ○ "As with effective praise, the types of experiences we provide for students in our classrooms can positively influence students' beliefs about their own abilities to learn. When we are intentional in selecting mathematics tasks and games that enable students to grow as mathematicians, students have opportunities to develop understandings and skills, such as fluency, that are critical in mathematics."
	
	Words of Wisdom
	• Some educators may find this discussion unsettling; it is intended, however, to start a conversation about important issues and to encourage teachers to discuss further on their campuses.
	• Don't rush the conversation. The article makes important points 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: "Stand Up, Hand Up, Pair Up" is described in Clowes, G. (2011 Spring). The essential 5: A starting point for Kagan Cooperative Learning. San Clemente, CA: Kagan Publishing. Kagan Online Magazine. https://www.kaganonline.com/free_articles/research_and_rationale/330/The-Essential-5-A-Starting-Point-for-Kagan-Cooperative-Learning

Time & Slide Thumbnail	Facilitator Notes Session 5: Classroom Culture	Materials


 	
Slide 47
Time Allotted:
8 minutes
	Critical Idea
	• This slide serves as a reflection on Module 1.
	
	Step by Step Directions:
	• Ask participants to write a single noun (person, place, or thing) on a sticky note without showing anyone around them.
	• Then ask participants to stand up with their sticky note and find a new group of 4 people that they have not yet worked with today.
	• Once participants are in new groups, **animate the slide** to reveal the sentence stem.
	• Say,
	  ○ "You are now going to share your nouns with your group. As a group, choose at least one of the nouns and use it to fill in the sentence stem and create a metaphor."
	• Allow a few minutes for the groups to create their metaphors. Then ask each group to share.
	• Once each group has shared their metaphor, ask them to return to their seats.
	• Summarize Module 1. Say,
	  ○ "Throughout the Module 1 learning sessions, you engaged in mathematics tasks and discussions designed to strengthen your understanding of the Louisiana Student Standards for Mathematics, or LSSM.
	
	  "You also had multiple opportunities to consider ways that you can continue to support students' learning of mathematics content through the high-quality curriculum.
	
	  "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 through 6."
	
	• Thank the participants for their time and effort in Module 1.
	
	Words of Wisdom
	• This slide provides a fun way to summarize the learning in Module 1.
		Sticky notes

Math Module 1, Closing Slide and Participant Evaluation Survey

Time & Slide Thumbnail	Facilitator Notes Module 1: Closing	Materials


 	
Slide 48
Time Allotted:
2 minutes
	Critical Idea
	• This slide provides an overview of the content in Modules 2 through 6.
	
	Step-By-Step Instructions
	• Say, "Before we conclude Module 1, we will preview the content and structure of Modules 2 through 6. Just as you experienced in Module 1, the learning sessions in future subsequent modules will include mathematics tasks and discussions designed to strengthen your understanding of the LSSM so you can better support students' learning of mathematics content through the high-quality curriculum."
	• **<u>Animate the slide, one bullet at a time</u>**. As each bullet animates, say, "In each module, we will:
	  ○ Identify the key shifts in action through an EngageNY lesson.
	  ○ ***Explore coherence*** between and within the grade-level standards in the LSSM.
	  ○ Deepen your mathematical content knowledge for effective instruction.
	  ○ Discuss instructional strategies for improving the implementation of the curriculum.
	  ○ Apply knowledge of the LSSM to guide ***purposeful planning*** for using the EngageNY curriculum.
	  ○ Identify the role of a productive classroom culture in 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 through 6."
	• Have participants locate handout **M1_P-06 LDOE Elementary Math Content Module Organization.** Say,
	  ○ "This document provides a quick glance at the planned structure for the remaining modules. Keep in mind that this document is still in draft form and we will update it and give you a more complete version by the end of Module 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 through 6.
		M1_P-06 LDOE Elementary Math: Content Module Organization

   Slide 49 Time Allotted: 0 minutes	***Critical Idea*** • This slide provides references for Module 1. ***Step-By-Step Instructions*** • Say, "These are the references for Module 1." ***Words of Wisdom*** • This slide should be brief.	

Time & Slide Thumbnail	Facilitator Notes Module 1: Closing	Materials
  Slide 50 Time Allotted: 15 minutes	***Critical Idea*** • Participant feedback is highly valued and is critical in informing future learning sessions. ***Step-By-Step Instructions*** • Say, "To gather feedback of your learning experience, you will take a 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 during the session.	http://www.utdanacenter.org/ldoe/surveys