Module Internalization

Eureka Math® TEKS Edition

Participant Handout

Objectives:

- Internalize and describe the purpose, key concepts, and trajectory of a module, including its role in the larger math story.
- Leverage vertical progressions of concepts, skills, strategies, and models to:
  - internalize content and build our own knowledge,
  - make connections explicit for students to build on what they know and give them access to grade-level content, and
  - make grade-level content accessible to all students, including special populations.
- Facilitate the Module Internalization process with a teacher or group of teachers.

<table>
<tr>
<td rowspan="2">I. Preview the Plot</td>
<td>1. Module Overview
What are the key concepts and skills that students will learn in this module?
How does this module build on other modules for this grade? Other grades?
What strategies and models will students use in this module? Which ones are new?
What considerations will we need to keep in mind for our English Learners, students with disabilities, and gifted and talented learners to ensure they can all access grade-level content?</td>
<td rowspan="2">FOCUS QUESTIONS:
1. How does this continue and extend the larger math story?
2. What transferable math concepts are students learning?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td colspan="3">Where did you find these things and how are they indicated?</td>
</tr>
</table>

I. Preview the Plot	2. Topic Overviews
	• How do you see the key concepts and skills from the module overview build?
	• What additional detail do you get from the Topic Overviews?
	• Recap the learning of the module in 3–5 sentences. Keep the focus questions at the right in mind and include:
	  ○ reminders for yourself of content, models, or strategies you need to revisit as you begin to plan for topics and lesson, and
	  ○ any current practices or content connections you already make explicit that you want to keep doing.

	Topic A Only

Recap the learning:

Reflect: How will the knowledge from the Preview the Plot support you in effectively preparing to plan for and teach the lessons in this module and in ensuring access for all your students?

II. Dig into the Details	1. Read the TEKS. • Note the alignment of these standards with the key concepts and skills you noted earlier. • Note how the foundational standards prepare students for the focus standards and how you might be able to use that to give students access. • Note any misconceptions or challenges you anticipate that you will want to ensure you address as you prepare for lessons.

TEKS: FOCUS STANDARDS	
Number and Operations: The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:	
3.4D	Determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10
3.4E	Represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip-counting
3.4H	Determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally
3.4J	Determine a quotient using the relationship between multiplication and division
3.4K	Solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models and equal groups; properties of operations; or recall of facts.
Algebraic Reasoning: The student applies mathematical process standards to analyze and create patterns and relationships. The student is expected to:	
3.5A	Represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations
3.5B	Represent and solve one-and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations
3.5D	Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product

TEKS: FOUNDATIONAL STANDARDS	
The student is expected to:	
2.2C	Generate a number that is greater than or less than a given whole number up to 1,200
2.6A	Model, create and describe contextual multiplication situation in which equivalent sets of concrete objects are joined
2.7A	Determine whether a number up to 40 is even or odd using pairings of objects to represent the number
2.9F	Use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.

https://tea.texas.gov/

II. Dig into the Details	2. Language/Vocabulary • What terms are new to students? How will you ensure that all learners can access grade-level vocabulary? • What terms are familiar to students? How have they been used before? • How will you engage English Learners around the ELPs?

ELPs: Grade 3, Module 1. (Learning Strategies and Listening)	
LEARNING STRATEGIES	
1.A	Use prior knowledge and experiences to understand meanings in English
1.C	Use strategic learning techniques such as concept mapping, drawing, memorizing, comparing, contrasting, and reviewing to acquire basic and grade-level vocabulary
1.F	Use accessible language and learn new and essential language in the process
LISTENING	
2.C	Learn new language structures, expressions, and basic and academic vocabulary heard during classroom instruction and interactions
2.E	Use visual, contextual, and linguistic support to enhance and confirm understanding of increasingly complex and elaborated spoken language
2.I	Demonstrate listening comprehension of increasingly complex spoken English by following directions, retelling or summarizing spoken messages, responding to questions and requests, collaborating with peers, and taking notes commensurate with content and grade-level needs

Reflect: How will the knowledge from the Dig Into the Details support you in effectively preparing to plan for and teach the lessons in this module and ensuring access for all of your students?

III. Summarize the Story	1. Do the math of the assessments by using the models and strategies from this module. • What skills and concepts are necessary for students to be successful with each problem? • How do these models and strategies support students' understanding of the content?

1. Mrs. Tran plants 2 rows of 5 carrots in her garden.

   a. Draw an array that represents Mrs. Tran's carrots. Use an X to show each carrot.

   b. Mrs. Tran adds 3 more rows of 5 carrots to her garden.

      - Use circles to show her new carrots on the array in Part (a).
      - Fill in the blanks below to show how she added the five rows.

        _____ fives + _____ fives = _____ fives

      - Write a sentence to explain your thinking.

   c. Find the total number of carrots Mrs. Tran planted.

   d. Write a multiplication sentence to describe the array representing the total number of carrots Mrs. Tran planted.

III. Summarize the Story	2. Synthesize the Learning • In 3–5 sentences, recap the learning by thinking about the following: ○ In this grade and module, what will be the same and what will be new and different about how students engage with the skills and concepts? ○ Why is this content essential to students' development as a mathematical thinker?

Reflect: How will the knowledge from the Summarize the Story support you in effectively preparing to plan for and teach the lessons in this module and in ensuring access for all of your students?

Reflect: How will you take this information back to the schools and districts you work with? What are your next steps in this work?

FACILITATOR NOTES

Credits

Great Minds® has made every effort to obtain permission for the reprinting of all copyrighted material. If any owner of copyrighted material is not acknowledged herein, please contact Great Minds for proper acknowledgment in all future editions and reprints of this presentation.

TEKS Standards found on p.4 of this handout are from the Texas Education Agency, https://tea.texas.gov/.

All other images are the property of Great Minds.

Works Cited

Great Minds. 2015. *Eureka Math*®. Washington, DC: Great Minds. https://greatminds.org/math