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# Grade 5 Pacing and Preparation Guide

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This guide includes three components. The first section, *Preparing to Teach a Module*, outlines a process for understanding the instructional sequences of the module—a vital foundation for making decisions about pacing. Next, *Preparing to Teach a Lesson* outlines a process for customizing a lesson to fit the daily time constraints and unique needs of the students.

The final section of this guide, *Suggestions for Consolidation or Omissions*, is intended to provide guidance in the event that educators need to reduce the number of days in the 180-day curriculum. Keep in mind that Grade 5 is comprised of 149 daily lessons. The remaining 31 instructional days are devoted to the 12 assessments. Assessments are typically allotted one day to administer the assessment, one day to return and review the assessment, and one day for remediation or enrichment. The embedded 16 remediation/enrichment days are intended to provide some built-in flexibility for teachers. However, in the event that even more flexibility is needed, these suggestions for consolidation or omissions will free up additional days. These suggestions should not be viewed as a mandate to omit or consolidate lessons, but as guidance for how to do so wisely when the need arises.

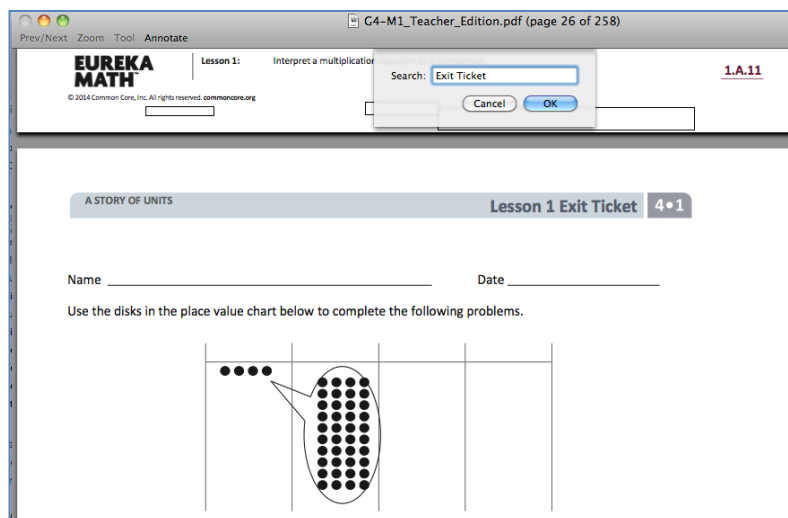
# Preparing to Teach a Module

Preparation of lessons will be more effective and efficient if there has been an adequate analysis of the module first. Each module in *A Story of Units* can be compared to a chapter in a book. How is the module moving the plot, the mathematics, forward? What new learning is taking place? How are the topics and objectives building on one another? The following is a suggested process for preparing to teach a module.

Step 1: Get a preview of the plot.

- A: Read the Table of Contents. At a high level, what is the plot of the module? How does the story develop across the topics?
- B: Preview the module's Exit Tickets<sup>1</sup> to see the trajectory of the module's mathematics and the nature of the work students are expected to be able to do.

Note: When studying a PDF file, enter "Exit Ticket" into the search feature to navigate from one Exit Ticket to the next.



Step 2: Dig into the details.

- A: Dig into a careful reading of the Module Overview. While reading the narrative, liberally reference the lessons and Topic Overviews to clarify the meaning of the text—the lessons demonstrate the strategies, show how to use the models, clarify vocabulary, and build understanding of concepts.

<sup>1</sup> A more in-depth preview can be done by searching the Problem Sets rather than the Exit Tickets. Furthermore, this same process can be used to preview the coherence or flow of any component of the curriculum, such as Fluency Practice or Application Problems.

Consider searching the video gallery on *Eureka Math*'s website to watch demonstrations of the use of models and other teaching techniques.

- B: Having thoroughly investigated the Module Overview, read through the chart entitled Overview of Module Topics and Lesson Objectives to further discern the plot of the module. How do the topics flow and tell a coherent story? How do the objectives move from simple to complex?

Step 3: Summarize the story.

Complete the Mid- and End-of-Module Assessments. Use the strategies and models presented in the module to explain the thinking involved. Again, liberally reference the work done in the lessons to see how students who are learning with the curriculum might respond.

# Preparing to Teach a Lesson

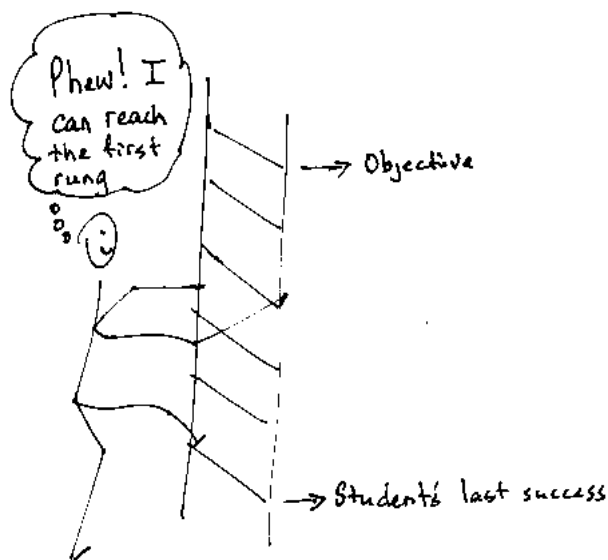
A three-step process is suggested to prepare a lesson. It is understood that at times teachers may need to make adjustments (customizations) to lessons in order to fit the time constraints and unique needs of their students. The recommended planning process is outlined below. Note: The ladder of Step 2 is a metaphor for the teaching sequence. The sequence can be seen not only at the macro level in the role that this lesson plays in the overall story, but also at the lesson level, where each rung in the ladder represents the next step in understanding or the next skill needed to reach the objective. To reach the objective, or the top of the ladder, all students must be able to access the first rung and each successive rung.

## Step 1: Discern the plot.

- A: Briefly review the module's Table of Contents, recalling the overall story of the module and analyzing the role of this lesson in the module.
- B: Read the Topic Overview related to the lesson, and then review the Problem Set and Exit Ticket of each lesson in the topic.
- C: Review the assessment following the topic, keeping in mind that assessments can usually be found midway through the module and at the end of the module.

## Step 2: Find the ladder.

- A: Complete the lesson's Problem Set.
- B: Analyze and write notes on the new complexities of each problem as well as the sequences and progressions throughout problems (e.g., pictorial to abstract, smaller to larger numbers, single- to multi-step problems). The new complexities are the rungs of the ladder.
- C: Anticipate where students might struggle, and write a note about the potential cause of the struggle.
- D: Answer the Student Debrief questions, always anticipating how students will respond.



## Step 3: Hone the lesson.

At times, the lesson and Problem Set are appropriate for all students and the day's schedule. At others, they may need customizing. If the decision is to customize based on either the needs of students or scheduling constraints, a suggestion is to decide upon and designate "Must Do" and "Could Do" problems.



- A: Select “Must Do” problems from the Problem Set that meet the objective and provide a coherent experience for students; reference the ladder. The expectation is that the majority of the class will complete the “Must Do” problems within the allocated time. While choosing the “Must Do” problems, keep in mind the need for a balance of calculations, various word problem types<sup>2</sup>, and work at both the pictorial and abstract levels.
- B: “Must Do” problems might also include remedial work as necessary for the whole class, a small group, or individual students. Depending on anticipated difficulties, those problems might take different forms as shown in the chart below.

Anticipated Difficulty	“Must Do” Customization Suggestion
The first problem of the Problem Set is too challenging.	Write a short sequence of problems on the board that provides a ladder to Problem 1. Direct the class or small group to complete those first problems to empower them to begin the Problem Set. Consider labeling these problems “Zero Problems” since they are done prior to Problem 1.
There is too big of a jump in complexity between two problems.	Provide a problem or set of problems that creates a bridge between the two problems. Label them with the number of the problem they follow. For example, if the challenging jump is between Problems 2 and 3, consider labeling the bridging problems “Extra 2s.”
Students lack fluency or foundational skills necessary for the lesson.	Before beginning the Problem Set, do a quick, engaging fluency exercise, such as a Rapid White Board Exchange, Counting Exercise, or Sprint. Before beginning any fluency activity for the first time, assess that students are poised for success with the easiest problem in the set.
More work is needed at the concrete or pictorial level.	Provide manipulatives or the opportunity to draw solution strategies. Especially in Kindergarten, at times the Problem Set or pencil and paper aspect might be completely excluded, allowing students to simply work with materials.
More work is needed at the abstract level.	Hone the Problem Set to reduce the amount of drawing as appropriate for certain students or the whole class.

- C: “Could Do” problems are for students who work with greater fluency and understanding and can, therefore, complete more work within a given time frame. Adjust the Exit Ticket and Homework to

<sup>2</sup> See the Progression documents “K, Counting and Cardinality” and “K–5, Operations and Algebraic Thinking” pp. 9 and 23, respectively.

reflect the “Must Do” problems or to address scheduling constraints.

- D: At times, a particularly tricky problem might be designated as a “Challenge!” problem. This can be motivating, especially for advanced students. Consider creating the opportunity for students to share their “Challenge!” solutions with the class at a weekly session or on video.
- E: Consider how to best use the vignettes of the Concept Development section of the lesson. Read through the vignettes, and highlight selected parts to be included in the delivery of instruction so that students can be independently successful on the assigned task.
- F: Pay close attention to the questions chosen for the Student Debrief. Regularly ask students, “What was the lesson’s learning goal today?” Help them make observations, draw connections, and articulate the goal.
- G: Adjust the balance of the lesson’s components as necessary to support the work students are expected to do in the Problem Set or task (e.g., the Fluency Practice, Exit Ticket, Homework, Application Problem).

# Suggestions for Consolidation or Omissions

## Module 1

If pacing is a challenge, consider the following modifications and omissions. Consolidate Lessons 9 and 10 because these lessons devote a day each to adding and subtracting with decimals. If students are fluent with addition and subtraction with whole numbers and their understanding of decimal place value is strong (from Grade 4 Module 6 and Grade 5 Module 1 Topic B), practicing both addition and subtraction with decimals can be done in one lesson. Begin assessing students' skill with addition and subtraction with whole numbers during the fluency activity of Lesson 5, and spend a series of days doing so.

## Module 2

If pacing is a challenge, consider the following modifications and omissions. Depending on students' strengths, consider consolidating Lessons 5 and 6. In Lesson 5, omit Problem 1 of the Concept Development, and move directly into renaming with the algorithm after Problem 2. Use the Problem Set from Lesson 6 for independent student practice. Consider consolidating Lessons 7 and 8 as well. Ask students to estimate the product beginning with the Concept Development of Lesson 7, and then use the Problem Set from Lesson 8 for student practice. Similarly, Lessons 11 and 12 can also be consolidated. Use estimation from the outset, and have students practice with the Problem Set from Lesson 12.

It is not recommended to omit any lessons from Topic D as it is a foundation for work later in the year. Students convert measurement units from small to large and from large to small using multiplication. This significantly expedites their understanding of and fluency with conversion and fraction multiplication as the year continues. In Lesson 14, students multiply whole numbers by unit fractions, which they learned to do in Grade 4 Module 5. If necessary, consider moving the fluency activity, "Multiply Unit Fractions," from Lesson 14 to Topic C to provide a few extra days of practice prior to beginning Lesson 14.

## Module 3

If pacing is a challenge, consider the following modifications and omissions. Omit Lesson 2 as it addresses a Grade 4 standard. In Lesson 3, omit the paper folding exercise, and consider it a remediation tool. Omit the Sprint in Lesson 12, and replace it with simple reasoning about fractions on the number line, such as "Is  $\frac{3}{4}$  greater than or less than  $\frac{1}{2}$ ?  $\frac{3}{5}$ ?  $\frac{3}{7}$ ?" In Lesson 15, choose two or three problems, and omit the others. Use the omitted problems as Application Problems in future lessons. Consider omitting Lesson 16 and using it in a center for early finishers, or have advanced students work the problems and present their solutions in a video or interactive demonstration. Consider asking the following questions to students, "Have you ever



thought about what the whole would look like if this paper were one-half? What if it were one-third? What if this is three-fourths of the whole? What would the whole look like then?"

Note: In the first year of implementation, beginning in Lesson 5, be sure to include the fluency activities requiring students to subtract fractions less than one from a whole number (e.g.,  $4 - \frac{5}{8}$ ) in order to prepare students to subtract larger mixed numbers in Topics B and C. Model these fluency activities on the number line and with a tape diagram.

## Module 4

If pacing is a challenge, consider the following modifications and omissions. Omit Lesson 4, and use tape diagrams to model fractions as division in Lesson 5. Lessons 11 and 12 are both word problem lessons involving addition, subtraction, and multiplication with fractions. Omit Lesson 11, but include Problems 1 and 4 as part of Lesson 12. In Lesson 12, use Problems 4 and 5 as an extension or challenge for early finishers, and omit Problems 5 and 6 from the Homework. If students have demonstrated success during Lesson 13, consider omitting Problems 1 and 2 of the Concept Development in Lesson 14. Similarly, in Lesson 15, omit Problems 2 and 3(c) from the Concept Development. Omit Lesson 21, and instead, provide regular practice with the "Write Fractions as Decimals" fluency activity, found in Lessons 23, 24, and 25. Lastly, omit Lesson 28.

Note: Looking ahead, Topic D of Module 5 includes drawing in 5 of the 6 geometry lessons. These drawings with the protractor are not included in the Grade 5 CCSS but *are* critical to the coherence of the geometry standards of Grade 4 and those of middle school. These drawings could be completed during Module 4 but at a different time of the day, such as art class or for morning work. It is best that drawing with the protractor be taught by the math teacher. This modification allows for the later consolidation of Lessons 16, 17, 18, and 19 in Module 5.

## Module 5

If pacing is a challenge, consider the following modifications and omissions. Omit Lessons 8 and 9, in which students create sculptures out of multiple rectangular prisms. Instead, consider asking the art teacher to complete a similar project with students. Lessons 14 and 15 can be consolidated since they share the same objective. Use Problems 1 and 2 from Lesson 14 and Problems 1 and 2 from Lesson 15. Problem 3 from Lesson 15 can be an extension for early finishers. Omit Lesson 21, and instead, use it in a center or periodically as morning work.

Note: If the drawing for Module 5, Topic D was done during Module 4, as suggested above, consolidate Lessons 16, 17, 18, and 19.

## Module 6

If pacing is a challenge, consider the following modifications and omissions. Lessons 5 and 6 share the same objective and can be consolidated. Lessons 11 and 12 are not part of the Grade 5 CCSS and therefore may be omitted.

Topics E and F are optional. However, they afford students the opportunity to reflect on all the learning they have experienced in Grade 5 and throughout *A Story of Units*. These Topics serve as both an excellent culmination to elementary school and a meaningful bridge to middle school.