Table of Contents

GRADE 5 • MODULE 1

Place Value and Decimal Fractions

Module Overview ................................................................. 2

Topic A: Multiplicative Patterns on the Place Value Chart ......................... 16

Topic B: Decimal Fractions and Place Value Patterns ................................ 75

Topic C: Place Value and Rounding Decimal Fractions ............................... 102

Mid-Module Assessment and Rubric .............................................. 129

Topic D: Adding and Subtracting Decimals ........................................ 138

Topic E: Multiplying Decimals .................................................... 163

Topic F: Dividing Decimals ....................................................... 189

End-of-Module Assessment and Rubric ........................................... 244

Answer Key .............................................................................. 253

NOTE: Student sheets should be printed at 100% scale to preserve the intended size of figures for accurate measurements. Adjust copier or printer settings to actual size and set page scaling to none.
Grade 5 • Module 1
Place Value and Decimal Fractions

OVERVIEW

In Module 1, students’ understandings of the patterns in the base ten system are extended from Grade 4’s work with place value to include decimals to the thousandths place. In Grade 5, students deepen their knowledge through a more generalized understanding of the relationships between and among adjacent places on the place value chart, e.g., 1 tenth times any digit on the place value chart moves the digit one place value to the right (5.NBT.1). Toward the module’s end, students apply these new understandings as they reason about and perform decimal operations through the hundredths place.

Topic A opens the module with a conceptual exploration of the multiplicative patterns of the base ten system using place value disks and a place value chart. Students notice that multiplying by 1,000 is the same as multiplying by $10 \times 10 \times 10$. Since each factor of 10 shifts the digits one place to the left, multiplying by $10 \times 10 \times 10$—which can be recorded in exponential form as $10^3$ (5.NBT.2)—shifts the position of the digits to the left 3 places, thus changing the digits’ relationships to the decimal point (5.NBT.2). Application of these place value understandings to problem solving with metric conversions completes Topic A (5.MD.1).

Topic B moves into the naming of decimal fraction numbers in expanded, unit (e.g., $4.23 = 4$ ones $2$ tenths $3$ hundredths), and word forms and concludes with using like units to compare decimal fractions. Now, in Grade 5, students use exponents and the unit fraction to represent expanded form (e.g., $2 \times 10^2 + 3 \times (\frac{1}{10}) + 4 \times (\frac{1}{100}) = 200.34$) (5.NBT.3). Further, students reason about differences in the values of like place value units and express those comparisons with symbols ($>$, $<$, and $=$). Students generalize their knowledge of rounding whole numbers to round decimal numbers in Topic C, initially using a vertical number line to interpret the result as an approximation and then eventually moving away from the visual model (5.NBT.4).

In the latter topics of Module 1, students use the relationships of adjacent units and generalize whole-number algorithms to decimal fraction operations (5.NBT.7). Topic D uses unit form to connect general methods for addition and subtraction with whole numbers to decimal addition and subtraction (e.g., $7$ tens $+ 8$ tens $= 15$ tens $= 150$ is analogous to $7$ tenths $+ 8$ tenths $= 15$ tenths $= 1.5$).

Topic E bridges the gap between Grade 4 work with multiplication and the standard algorithm by focusing on an intermediate step—reasoning about multiplying by a one-digit whole number. The area model, with which students have had extensive experience since Grade 3, is used as a scaffold for this work.

Topic F concludes Module 1 with a similar exploration of division of decimal numbers by one-digit whole-number divisors. Students solidify their skills with an understanding of the algorithm before moving on to long division involving two-digit divisors in Module 2.

The Mid-Module Assessment follows Topic C. The End-of-Module Assessment follows Topic F.
Notes on Pacing for Differentiation

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.

Focus Grade Level Standards

Understand the place value system.

5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
5.NBT.3 Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
   b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

5.NBT.4 Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Convert like measurement units within a given measurement system.

5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Foundational Standards

4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.

4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.

4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.) For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.

4.NF.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

The balance of this cluster is addressed in Module 2.

The focus in this module is on the metric system to reinforce place value and writing measurements using mixed units. This standard is addressed again in later modules.
**Focus Standards for Mathematical Practice**

**MP.6** *Attend to precision.* Students express the units of the base ten system as they work with decimal operations, expressing decompositions and compositions with understanding (e.g., “9 hundredths + 4 hundredths = 13 hundredths. I can change 10 hundredths to make 1 tenth”).

**MP.7** *Look for and make use of structure.* Students explore the multiplicative patterns of the base ten system when they use place value charts and disks to highlight the relationships between adjacent places. Students also use patterns to name decimal fraction numbers in expanded, unit, and word forms.

**MP.8** *Look for and express regularity in repeated reasoning.* Students express regularity in repeated reasoning when they look for and use whole-number general methods to add and subtract decimals and when they multiply and divide decimals by whole numbers. Students also use powers of ten to explain patterns in the placement of the decimal point and generalize their knowledge of rounding whole numbers to round decimal numbers.

**Overview of Module Topics and Lesson Objectives**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Topics and Objectives</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.NBT.1</td>
<td>Multiplicative Patterns on the Place Value Chart</td>
<td>4</td>
</tr>
<tr>
<td>5.NBT.2</td>
<td>Lesson 1: Reason concretely and pictorially using place value understanding to relate adjacent base ten units from millions to thousandths.</td>
<td></td>
</tr>
<tr>
<td>5.MD.1</td>
<td>Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lesson 3: Use exponents to name place value units and explain patterns in the placement of the decimal point.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.</td>
<td></td>
</tr>
<tr>
<td>Standards</td>
<td>Topics and Objectives</td>
<td>Days</td>
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<tr>
<td>-----------</td>
<td>-----------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>5.NBT.3</strong></td>
<td><strong>B</strong> Decimal Fractions and Place Value Patterns</td>
<td>2</td>
</tr>
<tr>
<td>Lesson 5:</td>
<td>Name decimal fractions in expanded, unit, and word forms by applying place value reasoning.</td>
<td></td>
</tr>
<tr>
<td>Lesson 6:</td>
<td>Compare decimal fractions to the thousandths using like units, and express comparisons with &gt;, &lt;, =.</td>
<td></td>
</tr>
<tr>
<td><strong>5.NBT.4</strong></td>
<td><strong>C</strong> Place Value and Rounding Decimal Fractions</td>
<td>2</td>
</tr>
<tr>
<td>Lessons 7–8:</td>
<td>Round a given decimal to any place using place value understanding and the vertical number line.</td>
<td></td>
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<tr>
<td>Mid-Module Assessment: Topics A–C</td>
<td>(assessment ½ day, return ½ day, remediation or further applications 1 day)</td>
<td>2</td>
</tr>
<tr>
<td><strong>5.NBT.2 5.NBT.3 5.NBT.7</strong></td>
<td><strong>D</strong> Adding and Subtracting Decimals</td>
<td>2</td>
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<tr>
<td>Lesson 9:</td>
<td>Add decimals using place value strategies and relate those strategies to a written method.</td>
<td></td>
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<tr>
<td>Lesson 10:</td>
<td>Subtract decimals using place value strategies and relate those strategies to a written method.</td>
<td></td>
</tr>
<tr>
<td><strong>5.NBT.2 5.NBT.3 5.NBT.7</strong></td>
<td><strong>E</strong> Multiplying Decimals</td>
<td>2</td>
</tr>
<tr>
<td>Lesson 11:</td>
<td>Multiply a decimal fraction by single-digit whole numbers, relate to a written method through application of the area model and place value understanding, and explain the reasoning used.</td>
<td></td>
</tr>
<tr>
<td>Lesson 12:</td>
<td>Multiply a decimal fraction by single-digit whole numbers, including using estimation to confirm the placement of the decimal point.</td>
<td></td>
</tr>
<tr>
<td><strong>5.NBT.3 5.NBT.7</strong></td>
<td><strong>F</strong> Dividing Decimals</td>
<td>4</td>
</tr>
<tr>
<td>Lesson 13:</td>
<td>Divide decimals by single-digit whole numbers involving easily identifiable multiples using place value understanding and relate to a written method.</td>
<td></td>
</tr>
<tr>
<td>Lesson 14:</td>
<td>Divide decimals with a remainder using place value understanding and relate to a written method.</td>
<td></td>
</tr>
<tr>
<td>Lesson 15:</td>
<td>Divide decimals using place value understanding including remainders in the smallest unit.</td>
<td></td>
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<tr>
<td>Lesson 16:</td>
<td>Solve word problems using decimal operations.</td>
<td></td>
</tr>
<tr>
<td>End-of-Module Assessment: Topics A–F</td>
<td>(assessment ½ day, return ½ day, remediation or further applications 1 day)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Number of Instructional Days</strong></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>
**Terminology**

**New or Recently Introduced Terms**
- Exponent (how many times a number is to be used in a multiplication sentence)
- Millimeter (a metric unit of length equal to one-thousandth of a meter)
- Thousandths (related to place value)

**Familiar Terms and Symbols**
- $>, <, =$ (greater than, less than, equal to)
- Base ten units (place value units)
- Bundling, making, renaming, changing, regrouping, trading
- Centimeter (cm, a unit of measure equal to one-hundredth of a meter)
- Digit (any of the numbers 0 to 9; e.g., what is the value of the digit in the tens place?)
- Expanded form (e.g., $135 = 1 \times 100 + 3 \times 10 + 5 \times 1$)
- Hundredths (as related to place value)
- Number line (a line marked with numbers at evenly spaced intervals)
- Number sentence (e.g., $4 + 3 = 7$)
- Place value (the numerical value that a digit has by virtue of its position in a number)
- Standard form (a number written in the format: 135)
- Tenths (as related to place value)
- Unbundling, breaking, renaming, changing, regrouping, trading
- Unit form (e.g., $3.21 = 3$ ones 2 tenths 1 hundredth)
- Word form (e.g., one hundred thirty-five)

**Suggested Tools and Representations**
- Number lines (a variety of templates, including a large one for the back wall of the classroom)
- Place value charts (at least one per student for an insert in their personal board)
- Place value disks

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3These are terms and symbols students have used or seen previously.
Suggested Methods of Instructional Delivery

Directions for Administration of Sprints

Sprints are designed to develop fluency. They should be fun, adrenaline-rich activities that intentionally build energy and excitement. A fast pace is essential. During Sprint administration, teachers assume the role of athletic coaches. A rousing routine fuels students’ motivation to do their personal best. Student recognition of increasing success is critical, and so every improvement is celebrated.

One Sprint has two parts with closely related problems on each. Students complete the two parts of the Sprint in quick succession with the goal of improving on the second part, even if only by one more.

With practice, the following routine takes about 9 minutes.

Sprint A

Pass Sprint A out quickly, face down on student desks with instructions to not look at the problems until the signal is given. (Some Sprints include words. If necessary, prior to starting the Sprint, quickly review the words so that reading difficulty does not slow students down.)

T: You will have 60 seconds to do as many problems as you can. I do not expect you to finish all of them. Just do as many as you can, your personal best. (If some students are likely to finish before time is up, assign a number to count by on the back.)
T: Take your mark! Get set! THINK!

Students immediately turn papers over and work furiously to finish as many problems as they can in 60 seconds. Time precisely.

T: Stop! Circle the last problem you did. I will read just the answers. If you got it right, call out “Yes!” If you made a mistake, circle it. Ready?
T: (Energetically, rapid-fire call the first answer.)
S: Yes!
T: (Energetically, rapid-fire call the second answer.)
S: Yes!

Repeat to the end of Sprint A or until no student has a correct answer. If needed, read the count-by answers in the same way the Sprint answers were read. Each number counted-by on the back is considered a correct answer.

T: Fantastic! Now, write the number you got correct at the top of your page. This is your personal goal for Sprint B.
T: How many of you got one right? (All hands should go up.)
T: Keep your hand up until I say the number that is one more than the number you got correct. So, if you got 14 correct, when I say 15, your hand goes down. Ready?
T: (Continue quickly.) How many got two correct? Three? Four? Five? (Continue until all hands are down.)

If the class needs more practice with Sprint A, continue with the optional routine presented below.

T: I’ll give you one minute to do more problems on this half of the Sprint. If you finish, stand behind your chair.
As students work, the student who scored highest on Sprint A might pass out Sprint B.

T: Stop! I will read just the answers. If you got it right, call out “Yes!” If you made a mistake, circle it. Ready? (Read the answers to the first half again as students stand.)

Movement

To keep the energy and fun going, always do a stretch or a movement game in between Sprints A and B. For example, the class might do jumping jacks while skip-counting by 5 for about 1 minute. Feeling invigorated, students take their seats for Sprint B, ready to make every effort to complete more problems this time.

Sprint B

Pass Sprint B out quickly, face down on student desks with instructions not to look at the problems until the signal is given. (Repeat the procedure for Sprint A up through the show of hands for how many are right.)

T: Stand up if you got more correct on the second Sprint than on the first.
S: (Stand.)
T: Keep standing until I say the number that tells how many more you got right on Sprint B. If you got three more right on Sprint B than you did on Sprint A, when I say three, you sit down. Ready? (Call out numbers starting with one. Students sit as the number by which they improved is called. Celebrate the students who improved most with a cheer.)
T: Well done! Now, take a moment to go back and correct your mistakes. Think about what patterns you noticed in today’s Sprint.
T: How did the patterns help you get better at solving the problems?
T: Rally Robin your thinking with your partner for 1 minute. Go!

Rally Robin is a style of sharing in which partners trade information back and forth, one statement at a time per person, for about 1 minute. This is an especially valuable part of the routine for students who benefit from their friends’ support to identify patterns and try new strategies.

Students may take Sprints home.

RDW or Read, Draw, Write (an Equation and a Statement)

Mathematicians and teachers suggest a simple process applicable to all grades:

1. Read.
2. Draw and label.
3. Write an equation.
4. Write a word sentence (statement).

The more students participate in reasoning through problems with a systematic approach, the more they internalize those behaviors and thought processes.

- What do I see?
- Can I draw something?
- What conclusions can I make from my drawing?
Modeling with Interactive Questioning

The teacher models the whole process with interactive questioning, some choral response, and talk moves such as, “What did Monique say, everyone?” After completing the problem, students might reflect with a partner on the steps they used to solve the problem. “Students, think back on what we did to solve this problem. What did we do first?” Students might then be given the same or similar problem to solve for homework.

Guided Practice

Each student has a copy of the question. Though guided by the teacher, they work independently at times and then come together again. Timing is important. Students might hear, “You have 2 minutes to do your drawing.” Or, “Put your pencils down. Time to work together again.” The Debrief might include selecting different student work to share.

Independent Practice

Students are given a problem to solve and possibly a designated amount of time to solve it. The teacher circulates, supports, and thinks about which student work to show to support the mathematical objectives of the lesson. When sharing student work, students are encouraged to think about the work with questions such as, “What do you notice about Jeremy’s work?”, “What is the same about Jeremy’s work and Sara’s work?”, “How did Jeremy show the \( \frac{3}{7} \) of the students?”, and “How did Sara show the \( \frac{3}{7} \) of the students?”

Personal White Boards

Materials Needed for Personal White Boards

- 1 heavy duty clear sheet protector
- 1 piece of stiff red tag board 11” × 8 ¼”
- 1 piece of stiff white tag board 11” × 8 ¼”
- 1 3” × 3” piece of dark synthetic cloth for an eraser (e.g., felt)
- 1 low odor blue dry erase marker, fine point

Directions for Creating Personal White Boards

Cut the white and red tag to specifications. Slide into the sheet protector. Store the eraser on the red side. Store markers in a separate container to avoid stretching the sheet protector.

Frequently Asked Questions About Personal White Boards

Why is one side red and one white?

- The white side of the board is the “paper.” Students generally write on it, and if working individually, turn the board over to signal to the teacher they have completed their work. The teacher then says, “Show me your boards” when most of the class is ready.
What are some of the benefits of a personal white board?

- The teacher can respond quickly to gaps in student understandings and skills. “Let’s do some of these on our personal white boards until we have more mastery.”
- Students can erase quickly so that they do not have to suffer the evidence of their mistake.
- They are motivating. Students love both the drill and thrill capability and the chance to do story problems with an engaging medium.
- Checking work gives the teacher instant feedback about student understanding.

What is the benefit of this personal white board over a commercially purchased dry erase board?

- It is much less expensive.
- Templates such as place value charts, number bond mats, hundreds boards, and number lines can be stored between the two pieces of tag board for easy access and reuse.
- Worksheets, story problems, and other problem sets can be done without marking the paper so that students can work on the problems independently at another time.
- Strips with story problems, number lines, and arrays can be inserted so students will still have a full piece of paper on which to write.
- The red versus white side distinction clarifies expectations. When working collaboratively, there is no need to use the red side. When working independently, students know how to keep their work private.
- The tag board can be removed if necessary to project the work.

Scaffolds

The scaffolds integrated into A Story of Units give alternatives for how students access information as well as express and demonstrate their learning. Strategically placed margin notes are provided within each lesson, elaborating on the use of specific scaffolds at applicable times. They address many needs presented by English language learners, students with disabilities, students performing above grade level, and students performing below grade level. Many of the suggestions are organized by Universal Design for Learning (UDL) principles and are applicable to more than one population. To read more about the approach to differentiated instruction in A Story of Units, please refer to “How to Implement A Story of Units.”

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4 Students with disabilities may require Braille, large print, audio, or special digital files. Please visit the website www.p12.nysed.gov/specialed/aim for specific information on how to obtain student materials that satisfy the National Instructional Materials Accessibility Standard (NIMAS) format.
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 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. 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.

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5 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.
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 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 Table of Contents for the module, recalling the overall story of the module and analyzing the role of this lesson in the module.
B: Read the Topic Overview of the lesson, and then review the Problem Set and Exit Ticket of each lesson of the topic.
C: Review the assessment following the topic, keeping in mind that assessments can 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, and work at both the pictorial and abstract levels.

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6See the Progression Documents “K, Counting and Cardinality” and “K–5, Operations and Algebraic Thinking” pp. 9 and 23, respectively.
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.

<table>
<thead>
<tr>
<th>Anticipated Difficulty</th>
<th>“Must Do” Remedial Problem Suggestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first problem of the Problem Set is too challenging.</td>
<td>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.</td>
</tr>
<tr>
<td>There is too big of a jump in complexity between two problems.</td>
<td>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 these problems “Extra 2s.”</td>
</tr>
<tr>
<td>Students lack fluency or foundational skills necessary for the lesson.</td>
<td>Before beginning the Problem Set, do a quick, engaging fluency exercise, such as a Rapid White Board Exchange, “Thrilling Drill,” 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.</td>
</tr>
<tr>
<td>More work is needed at the concrete or pictorial level.</td>
<td>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.</td>
</tr>
<tr>
<td>More work is needed at the abstract level.</td>
<td>Hone the Problem Set to reduce the amount of drawing as appropriate for certain students or the whole class.</td>
</tr>
</tbody>
</table>

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 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?” Hone the goal with them.
## Assessment Summary

<table>
<thead>
<tr>
<th>Type</th>
<th>Administered</th>
<th>Format</th>
<th>Standards Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Module Assessment Task</td>
<td>After Topic C</td>
<td>Constructed response with rubric</td>
<td>5.NBT.1, 5.NBT.2, 5.NBT.3, 5.NBT.4, 5.MD.1</td>
</tr>
<tr>
<td>End-of-Module Assessment Task</td>
<td>After Topic F</td>
<td>Constructed response with rubric</td>
<td>5.NBT.1, 5.NBT.2, 5.NBT.3, 5.NBT.4, 5.NBT.7, 5.MD.1</td>
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