## Bridges in Mathematics Grade 3 Unit 4

## Measurement & Fractions

In this unit, your student will:

- Tell time and calculate elapsed time
- Measure mass and volume to solve problems



• Model and compare fractions in different ways

#### Your student will practice these skills by solving problems such as these:

PROBLEM	COMMENTS
Read the time on the analog clock. Then write the time on the digital clock. $ \begin{array}{c}                                     $	Students extend their skills at telling time to reading time on both digital and analog clocks to the minute.
Ava boards her school bus at 7:48 in the morning. It takes her 19 minutes to get to school. At what time does she arrive at school?	Students call upon their understanding of adding and subtracting whole numbers using number lines to model elapsed time on a number line. In this example, a 19-minute bus ride to school is decomposed into two parts. It takes 12 minutes to travel from 7:48 to 8:00 and another 7 minutes to complete the ride.
Hamish has two pet corn snakes, Pickles and Coco. Pickles has a mass of 149 grams. Coco has a mass of 398 grams. How much mass do they have together? 398 +  49 = 400 +  47 = 547 Together, Pickles and Coco have a mass of <u>547</u> grams.	Students add and subtract multidigit numbers involving units of metric measurement (grams, centimeters, and so on). This connects the computation with the measuring students are doing in class. It also helps students develop a sense for how these units of measurement relate to objects and quantities in the world around them.
During P.E., teams of 3 people run a relay. Each person runs <sup>1</sup> / <sub>4</sub> of the way around the track. Where does the race end? $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ The race ends $\frac{3}{4}$ of the way around the track.	Students have explored fractions as part of a whole in past grade levels. For example, they might have divided a square or a hexagon into equal parts and then shaded some of those parts to show a particular fraction. In this unit, students consider fractions as points on a number line. In this example, students partition the number line into fourths and then add <sup>1</sup> / <sub>4</sub> three times. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$

PROBLEM	COMMENTS
$\frac{1}{1} = 1$ $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{6}$ $\frac{1}{8}$	Students fold and cut paper rectangles to explore fractions. They use their cut out fractional pieces to compare and order unit fractions.

For additional support, you can use the Math Vocabulary Cards app at apps.mathlearningcenter.org.

### **Frequently Asked Questions About Unit 4**

#### Q: Why do the problems ask students to use number lines to think about fractions?

A: Students have used number lines and number paths and number paths since kindergarten to represent and compute with whole numbers. Using the number line to represent fractions connects new concepts to students' prior work with whole numbers.

# Q: Why doesn't my student solve the addition and subtraction problems the way I remember doing it?

A: Many adults might use the standard algorithm to add multidigit numbers. This method is reliable when the steps are carried out accurately. This is the strength of algorithms — accuracy and reliability. Students will be expected to use the standard algorithms for addition and subtraction by the end of fourth grade. In third grade, they use other methods that build number sense and sometimes lend themselves to mental computation and estimation.

#### Q: How can I support my student's learning?

A: Students can more easily solve measurement-related problems when they are familiar with units, such as inches or cups. Working with these units like inches and cups gives students practical experience with fractions that they can easily see and understand. Encourage your student to measure things around the house. Challenge them to find fractional measurements too.

To further support your student in learning mathematics, you can:

- Visit <u>mathathome.mathlearningcenter.org</u> and work through some or all of the activities in Grade 3: Set 4 together. These activities complement the learning that takes place in the classroom during Unit 4 and provide fun ways to engage children in mathematical thinking. This set also includes digital versions of games that your student has learned at school, such as Hexagon Spin & Fill.
- If your student would enjoy learning about math concepts in other settings, such as literature or cooking, consider looking for related books at your local library. Encourage your student to read to you and point out the mathematical relationships they see. Some suggestions include:
  - » Eat Your Math Homework: Recipes for Hungry Minds by Ann McCallum, illustrated by Leeza Hernandez
  - » Inchworm and a Half by Elinor J. Pinczes, illustrated by Randall Enos