Bridges in Mathematics Grade 4 Unit 7

Reviewing & Extending Fractions, Decimals & Multidigit Multiplication

In this unit your student will:

- Compare fractions
- Recognize and generate equivalent fractions
- Represent and compare decimal numbers
- Multiply 2-digit numbers using the standard algorithm and other strategies

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

PROBLEM	COMMENTS
Sketch and name two fractions equivalent to $\frac{1}{3}$.	Students discover the process of creating equivalent fractions by dividing equal parts of a fraction bar into more equal parts.
$\frac{1}{3}$	In this example, each third is divided into two equal parts to show sixths in part a and divided into three equal parts to
a $\frac{2}{6}$	show ninths in part b. These bars can be used to show fractions that are equivalent to $\frac{1}{3}$, namely $\frac{2}{6}$ and $\frac{3}{9}$.
	After creating bars like these for other fractions, students will look for patterns. This helps them determine that multiplying the numerator and denominator of a fraction by the same number produces an equivalent fraction.
Compare each pair of fractions or decimals using $<$ or $>$.	To successfully compare fractions or decimals, students need to think about the value each represents.
$\begin{array}{c} \frac{30}{100} \bigcirc \frac{0}{10} & \frac{40}{100} \bigcirc \frac{2}{10} \end{array}$	Students might conclude that $\frac{30}{100}$ is greater than $\frac{6}{10}$ by
Write an inequality symbol (< or >) to show which decimal is greater and which is less.	comparing the numerators. After rewriting $\frac{6}{10}$ as $\frac{60}{100}$, they can see that $\frac{60}{100}$ is greater than $\frac{30}{100}$.
0.08 () 0.3 0.39 () 0.4	In the last example, students might conclude that 0.39 is greater because 39 is greater than 4. But 0.4 is equivalent to 40 hundredths. Forty hundredths is greater than 39 hundredths.
32 × 19 =	Students learn different ways to break apart numbers to multiply
Over strategy Four-part	they will learn in fifth grade. Students are not expected to be
32 × 20 = 640 multiplication	fluent with the standard algorithm until fifth grade.
32 × I = 32 32	Students will have other equally efficient strategies for solving problems like this one. The over strategy allows students
$6+0 - 32 = 608$ 9×2 18	to find a product that is just a bit over what they need
9 × 30 270	(for example, 32×20). They then subtract the extra group (1 group of 20) to get the final product
10 × 2 20 10 × 30 + 300	The Four-part multiplication strategy helps students see all of
608	the partial products that are included in the final product.



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PROBLEM	COMMENTS
Terrell collects baseball cards. He puts his cards in an album. He has filled 16 pages in the album.	Students are learning to write their own expressions to represent multistep problem situations.
Terrell chose 10 cards to give to his friends. Which expression shows how many baseball cards Terrell has left after giving some to his friends? The letter <i>c</i> stands for the number of cards he puts in each page of the album.	Selecting an expression from a few choices is a step toward that skill. It requires students to think about the relationships among the numbers in the problem.

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

Frequently Asked Questions About Unit 7

Q: My student has been successful with multiplying by 1-digit numbers. How can I help them with multiplying 2-digit numbers?

A: Students use several strategies to multiply 2-digit numbers. Ask your student to describe strategies they use for multiplying 1-digit numbers, then ask them to apply that same strategy for multiplying 2-digit numbers. If they are using an area model, they might need to break up the rectangle into more manageable parts. Encourage them to use multiples of 10 if they feel comfortable multiplying numbers like 20 × 40.

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

- Visit <u>mathathome.mathlearningcenter.org</u> and work together through some or all of the activities in Grade 4: Set 7. These activities complement the learning taking place in the classroom during Unit 7 and provide fun ways to engage everyone at home in mathematical thinking.
- Visit <u>apps.mathlearningcenter.org</u> and open the Fractions app. In this app, your student can make fraction bars to compare fractions and generate equivalent fractions.
- If your student would enjoy learning about math concepts through literature, consider looking for math-related books at your local library. Encourage your student to read to you and point out the mathematical relationships they see. Some suggestions include:
 - » If the World Were 100 People: A Visual Guide to Our Global Village by Jackie McCann, illustrated by Aaron Cushley (Ask your student to use fractions or decimals to describe the village. For example, $\frac{16}{100}$, or 0.16 of the people are from Africa. Ask your student to write comparison statements (using < and >) about the global village.)
 - » Edgar Allan Poe's Pie: Math Puzzlers in Classic Poems by J. Patrick Lewis, illustrated by Michael Slack