Bridges in Mathematics Grade 5 Unit 7 Division & Decimals

In this unit, your student will:

- Divide multidigit numbers
- Describe patterns for multiplying and dividing by powers of 10
- Multiply and divide decimal numbers
- Solve word problems using unit fractions and whole numbers

 $\frac{1}{2} \div 3 = \frac{1}{6}$

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

PROBLEM	COMMENTS
$3,052 \div 14$ $= (2,800 \div 14) + (252 \div 14)$ $= 200 + 18$ $= 218$ $252 + 2,800$ $3,052 \div 14 = 218$ $3,052 \div 14 = 218$ $218 \times 14 = 3,052$	Students learn the multiply to divide strategy, using a ratio table for support. They use familiar groups of the divisor to build up to the dividend.
$1,048 \div 37$ $1,0$	This process for dividing multidigit numbers looks similar to the standard algorithm, but it differs in important ways. Students first use a ratio table to show multiples of the divisor — in this case, 37 — thatcan be calculated mentally. Then they begin subtracting pieces of the dividend, recording partial quotients above the division bracket. For example: 10 + 10 + 5 + 2 + 1 The process continues until what's left is less than the divisor. In this case, 12 are left over.



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

Frequently Asked Questions About Unit 7

Q: Why do students learn a method for division that is different from the method I learned?

A: The way many people learned to do division with whole numbers is accurate, elegant, and reliable when all the steps are followed correctly. However, it is not the only way to divide greater numbers, and there can be certain disadvantages. One disadvantage is that there are a lot of steps and, for many students, it can be difficult to remember where they are in the process. Another such disadvantage is that the focus is often not on the place value of the digits in some steps, which is key to understanding how the process works. For example, the 78 in this standard algorithm solution actually has a value of 780. The standard algorithm for division will be taught

37	26
26 962	<u>× 3</u>
- 78	78
182	4
- 182	26
0	<u>× 7</u>
-	182

in sixth grade mathematics. The method your student learns in this unit invites them to keep track of multiples of the divisor with a ratio table and then subtract parts of the dividend as many times as necessary to make the total less than the divisor. Students can focus on the actual value of the numbers and always make sense of the numbers. With your student, use this method to find 962 \div 26.

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

A: To 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 5: Set 7 together. These activities complement the learning that takes place in the classroom during Unit 7 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 Quotients Race to 100 and Least Remainder Wins.
- Discuss the relationship between multiplication and division with your student as it comes up in their work or in your lives. Like how the division equation $16 \div 2 = 8$ is related to the multiplication equation $8 \times 2 = 16$, if $\frac{1}{2} \div 4 = \frac{1}{8}$ then $\frac{1}{8} \times 4 = \frac{1}{2}$. Invite your student to share and explain area models for multiplication and division involving whole numbers, decimals, and fractions.