

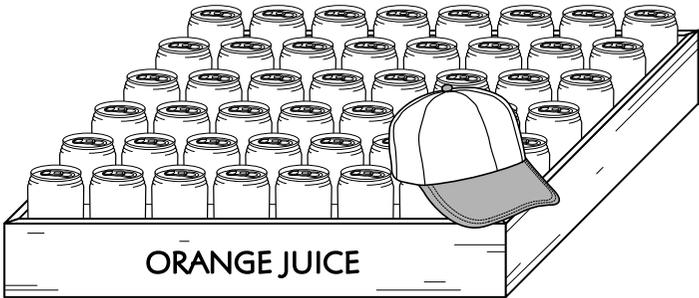


## About the Mathematics in This Unit (page 1 of 2)

Dear Family,

Our class is starting a new mathematics unit about multiplication called *Factors, Multiples, and Arrays*. In this unit, students review the multiplication combinations (also called *multiplication facts*) they know, identify the ones they need to work on, and develop strategies for learning them. They solve problems by using arrays, such as the examples below. They also solve problems about factors of a number and number relationships, such as this one: *If 25 is a factor of 100, will 25 also be a factor of 300? How do you know?*

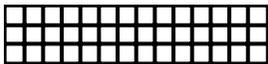
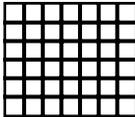
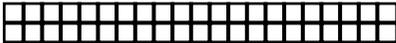
Throughout the unit, students will be working toward these goals:

BENCHMARKS/ GOALS	EXAMPLES
Use known multiplication combinations to find the product of any multiplication combination up to $12 \times 12$ .	<div style="text-align: center; margin-bottom: 10px;">8</div> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">7</div> <div style="margin-right: 10px;">5</div> <div style="margin-right: 10px;">2</div> <div style="border: 1px solid black; width: 60px; height: 60px; display: flex; flex-direction: column;"> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 12px; width: 100%;"></div> </div> <div style="margin-left: 20px;"> <math>(7 \times 8) = (5 \times 8) + (2 \times 8)</math>  <math>7 \times 8 = 40 + 16</math>  <math>7 \times 8 = 56</math> </div> </div>
Use arrays, pictures or models of groups, and story contexts to represent multiplication situations.	<div style="text-align: center;">  </div> <p style="text-align: center;">How many cans are in this case, including the ones hidden by the baseball cap?</p>

(continued)



## About the Mathematics in This Unit (page 2 of 2)

BENCHMARKS/ GOALS	EXAMPLES
Find the factors of 2-digit numbers.	<p><i>I found the factors of 42 by making these arrays:</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p><math>3 \times 14</math> or <math>14 \times 3</math></p> </div> <div style="text-align: center;">  <p><math>6 \times 7</math> or <math>7 \times 6</math></p> </div> <div style="text-align: center;">  <p><math>2 \times 21</math> or <math>21 \times 2</math></p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p><math>1 \times 42</math> or <math>42 \times 1</math></p> </div> <p><i>The factors of 42 (in order) are: 1, 2, 3, 6, 7, 14, 21, 42.</i></p>

Students will work on multiplication and division in two other fourth-grade units later this year, *Multiple Towers and Division Stories* and *How Many Packages? How Many Groups?*, when they will solve problems with larger numbers and share a variety of solution strategies.

In our math class, students spend time discussing problems in depth and are asked to share their reasoning and solutions. It is most important that children accurately and efficiently solve math problems in ways that make sense to them. At home, encourage your child to explain his or her math thinking to you.

Please look for more information and activities about *Factors, Multiples, and Arrays* that will be sent home in the coming weeks.