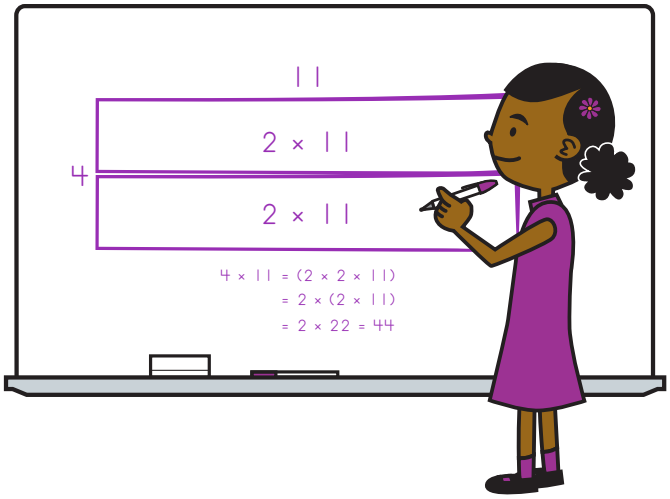
Bridges in Mathematics
Grade 4 Unit 1

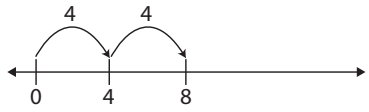
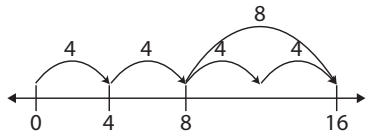
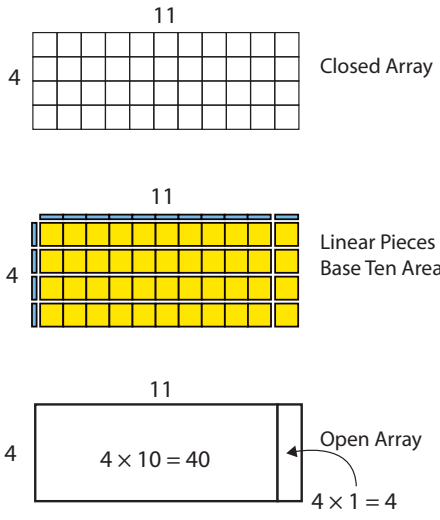
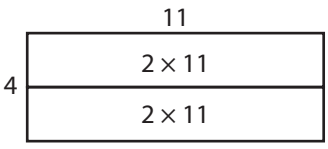
Multiplicative Thinking

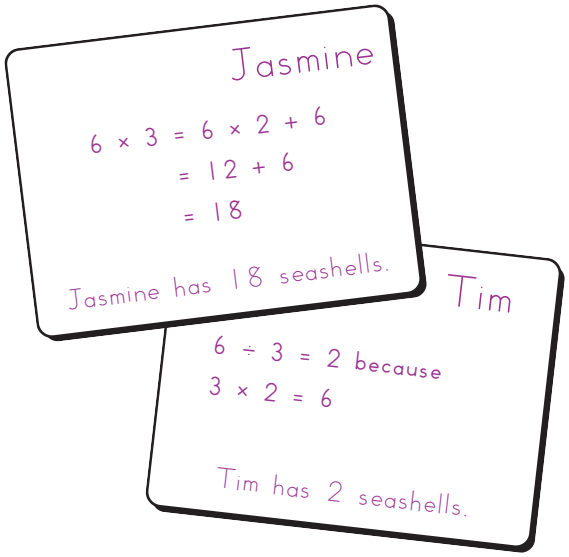


In this unit your child will:

- Fluently multiply and divide within 100
- Apply properties of operations as strategies to multiply and divide
- Use multiplication and division within 100 to solve story problems in situations involving equal groups, arrays, and measurement quantities
- Find the area of a rectangle

Your child will learn and practice these skills by solving problems like those shown below. Use the free Math Vocabulary Cards app for additional support: mathlearningcenter.org/apps

PROBLEM	COMMENTS
4 × 2  4 + 4 = 8 4 × 2 = 8 8 × 2  8 + 8 = 16 8 × 2 = 16	Students use the number line to model multiplication. In this example, they see that 8 × 2 is twice as much as 4 × 2. The number line shows multiplication as repeated addition or jumps of equal sizes. It helps students see the relationships among multiplication facts, and understanding those relationships builds computational fluency.
4 × 11 = 44  	Another important model for multiplication is the array. In this model, the sides are the numbers being multiplied and the area (the number of squares) is the product. In this example, we are multiplying 4 and 11, and the product is 44. The array shows the relationships among these numbers. It can also be used to show a variety of strategies for multiplying. For example, students can also show how to solve 4 × 11 in this way:  4 × 11 = (2 × 2 × 11) = 2 × (2 × 11) = 2 × 22 = 44

PROBLEM	COMMENTS
Alexa has 6 seashells. Her sister Jasmine has 3 times as many seashells as Alexa, and her brother Tim has a third as many seashells as Alexa. How many seashells does Jasmine have? How many seashells does Tim have? 	Many story problems invite students to think about multiplication as equal groups. For example, if three siblings each ate 2 cookies, they ate 6 cookies in all. Students also use multiplication and division to solve problems involving comparisons, for example, "3 times as many" or "a third as many." We want students to appreciate that a variety of situations (equal groups, area, equal jumps on a number line, comparisons, rates) call for multiplication and division.

FREQUENTLY ASKED QUESTIONS ABOUT UNIT 1

Q: Why do some of these activities look like what my child did in third grade?

A: This unit reviews mathematical concepts while introducing and establishing routines that will be used in fourth grade. Teachers assess students' skill level and plan future lessons based on this review. Students also deepen their experiences with multiplication and division by investigating multiplicative comparisons, writing expressions to represent multiplication situations, and solving contextual problems. Another element that is new to fourth grade is an investigation of factors, multiples, and prime and composite numbers.