

Topic 03 / Overview

TOPIC 3

Build on Known Multiplication Facts

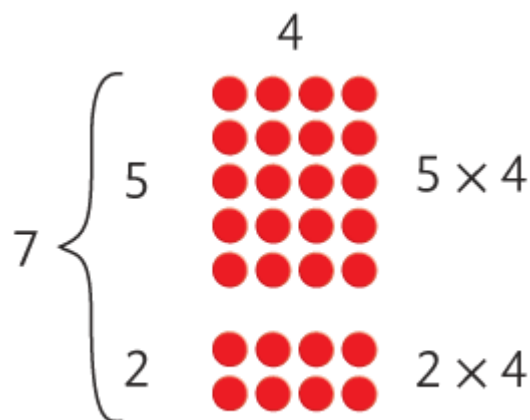
OVERVIEW

Topic 3 focuses on using known facts and properties of multiplication to learn the multiplication facts with factors of 3, 4, 6, 7, 8, 11, and 12.

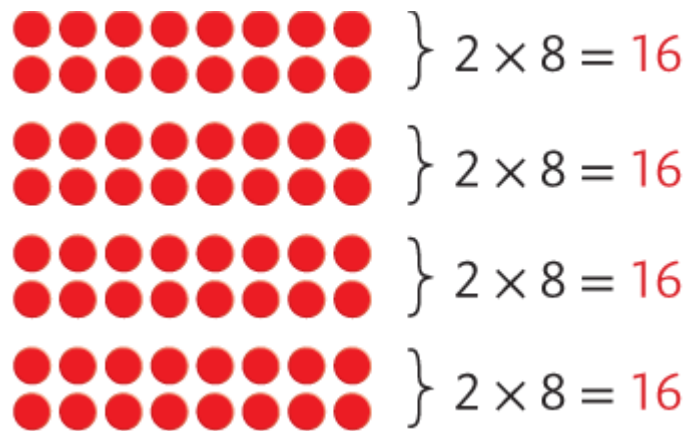
USE KNOWN FACTS

Break Apart a Fact into Known Facts This topic introduces your child to the Distributive Property. It is important that your child understands this property, as it will be used in much of your child's future mathematics education. This property says that multiplying a sum by a factor is the same as multiplying each number in the sum by that factor and adding the products.

Your child will use the Distributive Property to break apart a new multiplication fact into the sum of two known multiplication facts. Arrays are used to illustrate this method. For example, to find the product of 7 times 4, break 7 apart into $5 + 2$. Then add the products of 5×4 and 2×4 to find 7×4 . So, $7 \times 4 = (5 \times 4) + (2 \times 4)$.

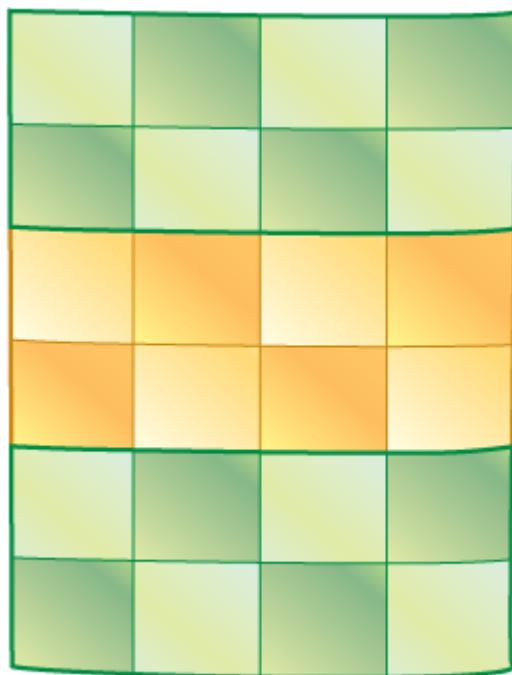


To find 8s facts, your child might use 2s facts. Here is how your child might solve the problem “There are 8 rows of bowls. There are 8 bowls in each row. How many bowls are there?” 8 times 8 equals 4 groups of 2 eights.



MULTIPLY WITH 3 FACTORS

Associative Property of Multiplication The Associative Property says that three or more factors can be grouped in any way to multiply them, and the product will be the same. For example, to find the number of squares in a quilt, your child can find $3 \times 2 \times 4$ by multiplying $(3 \times 2) \times 4$ or $3 \times (2 \times 4)$.



EQUAL GROUPS

Throughout Topic 3, your child will solve problems with real-world contexts that involve equal groups. Here is how your child might solve the problem “Sarai’s soccer team has 12 players. If each player takes 11 shots, how many shots are taken in all?”

Your child might find 12×11 using 10s and 2s facts:

$$12 \times 11 = (10 + 2) \times 11$$

$$12 \times 11 = (10 \times 11) + (2 \times 11)$$

$$12 \times 11 = 110 + 22$$

$$12 \times 11 = 132$$



CONNECT THE MATH

You can connect the math in this topic to everyday experiences. Look for situations that provide opportunities for your child to use and practice multiplication with factors 3, 4, 6, 7, 8, 11, and 12. For example, your child could find the number of sticky strips needed to hang 3 posters, with one strip on each corner (using 4 as a factor) or the number of eggs in 3 cartons (using 12 as a factor). Help your child see ways to break apart one factor to use two multiplication facts that are already known. Focus on making it fun to think flexibly.



TOPIC 3 LESSONS

- | | |
|-------------------|---|
| Lesson 3-1 | <u>The Distributive Property</u> |
| Lesson 3-2 | <u>Apply Properties: 3 and 4 as Factors</u> |
| Lesson 3-3 | <u>Apply Properties: 6 and 7 as Factors</u> |
| Lesson 3-4 | <u>Apply Properties: 8 as a Factor</u> |
| Lesson 3-5 | <u>Apply Properties: 11 and 12 as Factors</u> |
| Lesson 3-6 | <u>PROCEDURAL RELIABILITY PRACTICE</u>
<u>Multiplication Facts: Choose a Method</u> |

Lesson 3-7

[The Associative Property: Multiply with 3 Factors](#)

Lesson 3-8

[Solve Real-World Comparison Problems](#)

Lesson 3-9

MATH THINKING AND REASONING

Use Patterns and Structure to Make Connections