

2 Develop the Concept: Interactive



10–15 min

Interactive Learning

Overview Students will use the Distributive Property to find products.



Essential Question

How do you use multiplication facts and the Distributive Property to find the products for other multiplication facts?

Materials

Centimeter grid paper (Teaching Tool 9) (*per student*), colored markers or crayons (*per group*)



Set the Purpose *You know the Distributive Property. Today, you will use this property to break up a factor into a sum.*

Connect *If you buy a dozen items, bakeries often give one extra. The total is called “a baker’s dozen.” How many are in a baker’s dozen? [13] Why do they give an extra one? [Answers will vary.]*

Pose the Problem

Imagine that for a large picnic you ordered 8-dozen rolls. How many rolls did you get? Have students work in pairs, and then share how they found their answers. [96 rolls]

Link to Prior Knowledge

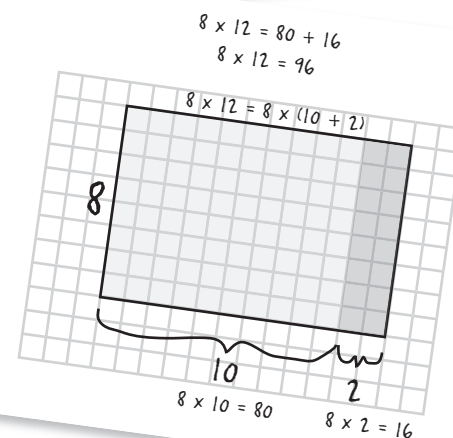
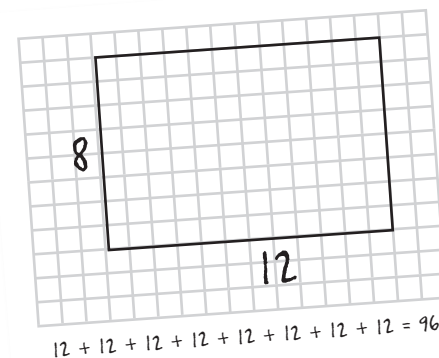
You got 8×12 rolls, a product that is not easy to find. Write 8×12 on the board. *Raise one hand if you know the multiplication facts for 2. If you also know the multiplication facts for 10, raise both hands. If you know these facts, you can figure out 8×12 .* Write: $12 = 10 + 2$ on the board. Then write $8 \times 12 = 8 \times (10 + 2)$.

Model

You can find 8×12 by multiplying 8 by 10 and 8 by 2. Write $8 \times (10 + 2) = (8 \times 10) + (8 \times 2)$. *What is 8×10 ? [80] What is 8×2 ? [16] What is $80 + 16$? [96] Write $80 + 16 = 96$. The product of 8×12 is 96. What property did we just use? [The Distributive Property]*

Small-Group Interaction

Have students work in pairs. *Draw an 8×7 grid on your paper. Choose either 8 or 7 to break apart. Color the grid to show how you broke apart the factor you chose. Write the related number sentences below the grid. Multiply and then find the total.* [56] Have students share how they broke a factor apart.



In 8×12 , what are other ways to break apart 12 besides $10 + 2$? [Answers will vary.] Why is it convenient to use $10 + 2$ instead of a different way? [Multiplication by 10 or a multiple of 10 is easy. Just write a zero at the end of the number that is being multiplied by 10.]

Link to Investigations, Second Edition

*Joint-Usage Master Plan
Blended Instruction (Plan 1):
Topic 3 and Unit 1*