Name _____

Activity

Step Up to Grade 4

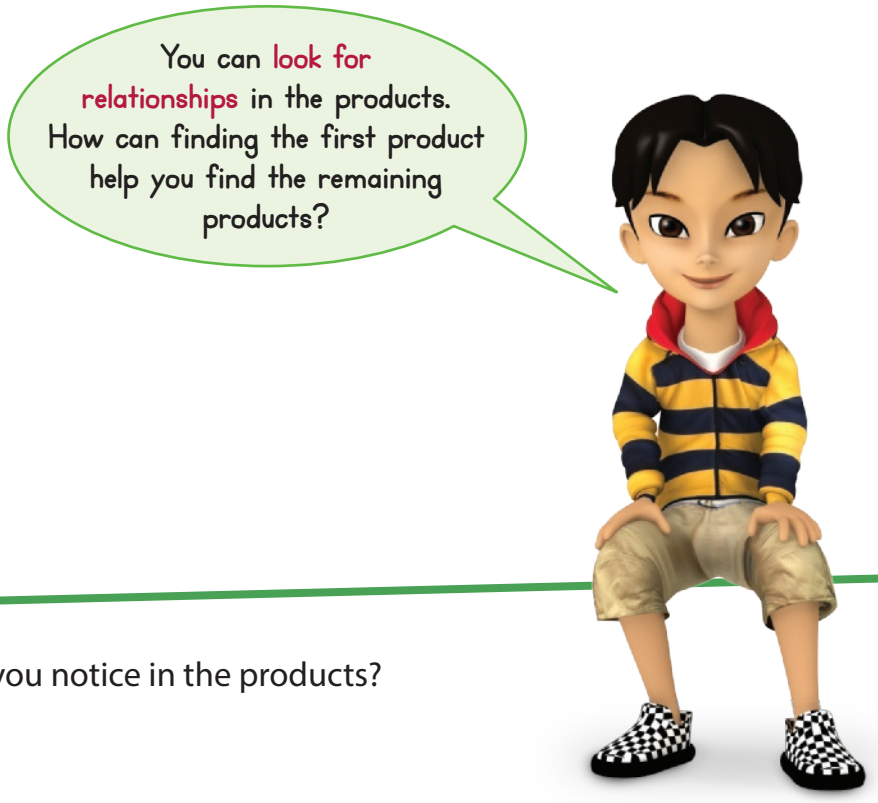
Lesson 2
Multiply by Multiples of 10, 100, and 1,000

I can . . .
find the products of multiples of 10, 100, and 1,000 using mental math and place-value strategies.

I can also look for patterns to solve problems.

Solve & Share

Find the products for 3×4, 3×40, 3×400, and $3 \times 4{,}000$. ***Solve these problems using any strategy you choose.***



Look Back! What pattern do you notice in the products?

Visual Learning A-Z Glossary

Essential Question

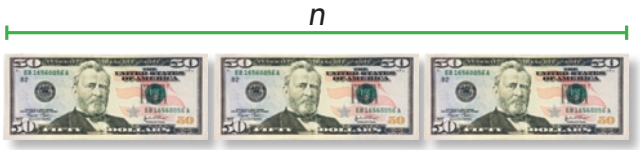
How Can You Multiply by Multiples of 10, 100, and 1,000?

Visual Learning Bridge

A

Calculate 3 × 50, 3 × 500, and 3 × 5,000 using basic multiplication facts and properties of operations.

The Associative Property of Multiplication states that you can change the grouping of the factors and the product stays the same.



B

One Way

Find 3 × 50, 3 × 500, and 3 × 5,000.

Use basic facts and place value.

3 × 50 = 3 × 5 tens
= 15 tens
= 150

3 × 500 = 3 × 5 hundreds
= 15 hundreds
= 1,500

3 × 5,000 = 3 × 5 thousands
= 15 thousands
= 15,000

C

Another Way

Find 3 × 50, 3 × 500, and 3 × 5,000.

Break apart numbers. Use the Associative Property of Multiplication.

3 × 50 = 3 × (5 × 10)
= (3 × 5) × 10
= 15 × 10
= 150

3 × 500 = 3 × (5 × 100)
= (3 × 5) × 100
= 15 × 100
= 1,500

3 × 5,000 = 3 × (5 × 1,000)
= (3 × 5) × 1,000
= 15 × 1,000
= 15,000

Convince Me! **Reasoning** What patterns do you see in the number of zeros in the products above?

Name _____

Tools

Another Example!

Use place value to calculate 5×400 and $6 \times 5{,}000$.

$5 \times 400 = 5 \times 4$ hundreds
$= 20$ hundreds
$= 2{,}000$

$6 \times 5{,}000 = 6 \times 5$ thousands
$= 30$ thousands
$= 30{,}000$

If the product of the basic fact ends in zero, the product has one more zero than you see in the factors.

Guided Practice

Do You Understand?

1. Show how you can use the basic fact $5 \times 8 = 40$ to determine the product of 5×800.

2. Bob said $4 \times 500 = 200$. Explain his error using place value.

Do You Know How?

For **3–5**, use strategies you learned to help multiply.

3. $8 \times 7 =$ _____
   $8 \times 70 =$ _____
   $8 \times 700 =$ _____
   $8 \times 7{,}000 =$ _____

4. 7×70

5. 2×700

Independent Practice

Leveled Practice For **6–11**, use basic facts, place value, and properties to help multiply.

You can use place-value strategies to calculate each product.

6. $3 \times 70 =$ _____
   $3 \times 700 =$ _____
   $3 \times 7{,}000 =$ _____

7. _____ $= 6 \times 40$
   _____ $= 6 \times 400$
   _____ $= 6 \times 4{,}000$

8. $8 \times 50 =$ _____
   $8 \times 500 =$ _____
   $8 \times 5{,}000 =$ _____

9. $4 \times 2{,}000$

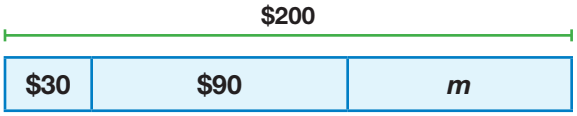
10. 700×4

11. 6×60

Problem Solving

12. **enVision® STEM** The Mississippi River is about 8 times the length of the Hudson River. If the Hudson River is about 300 miles long, about how many miles long is the Mississippi River? Write and solve an equation.

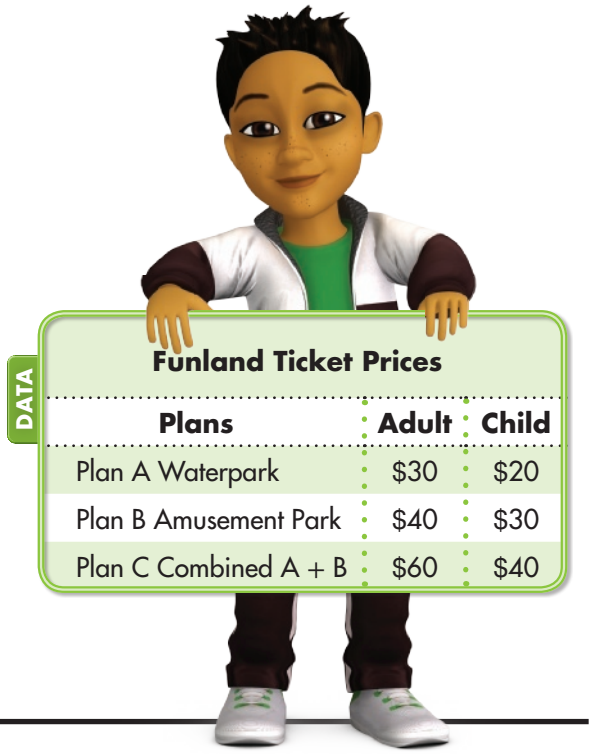
13. Ted, Jason, and Angelina are trying to raise $200 for a local shelter. Ted raised $30. Jason raised $90. How much money, *m*, does Angelina need to raise to reach their goal?



For **14–15**, use the table at the right.

14. **Make Sense and Persevere** There are 9 girls and 4 adults in Aimee's scout troup. How much did the troop pay for tickets to the amusement park?

15. **Higher Order Thinking** Tina visited Funland with her mom and a friend. They bought tickets for Plan C. How much money did they save on the two children's tickets for Plan C instead of buying separate tickets for Plan A and Plan B?



DATA

Funland Ticket Prices

Plans	Adult	Child
Plan A Waterpark	$30	$20
Plan B Amusement Park	$40	$30
Plan C Combined A + B	$60	$40

Assessment Practice

16. Brandon says 4×800 is greater than $8 \times 4{,}000$. Renee says 4×800 is less than $8 \times 4{,}000$.

A. Without calculating the answer, explain how to use place-value strategies or the Associative Property to find which is greater.

B. Without calculating the answer, explain how to use relationships or basic facts to find which is less.