

Name _____

Decompose Multiples of 10, 100, 1,000**Essential Question** How can you find factors of multiples of 10, 100, and 1,000?**UNLOCK the Problem** REAL WORLD

Architects make scale models of buildings before they build the real thing. The height of an actual building is going to be 1,200 feet. The scale model is 12 feet tall. How many times the height of the model is the height of the actual building?

You can decompose a multiple of 10, 100, or 1,000 by finding factors.

- What do you need to find?

- Circle the numbers you need to use to solve the problem.

One Way Use mental math and a pattern.

Decompose 1,200.

$1,200 = \underline{\quad\quad} \times 1$

$1,200 = \underline{\quad\quad} \times 10$

$1,200 = \underline{\quad\quad} \times 100$

So, the building is 100 times the height of the model.

Another Way Use place value.

Decompose 1,200.

$1,200 = 12 \text{ hundreds} = 12 \times \underline{\quad\quad}$

$\text{So, } 1,200 = 12 \times 100.$

**Remember**

A multiple of 10, 100, or 1,000 is a number that has a factor of 10, 100, or 1,000.

Math Talk

Explain the difference between factors and multiples.

- Explain how you use mental math and a pattern to find factors of multiples of 10, 100, or 1,000.

Share and Show



1. Complete the exercise below to decompose 2,800.

$$2,800 = \underline{\hspace{2cm}} \times 1$$

$$2,800 = \underline{\hspace{2cm}} \times 10$$

$$2,800 = \underline{\hspace{2cm}} \times 100$$

2. Complete the exercise below to decompose 930.

$$930 = \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$

Decompose each number.

3. $80 = \underline{\hspace{2cm}}$

4. $320 = \underline{\hspace{2cm}}$

5. $8,000 = \underline{\hspace{2cm}}$

On Your Own

Decompose each number.

6. $90 = \underline{\hspace{2cm}}$

7. $40 = \underline{\hspace{2cm}}$

8. $890 = \underline{\hspace{2cm}}$

9. $300 = \underline{\hspace{2cm}}$

10. $7,000 = \underline{\hspace{2cm}}$

11. $3,700 = \underline{\hspace{2cm}}$

Correct the error. Write the correct decomposition.

12. $560 = 56 \times 100$

$\underline{\hspace{2cm}}$

13. $4,300 = 43 \times 1,000$

$\underline{\hspace{2cm}}$

14. $6,000 = 60 \times 10$

$\underline{\hspace{2cm}}$

Problem Solving



15. Jon goes to the bank with \$990. How many ten-dollar bills can he get? Show how you found your answer.
