FAMILY MATH
Multiplication as Multiplicative Comparison

Dear Family,

In previous grades, your student learned to compare numbers and use addition or subtraction to describe *how many more* or *how many less.* Now, your student uses their prior knowledge of multiplication and division to compare numbers and describe their relationship as *times as many.* Your student explores a variety of patterns and models such as blocks, tape diagrams, and money, to explain what it means to say *times as many.* They find an unknown quantity when two quantities are compared by writing multiplication and division equations.
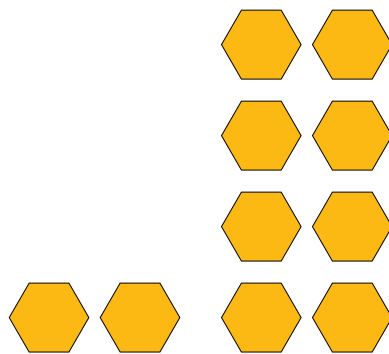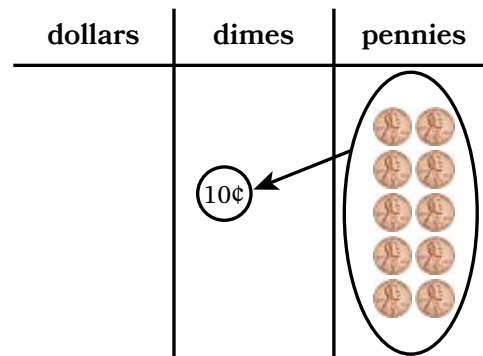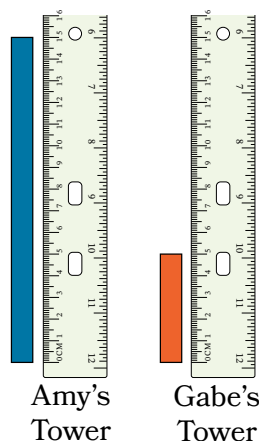
Key Term

times as many

Figure E   Figure F

There are 4 times as many hexagons in figure F as there are in figure E.

dollars	dimes	pennies

There are 10 times as many cents in a dime as there are in 1 penny.

Amy's Tower   Gabe's Tower

Amy's tower is 3 times as tall as Gabe's tower.
$15 = 3 \times 5$

Measurement	Comparison
weight	times as heavy
liquid volume	times as much
capacity	times as much
height	times as tall
length	times as long
width	times as wide
distance	times as far

The comparison phrase times as many *can be adjusted to match different contexts.*

At-Home Activity

Use Comparison Language

Help your student practice describing multiplication and division equations by using *times as many* language. You may find it useful to use the comparison language provided in the chart of measurements.

- Use two different-size containers that can hold water, such as a small measuring cup and a large water glass. Have your student fill the larger container by using water from the smaller container. Discuss the amount of liquid each container holds. Help your student by asking a question such as, "What can we say about how much more liquid the larger container holds?" Then say, "We can say that the larger container holds about _____ times as much liquid as the smaller container." Repeat with other different-size containers like a pot and a bowl, or a pitcher and a cup.

- Get two dry spaghetti noodles. Break off a small piece, about 1 inch, of the first noodle. Leave the second noodle whole. Use the piece of noodle to measure the whole noodle from one end to the other by moving the piece along the whole noodle with no gaps or overlaps. Then compare the length of the piece to the whole noodle by using *times as long* language. Use a comparison statement such as, "The whole noodle is about _____ *times as long* as the piece of noodle." Encourage your student to describe about how many times as long one noodle is than the other.

- Consider starting conversations with your student such as, "I noticed it took you 2 minutes to brush your teeth and 10 minutes to eat your breakfast. How many times as long did it take you to eat your breakfast than it did to brush your teeth?"