

# Dimensions Math

## Grade 4 Letter Home #8

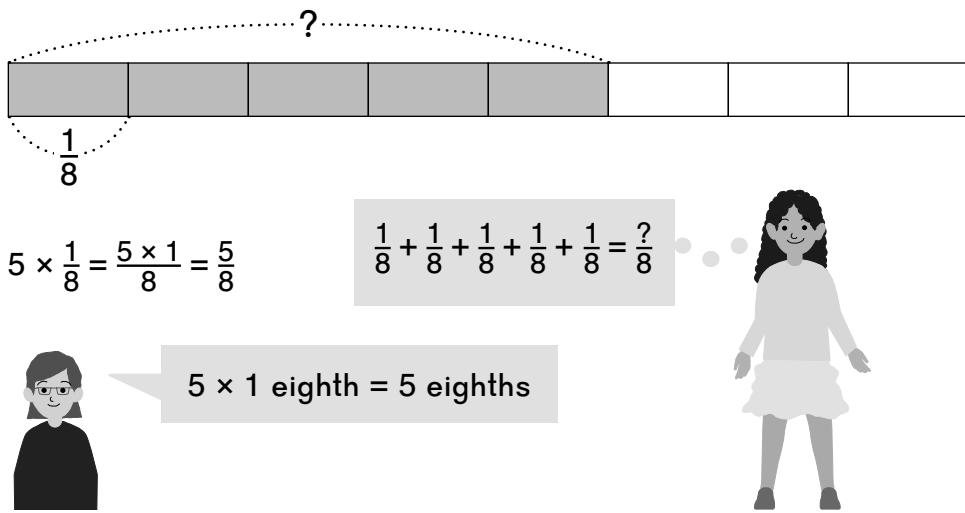
Chapter 8 Multiplying a Fraction and a Whole Number

Dimensions Math  
Letters Home

### Home Connection

In this chapter, your child deepens their understanding of fractions by learning to multiply fractions and whole numbers.

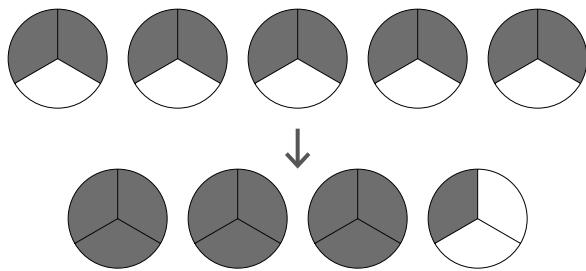
Students begin by connecting multiplication of a fraction to what they know about whole numbers: multiplication is repeated addition.



While adults may have learned to express the 5 here as  $\frac{5}{1}$ , your child will not learn to multiply a fraction by another fraction until Dimensions Math 5.

As before, answers may need to be simplified.

Find the product of 5 and  $\frac{2}{3}$ :



$$5 \times \frac{2}{3} = \frac{5 \times 2}{3} = \frac{10}{3} = 3\frac{1}{3}$$

Your child will learn that the numbers in the problem can also be simplified.

Students can simplify the answer:

$$6 \times \frac{2}{3} = \frac{6 \times 2}{3} \\ = \frac{12}{3} \\ = 4$$

Or simplify the problem before calculating:

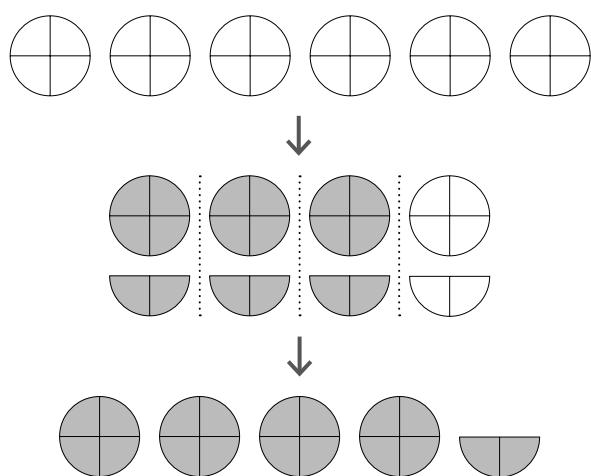
$$2 \times \frac{3}{8} = \frac{\cancel{2} \times 3}{\cancel{8}} = \frac{3}{4}$$

$$\frac{2 \times 3}{8} = \frac{1 \times 3}{4}$$



Next, your child will consider multiplication of fractions as finding a fraction of a set.

6 pizzas were delivered for a Pizza and Play night.  $\frac{3}{4}$  of the pizzas were eaten.  
How many pizzas were eaten?



$$\frac{1}{4} \text{ of } 6 \longrightarrow \frac{6}{4}$$

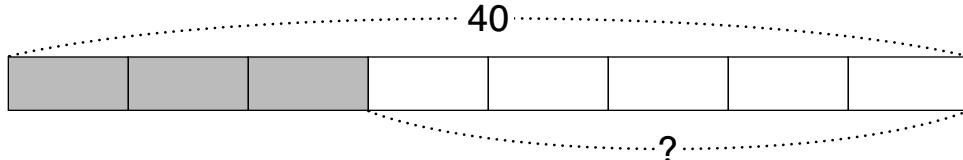
$$\frac{3}{4} \text{ of } 6 \longrightarrow 3 \times \frac{6}{4} = \frac{18}{4} \\ = \frac{9}{2} \\ = 4\frac{1}{2}$$

$$\frac{3}{4} \times 6 = \frac{3 \times 6}{4} \\ = \frac{18}{4} \\ = 4\frac{1}{2}$$

$4\frac{1}{2}$  pizzas were eaten.

The bar model your child has been working with since Dimensions Math 3A helps students visualize problems.

Dion had \$40. He used  $\frac{3}{8}$  of it to buy a game.  
How much money did he have left?

**Method 1**

$$\frac{1}{4} \times 40 = \frac{3 \times 40}{8} = 3 \times 5 = 15$$
$$40 - 15 = 25$$

**Method 2**

$$1 - \frac{3}{8} = \frac{5}{8}$$
$$\frac{5}{8} \times 40 = \frac{5 \times 40}{8} = 25$$

Dion had \$25 left.

**What can we do at home?**

Involving your child in the kitchen can be a fun way to practice measurement. Try doubling the recipe, halving the recipe, and converting measurements.