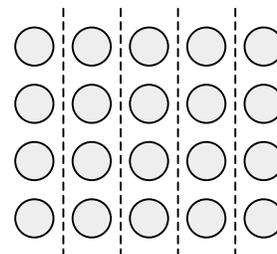


**Chapter
6**

Fraction of a Set

In *Primary Mathematics (Standards Edition) 3B*, students learned to find the fraction of a set by dividing the set up into equal parts and then finding the amount in the fractional part.

To find $\frac{1}{5}$ of a set of 20 objects, we can divide the set of 20 into 5 equal parts and determine how many objects there are in one part.

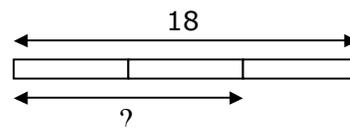


To find $\frac{3}{5}$ of 20, we also divide the set of 20 into 5 equal parts. Then we determine how many objects there are in three parts.

In this unit, students will learn to interpret $\frac{1}{5}$ of 20 as $\frac{1}{5} \times 20$ and $\frac{3}{5}$ of 20 as $3 \times \frac{1}{5}$ of 20.

Students will also learn to use fraction bars to solve word problems involving fractions. Each fractional part of the bar is a unit, similar to the unit in the part-whole model for multiplication and division.

For example, to find $\frac{2}{3} \times 18$, we can draw a bar, and divide it into thirds, or 3 units. Knowing the value of 3 units (18) we can find the value of 1 unit and of 2 units.

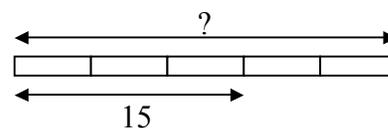


$$\frac{3}{3} = 3 \text{ units} = 18$$

$$\frac{1}{3} = 1 \text{ unit} = 18 \div 3 = 6$$

$$\frac{2}{3} = 2 \text{ units} = 6 \times 2 = 12$$

The part-whole model is also used to find the whole given a fractional part. For example, if we know that $\frac{3}{5}$ of some number is 15, we can use the model to find the number. We can draw a bar, divide it into fifths, and label 3 units as 15. Then we see that we can find $\frac{1}{5}$, or 1 unit, by dividing by 3, and then find the total (5 units) by multiplying the value for 1 unit by 5.



$$\frac{3}{5} = 3 \text{ units} = 15$$

$$\frac{1}{5} = 1 \text{ unit} = 15 \div 3 = 5$$

$$\frac{5}{5} = 5 \text{ units} = 5 \times 5 = 25$$

Students will use the part-whole model to understand and solve word problems of up to 2-steps involving the fraction of a set.