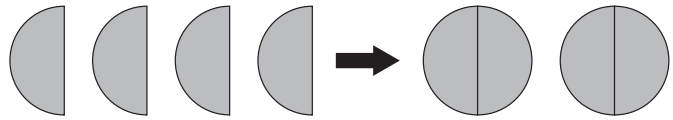


Multiplying a Fraction and a Whole Number

We can multiply a fraction and a whole number. If we get an answer that is an improper fraction, we must express the improper fraction as a whole number or a mixed number in the simplest form.

1. Multiply $\frac{1}{2}$ by 4.

$$\begin{aligned}\frac{1}{2} \times 4 &= \frac{4}{2} \\ &= 2\end{aligned}$$

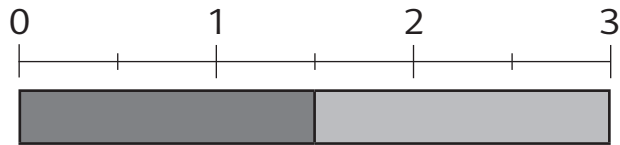


$$\frac{1}{2} \times 4 = \frac{1 \times 4}{2}$$

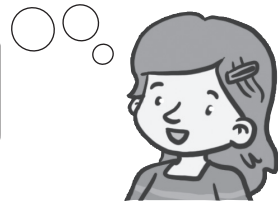


2. Multiply 3 by $\frac{1}{2}$.

$$\begin{aligned}3 \times \frac{1}{2} &= \frac{3}{2} \\ &= 1\frac{1}{2}\end{aligned}$$

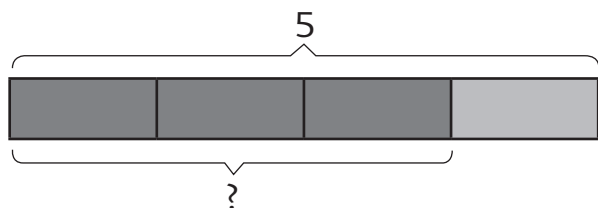


$$3 \times \frac{1}{2} = \frac{1}{2} \times 3$$



3. Multiply 5 by $\frac{3}{4}$.

$$\begin{aligned}5 \times \frac{3}{4} &= \frac{15}{4} \\ &= 3\frac{3}{4}\end{aligned}$$

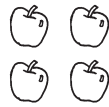
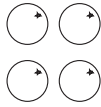


$$5 \times \frac{3}{4} = \frac{5 \times 3}{4}$$



Fraction of a Set

1. This is a set of fruits.
What fraction of the set of fruits are mangoes?



There are 16 fruits in the set. 4 of the fruits are mangoes.

$$\frac{4}{16} = \frac{1}{4}$$

$\frac{1}{4}$ of the fruits are mangoes.

Write $\frac{4}{16}$ in its simplest form.



2. $\frac{1}{5}$ { }
 $\frac{1}{5}$ { }
 $\frac{1}{5}$ { }
 $\frac{1}{5}$ { }
 $\frac{1}{5}$ { } } 5 equal parts

- (a) How many apples does each child get?
There are 20 apples. There are 5 children.
Each child gets the same number of apples.

$$\begin{aligned} \frac{1}{5} \text{ of } 20 &= \frac{1}{5} \times 20 = \frac{20}{5} \\ &= 4 \end{aligned}$$

What is $\frac{1}{5}$ of 20?

Each child gets 4 apples.

- (b) What is $\frac{2}{5}$ of 20?
 $\frac{2}{5}$ of 20 = $\frac{2}{5} \times 20 = \frac{40}{5}$
= 8

Two children get 8 apples altogether.



Exercise 3 : Multiplying a Fraction and a Whole Number

1. Multiply. Write each answer in its simplest form.

(a) $\frac{1}{4} \times 3 =$	(b) $\frac{1}{8} \times 16 =$
(c) $\frac{1}{4} \times 10 =$	(d) $\frac{4}{5} \times 5 =$
(e) $\frac{9}{10} \times 4 =$	(f) $\frac{5}{8} \times 6 =$

3. Solve. Show all your work clearly.

(a) There are 36 apple trees in an orchard.
 $\frac{2}{9}$ of them are flowering.

How many apple trees are not flowering?

(b) 64 children took part in a singing competition.
 $\frac{3}{4}$ of them were boys.

How many children were girls?

(c) In a class of 42 students, 14 wear glasses.
What fraction of the students wear glasses?

(d) Jane has 60 stamps.
36 of them are Canadian stamps.
What fraction of her stamps are Canadian stamps?

(e) Mother bought a bag of 80 buttons.
She used 16 of them.
What fraction of the buttons were used?

(f) A balsam plant is 25 cm tall.
Express 25 cm as a fraction of 1 m.