

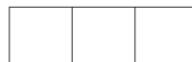
Equal Parts of a Whole

When you divide a shape into **equal parts**, each part must be exactly the same size.

This rectangle is divided into **2** equal parts, or **halves**.



This rectangle is divided into **3** equal parts, or **thirds**.

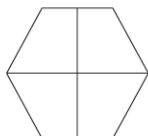


This rectangle is divided into **4** equal parts, or **fourths**.



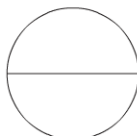
Write the number of equal parts. Then write the name for the parts.

1.



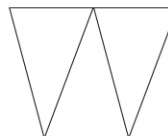
4 equal parts
fourths

2.



2 equal parts
halves

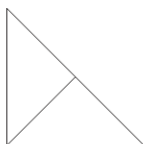
3.



3 equal parts
thirds

Write whether each shape is divided into *equal* parts or *unequal* parts.

4.



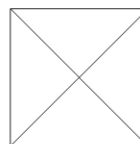
equal parts

5.



unequal parts

6.

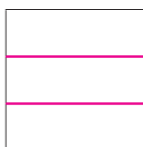


equal parts

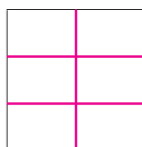
Draw lines to divide the squares into equal parts.

Possible lines are shown.

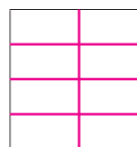
7. 3 thirds



8. 6 sixths



9. 8 eighths



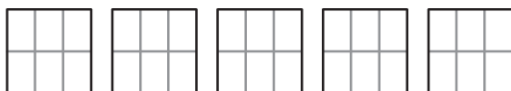
Equal Shares

Six brothers share 5 sandwiches equally. How much does each brother get? Draw to model the problem.

Step 1 Draw 5 squares for the sandwiches.



Step 2 There are 6 brothers. Draw lines to divide each sandwich into 6 equal parts.



Step 3 Each brother will get 1 equal part from each sandwich.

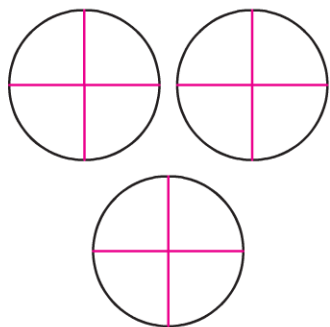
So, each brother gets **5 sixths** of a sandwich.

Draw lines to show how much each person gets.

Write the answer. **Check students' lines.**

Possible answers are given.

1. 4 sisters share 3 pies equally.



2. 6 friends share 3 fruit bars equally.



3 fourths, or 1 half
and 1 fourth, of a pie

3 sixths, or 1 half, of
a fruit bar

Unit Fractions of a Whole

A **fraction** is a number. It names part of a whole or part of a group.

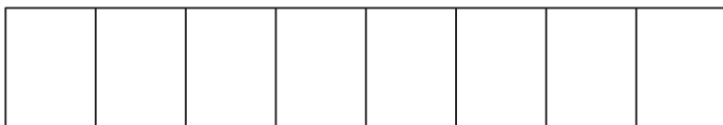
The top number tells how many equal parts are being counted.

The bottom number tells how many equal parts are in the whole.

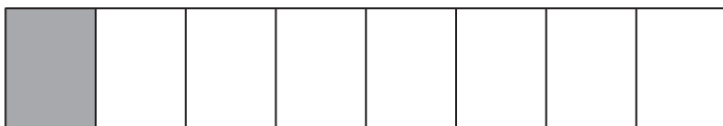
A **unit fraction** names 1 equal part of a whole. It always has 1 as its top number.

How much is 1 part of a fruit bar that is cut into 8 equal parts?

Step 1 Use fraction strips. Make a strip showing 8 equal parts, or eighths.



Step 2 Shade 1 of the parts and name it.

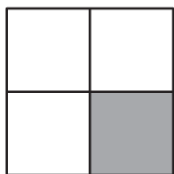


This fraction is called $\frac{1}{8}$.

So, 1 part of a fruit bar that can be divided into 8 equal parts is $\frac{1}{8}$.

**Write the number of equal parts in the whole.
Then write the fraction that names the shaded part.**

1.



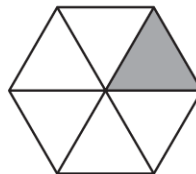
$\frac{4}{4}$ equal parts
 $\frac{1}{4}$

2.



$\frac{3}{3}$ equal parts
 $\frac{1}{3}$

3.



$\frac{6}{6}$ equal parts
 $\frac{1}{6}$

Fractions of a Whole

Some shapes can be cut into equal parts.
A fraction can name more than 1 equal part of a whole.

Write a fraction in words and in numbers to name the shaded part.



How many equal parts make up the whole shape? **6 equal parts**

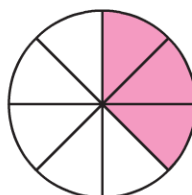
How many parts are shaded? **3 parts**

So, 3 parts out of 6 equal parts are shaded. Read: **three sixths**. Write: $\frac{3}{6}$

1. Shade three parts out of eight equal parts. Write a fraction in words and in numbers to name the shaded part.

Read: **three** eighths

Write: $\frac{3}{8}$



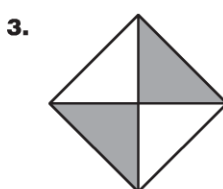
Possible shading is shown.

Write the fraction that names each part. Write a fraction in words and in numbers to name the shaded part.



Each part is $\frac{1}{6}$

four sixths
 $\frac{4}{6}$



Each part is $\frac{1}{4}$

two fourths
 $\frac{2}{4}$



Each part is $\frac{1}{8}$

five eighths
 $\frac{5}{8}$

Fractions on a Number Line

Use the fraction strips to help name the points on the number line.

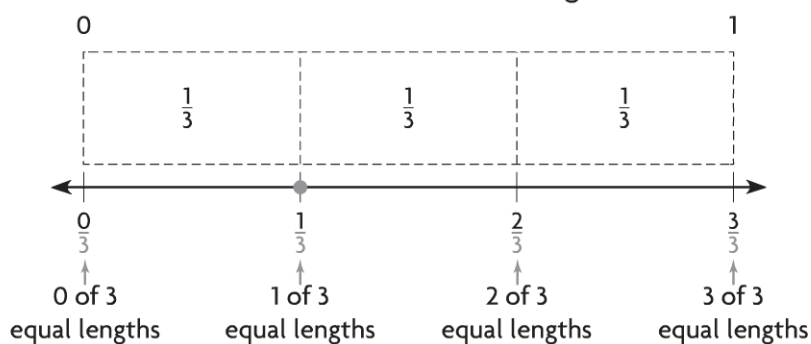
Draw a point to show $\frac{1}{3}$.

Step 1 The denominator is 3, so use fraction strips for thirds. Place the fraction strips above the number line. Use the fraction strips to divide the number line into three equal lengths.

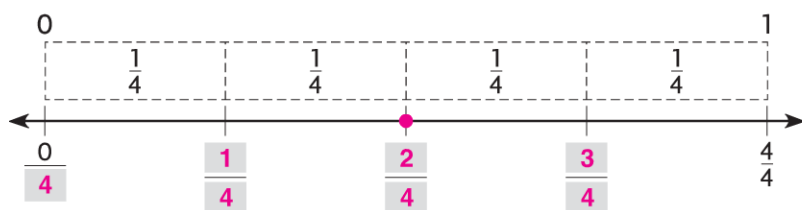
Step 2 Label each mark on the number line.

Think: The distance between each mark is $\frac{1}{3}$ of the total distance, so count the number of $\frac{1}{3}$ lengths.

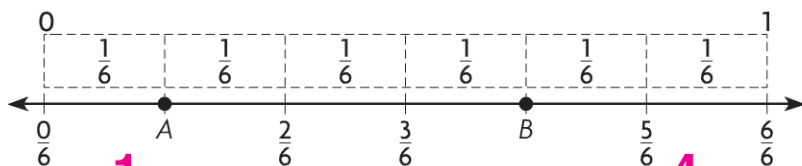
Step 3 Draw a point on the number line to show $\frac{1}{3}$.



1. Complete the number line. Draw a point to show $\frac{2}{4}$.



Write the fraction that names the point.



2. point A $\frac{1}{6}$

3. point B $\frac{4}{6}$

Relate Fractions and Whole Numbers

A fraction **greater than 1** has a numerator greater than its denominator.

Jason ran 2 miles and Tyra ran $\frac{6}{3}$ miles. Did Jason and Tyra run the same distance?

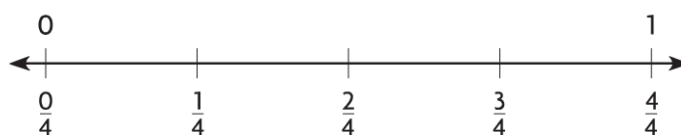
Step 1 Use fraction strips to show the distances.
Use 2 whole strips to show Jason's distance.
Use six $\frac{1}{3}$ -strips to show Tyra's distance.

Jason	1			1		
Tyra	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
	$1 = \frac{3}{3}$			$2 = \frac{6}{3}$		

Step 2 Compare the fraction strips.
Since the fraction strips for 2 and $\frac{6}{3}$ are the same length, they are equal.

So, Jason and Tyra ran the same distance.

Use the number line to find whether the two numbers are equal. Write *equal* or *not equal*.



1. $\frac{4}{4}$ and 1

2. 1 and $\frac{3}{4}$

3. $\frac{1}{4}$ and $\frac{4}{4}$

equal

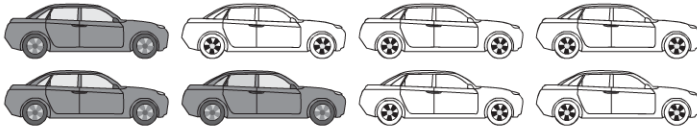
not equal

not equal

Fractions of a Group

Adam has a collection of cars.

What fraction names the shaded part of the collection?



Step 1 Count how many cars are shaded. There are **3** shaded cars. This number will be the **numerator**, or the top number of the fraction.

Step 2 Count the total number of cars. **8** This number will be the **denominator**, or the bottom number of the fraction.

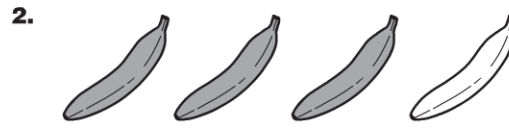
Step 3 Read the fraction: three eighths, or three out of eight.

So, $\frac{3}{8}$ of Adam's cars are shaded.

Write a fraction to name the shaded part of each group.

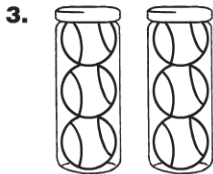


$$\frac{2}{4}$$



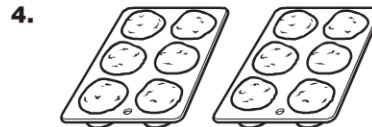
$$\frac{3}{4}$$

Write a whole number and a fraction greater than 1 to name the part filled.



Think: 1 can = 1

$$2 \frac{6}{3}$$

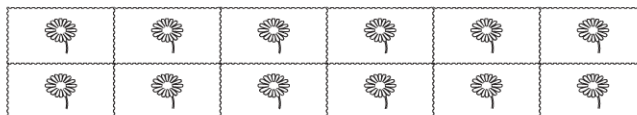


Think: 1 pan = 1

$$2 \frac{12}{6}$$

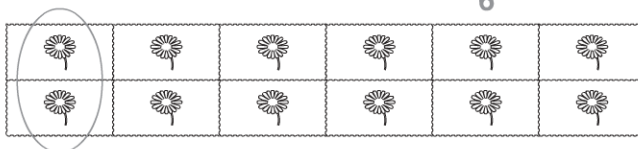
Find Part of a Group Using Unit Fractions

Lauren bought 12 stamps for postcards. She gave Brianna $\frac{1}{6}$ of them.
How many stamps did Lauren give to Brianna?



Step 1 Find the total number of stamps. **12** stamps

Step 2 Since you want to find $\frac{1}{6}$ of the group, there should be
6 equal groups. Circle one of the groups to show $\frac{1}{6}$.



Step 3 Find $\frac{1}{6}$ of the stamps. How many stamps are in 1 group? **2** stamps
So, Lauren gave Brianna 2 stamps. $\frac{1}{6}$ of 12 = **2**

Circle equal groups to solve. Count the number of shapes in 1 group. Check students' circles.

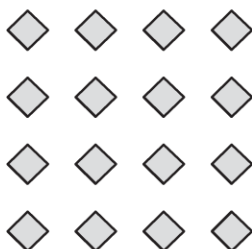
1. $\frac{1}{4}$ of 8 = 2



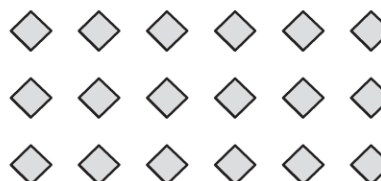
2. $\frac{1}{3}$ of 9 = 3



3. $\frac{1}{4}$ of 16 = 4







4. $\frac{1}{6}$ of 18 = 3



Problem Solving • Find the Whole Group Using Unit Fractions

There are 3 apple juice boxes in the cooler. One fourth of the juice boxes in the cooler are apple juice. How many juice boxes are in the cooler?

Read the Problem	Solve the Problem
<p>What do I need to find?</p> <p>I need to find <u>how many juice boxes</u> are in the cooler.</p>	<p>Describe how to draw a diagram to solve.</p> <p>The denominator in $\frac{1}{4}$ tells you that there are <u>4</u> parts in the whole group. Draw 4 circles to show <u>4</u> parts.</p> 
<p>What information do I need to use?</p> <p>There are <u>3</u> apple juice boxes.</p> <p><u>One fourth</u> of the juice boxes are apple juice.</p>	<p>Since 3 juice boxes are $\frac{1}{4}$ of the group, draw <u>3</u> counters in the first circle.</p>  <p>Since there are <u>3</u> counters in the first circle, draw <u>3</u> counters in each of the remaining circles. Then count all of the counters.</p> 
<p>How will I use the information?</p> <p>I will use the information in the problem to draw a diagram.</p>	<p>So, there are <u>12</u> juice boxes in the cooler.</p> 

1. Max has 3 beta fish in his fish tank. One half of his fish are beta fish. How many fish does Max have in his tank?

2. Two boys are standing in line. One sixth of the students in line are boys. How many students are standing in line?

6 fish

12 students