Lesson 4 Visualizing Fractions

Problem Solving: Pictographs

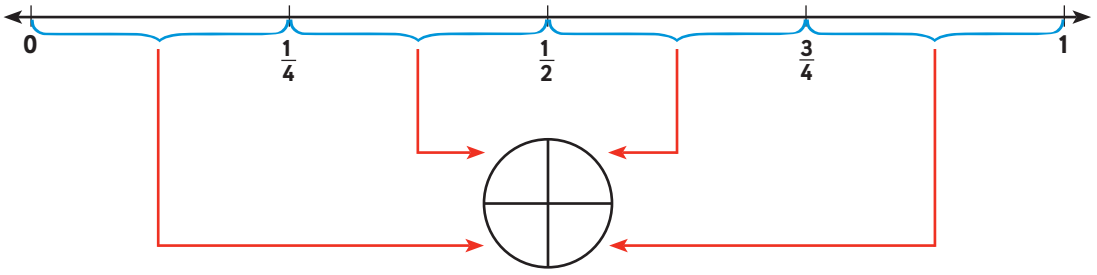
Visualizing Fractions

Vocabulary
fair share

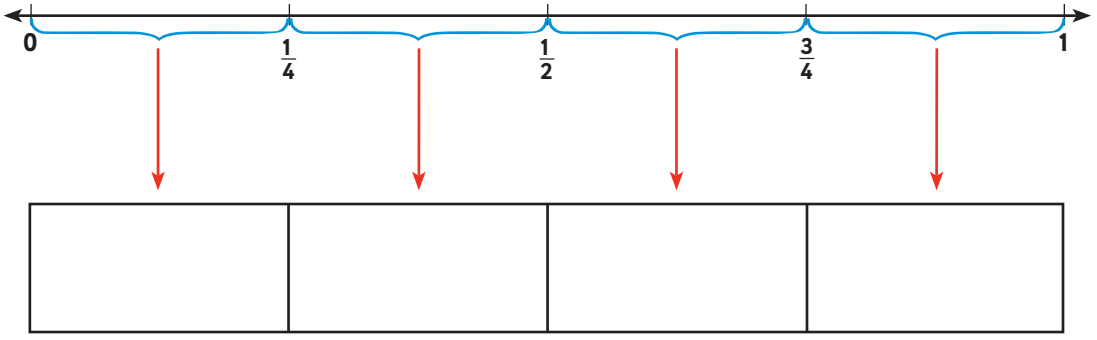
What are different ways to show fractions?

We have looked at fractional parts on a number line.

The number line below shows that each section represents $\frac{1}{4}$. We also show fractions using shapes. We can also represent fourths using a circle.



Now let's show fourths using a rectangle.

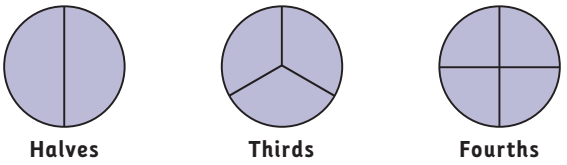


The circle and rectangle each break into four equal parts, or **fair shares**. This is also how the number line is divided—into four equal parts. Fair shares are parts that are equal in size to each other. Fair shares are important if we want to understand adding and subtracting fractions.

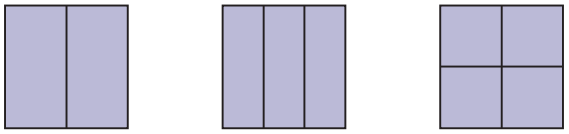
Does the shape matter when dividing fractional parts?

We can use any number of shapes to show fractions divided into fair shares. Here are some shapes that are broken into fractional parts. Each shape is divided into parts, and each part is the same size.

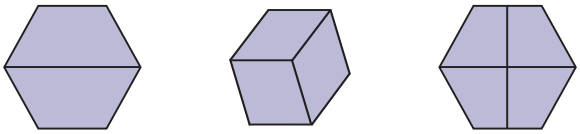
Circles



Squares



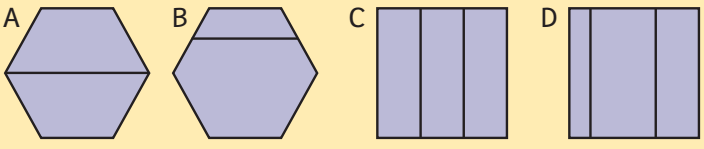
Hexagons



The most important thing to see is that each fractional part in the shape is a fair share.

Improve Your Skills

A common mistake we can make when we first learn about fractions is to misread a fractional part when the shape does not divide equally. Look at the shapes below and choose the ones that are divided into equal fractional parts, or fair shares.



Shape A correctly shows halves, but B does not.

Shape C correctly shows thirds, but D does not.

We cannot call something a fractional part if it does not divide the shape into fair shares.

Apply Skills
Turn to ***Interactive Text***, page 11.

mBook Reinforce Understanding
Use the ***mBook Study Guide*** to review lesson concepts.

Problem Solving: Pictographs

Vocabulary
pictograph

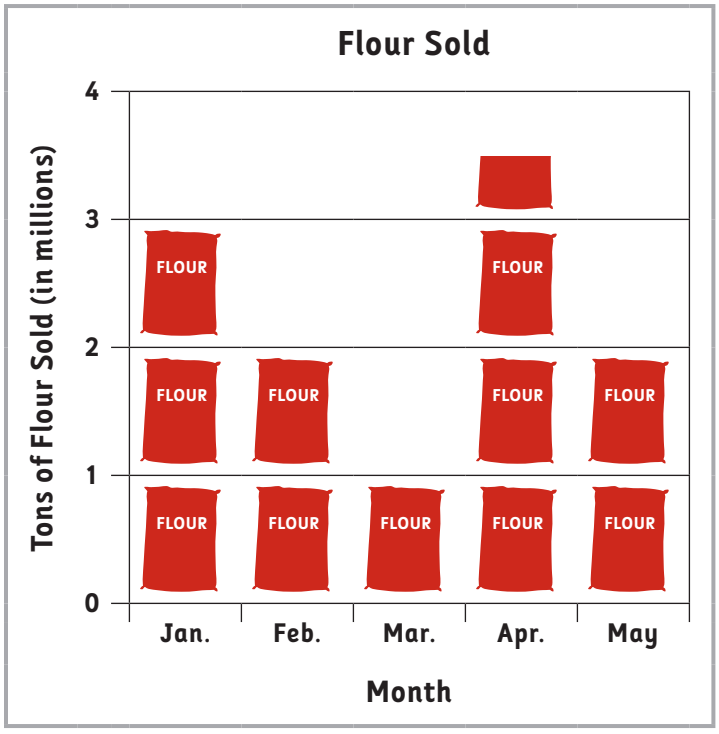
What are pictographs?

Pictographs are like bar graphs, but they use pictures to represent the data. The pictures have a connection to the data. Pictographs help us view data visually, but they are not very exact. They can only give us a general view of the data.

A company wants to show how much flour it sold from January through May. It could record the data using a pictograph like the one shown in Example 1.

Example 1

Show how much flour was sold using a pictograph.



The graph shows about how much flour was sold each month. The pictures for April show three whole bags and one bag of flour cut in half. This means that the company sold $3\frac{1}{2}$ million tons of flour. Pictographs are useful when we want to communicate a general idea about the data.

Problem-Solving Activity
Turn to ***Interactive Text***, page 12.

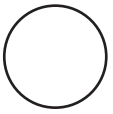
mBook Reinforce Understanding
Use the ***mBook Study Guide*** to review lesson concepts.

Homework

Activity 1

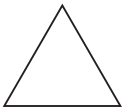
Draw the shapes and divide them into fractional parts.

1. Divide the circle into halves.

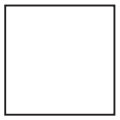


2. Divide the rectangle into fourths.

3. Divide the triangle into thirds.

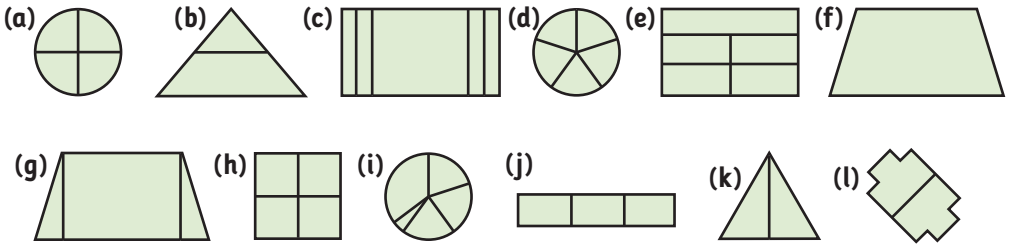


4. Divide the square into fourths.



Activity 2

Look at the shapes. Which ones show fair shares?



Activity 3 • Distributed Practice

Solve.

1. $\begin{array}{r} 497 \\ +\ 286 \\ \hline \end{array}$

2. $\begin{array}{r} 4{,}007 \\ -\ 1{,}928 \\ \hline \end{array}$

3. $\begin{array}{r} 67 \\ \times\ 39 \\ \hline \end{array}$

4. $\begin{array}{r} 591 \\ \times\ \ 4 \\ \hline \end{array}$

5. $9\overline{)678}$