

Eureka Math

Grade 3

Module 5

Lessons 1-4

Fractions as Numbers

on the Number Line

**You can access videos for these
lessons on the SCSD Website**

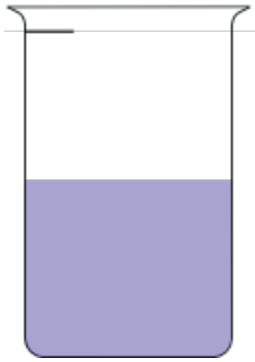
Learning at Home Link



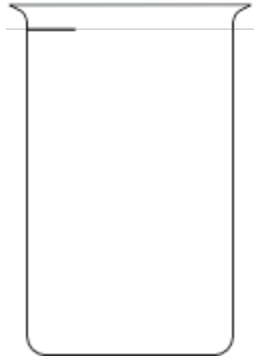
Name _____

Date _____

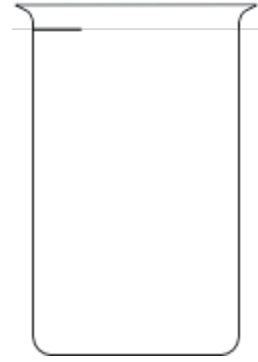
1. A beaker is considered full when the liquid reaches the fill line shown near the top. Estimate the amount of water in the beaker by shading the drawing as indicated. The first one is done for you.



1 half



1 fourth



1 third

2. Juanita cut her string cheese into equal pieces as shown in the rectangles below. In the blanks below, name the fraction of the string cheese represented by the shaded part.



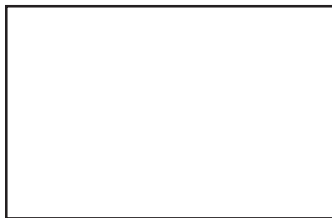




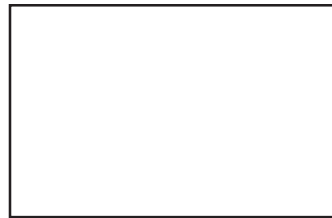
3. a. In the space below, draw a small rectangle. Estimate to split it into 2 equal parts. How many lines did you draw to make 2 equal parts? What is the name of each fractional unit?
- b. Draw another small rectangle. Estimate to split it into 3 equal parts. How many lines did you draw to make 3 equal parts? What is the name of each fractional unit?
- c. Draw another small rectangle. Estimate to split it into 4 equal parts. How many lines did you draw to make 4 equal parts? What is the name of each fractional unit?

4. Each rectangle represents 1 sheet of paper.

- a. Estimate to show how you would cut the paper into fractional units as indicated below.



sevenths



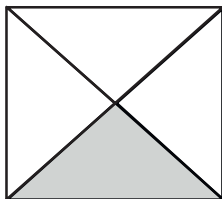
ninths

- b. What do you notice? How many lines do you think you would draw to make a rectangle with 20 equal parts?
5. Rochelle has a strip of wood 12 inches long. She cuts it into pieces that are each 6 inches in length. What fraction of the wood is one piece? Use your strip from the lesson to help you. Draw a picture to show the piece of wood and how Rochelle cut it.

Name _____

Date _____

1. Name the fraction that is shaded.



2. Estimate to partition the rectangle into thirds.

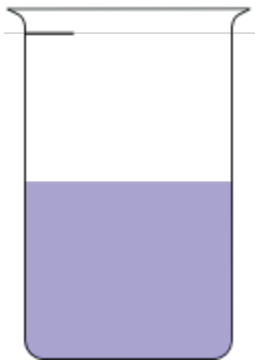


3. A plumber has 12 feet of pipe. He cuts it into pieces that are each 3 feet in length. What fraction of the pipe would one piece represent? (Use your strip from the lesson to help you.)

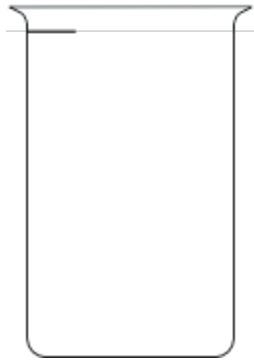
Name _____

Date _____

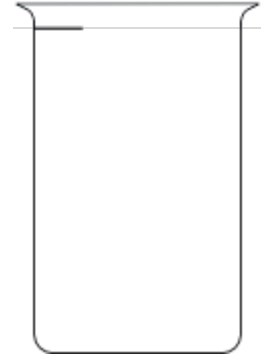
1. A beaker is considered full when the liquid reaches the fill line shown near the top. Estimate the amount of water in the beaker by shading the drawing as indicated. The first one is done for you.



1 half



1 fifth



1 sixth

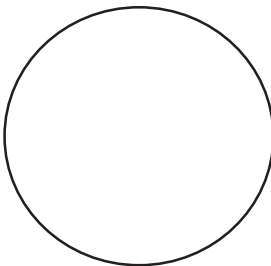
2. Danielle cut her candy bar into equal pieces as shown in the rectangles below. In the blanks below, name the fraction of candy bar represented by the shaded part.



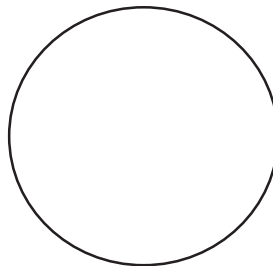




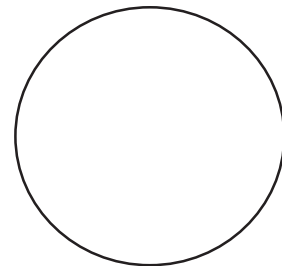
3. Each circle represents 1 whole pie. Estimate to show how you would cut the pie into fractional units as indicated below.



halves

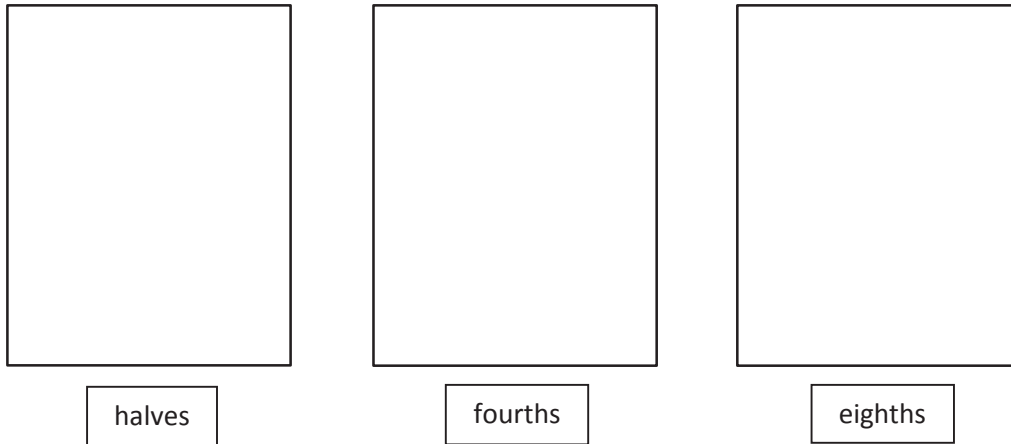


thirds

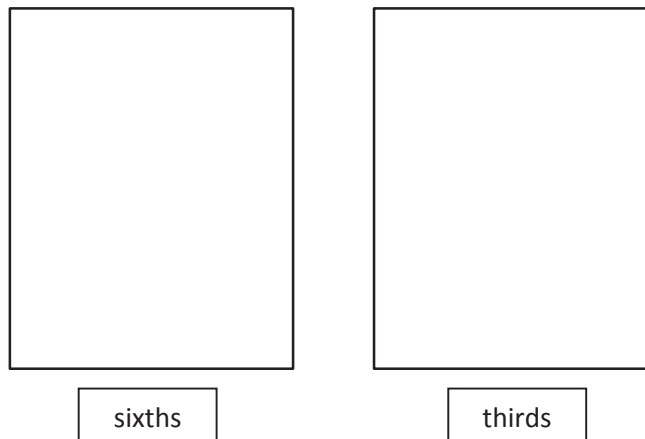


sixths

4. Each rectangle represents 1 sheet of paper. Estimate to draw lines to show how you would cut the paper into fractional units as indicated below.



5. Each rectangle represents 1 sheet of paper. Estimate to draw lines to show how you would cut the paper into fractional units as indicated below.

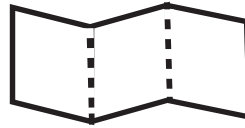
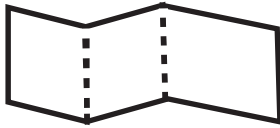
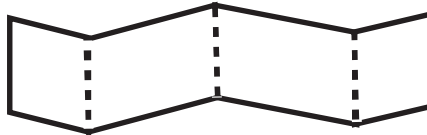
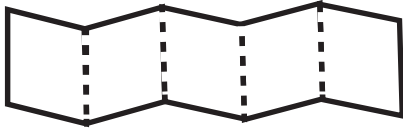


6. Yuri has a rope 12 meters long. He cuts it into pieces that are each 2 meters long. What fraction of the rope is one piece? Draw a picture. (You might fold a strip of paper to help you model the problem.)
7. Dawn bought 12 grams of chocolate. She ate half of the chocolate. How many grams of chocolate did she eat?

Name _____

Date _____

1. Circle the strips that are folded to make equal parts.



2.



- a. There are _____ equal parts in all. _____ are shaded.



- b. There are _____ equal parts in all. _____ are shaded.



- c. There are _____ equal parts in all. _____ are shaded.



- d. There are _____ equal parts in all. _____ are shaded.

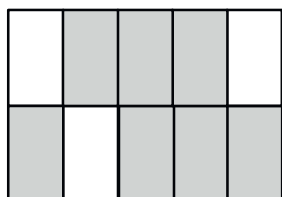
Name _____

Date _____

1. Circle the model that correctly shows $\frac{1}{3}$ shaded.



2.



There are _____ equal parts in all. _____ are shaded.

3. Michael bakes a piece of garlic bread for dinner. He shares it equally with his 3 sisters. Show how Michael and his 3 sisters can each get an equal share of the garlic bread.

Name _____

Date _____

1. Circle the strips that are cut into equal parts.



2.



- a. There are _____ equal parts in all. _____ is shaded.



- b. There are _____ equal parts in all. _____ is shaded.



- c. There are _____ equal parts in all. _____ is shaded.



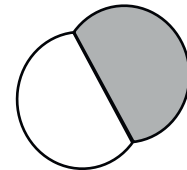
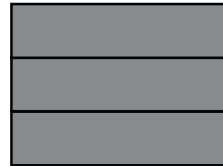
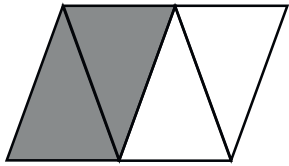
- d. There are _____ equal parts in all. _____ are shaded.

3. Dylan plans to eat $\frac{1}{5}$ of his candy bar. His 4 friends want him to share the rest equally. Show how Dylan and his friends can each get an equal share of the candy bar.
4. Nasir baked a pie and cut it in fourths. He then cut each piece in half.
- a. What fraction of the original pie does each piece represent?
- b. Nasir ate 1 piece of pie on Tuesday and 2 pieces on Wednesday. What fraction of the original pie was not eaten?

Name _____

Date _____

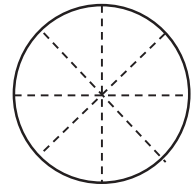
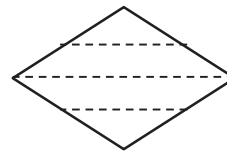
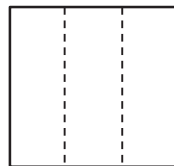
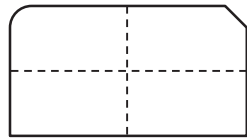
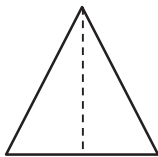
1. Each shape is a whole divided into equal parts. Name the fractional unit, and then count and tell how many of those units are shaded. The first one is done for you.



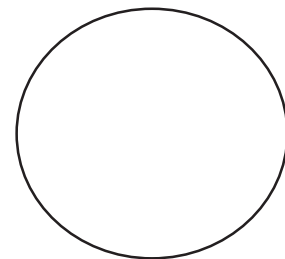
Fourths

2 fourths are shaded.

2. Circle the shapes that are divided into equal parts. Write a sentence telling what *equal parts* means.



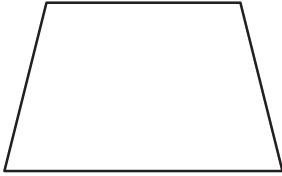
3. Each shape is 1 whole. Estimate to divide each into 4 equal parts. Name the fractional unit below.



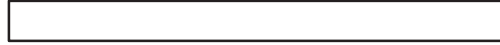
Fractional unit: _____

4. Each shape is 1 whole. Divide and shade to show the given fraction.

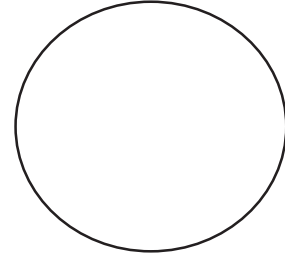
1 half



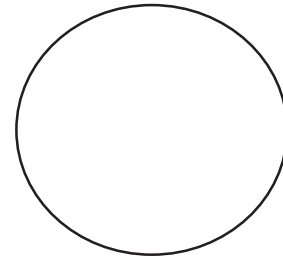
1 sixth



1 third



5. Each shape is 1 whole. Estimate to divide each into equal parts (do not draw fourths). Divide each whole using a different fractional unit. Write the name of the fractional unit on the line below the shape.



6. Charlotte wants to equally share a candy bar with 4 friends. Draw Charlotte's candy bar. Show how she can divide her candy bar so everyone gets an equal share. What fraction of the candy bar does each person receive?

Each person receives _____.

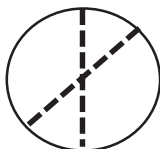
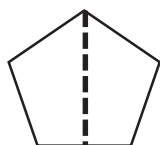
Name _____

Date _____

1. _____ sevenths are shaded.



2. Circle the shapes that are divided into equal parts.



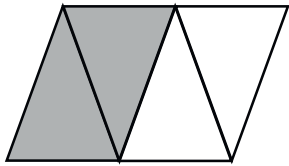
3. Steven wants to equally share his pizza with his 3 sisters. What fraction of the pizza does he and each sister receive?

He and each sister receive _____

Name _____

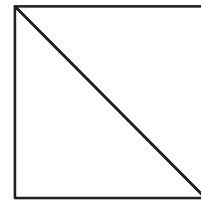
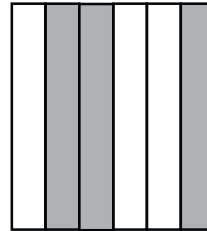
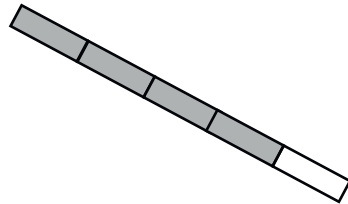
Date _____

1. Each shape is a whole divided into equal parts. Name the fractional unit, and then count and tell how many of those units are shaded. The first one is done for you.

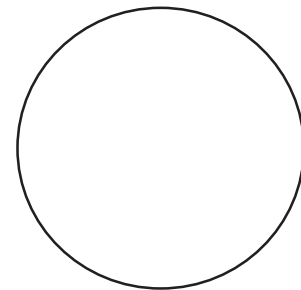


Fourths

2 fourths are shaded.



2. Each shape is 1 whole. Estimate to divide each into equal parts. Divide each whole using a different fractional unit. Write the name of the fractional unit on the line below the shape.



3. Anita uses 1 sheet of paper to make a calendar showing each month of the year. Draw Anita's calendar. Show how she can divide her calendar so that each month is given the same space. What fraction of the calendar does each month receive?

Each month receives _____.

A

Number Correct: _____

Multiply with Six

1.	$1 \times 6 =$	
2.	$6 \times 1 =$	
3.	$2 \times 6 =$	
4.	$6 \times 2 =$	
5.	$3 \times 6 =$	
6.	$6 \times 3 =$	
7.	$4 \times 6 =$	
8.	$6 \times 4 =$	
9.	$5 \times 6 =$	
10.	$6 \times 5 =$	
11.	$6 \times 6 =$	
12.	$7 \times 6 =$	
13.	$6 \times 7 =$	
14.	$8 \times 6 =$	
15.	$6 \times 8 =$	
16.	$9 \times 6 =$	
17.	$6 \times 9 =$	
18.	$10 \times 6 =$	
19.	$6 \times 10 =$	
20.	$6 \times 3 =$	
21.	$1 \times 6 =$	
22.	$2 \times 6 =$	

23.	$10 \times 6 =$	
24.	$9 \times 6 =$	
25.	$4 \times 6 =$	
26.	$8 \times 6 =$	
27.	$3 \times 6 =$	
28.	$7 \times 6 =$	
29.	$6 \times 6 =$	
30.	$6 \times 10 =$	
31.	$6 \times 5 =$	
32.	$6 \times 4 =$	
33.	$6 \times 1 =$	
34.	$6 \times 9 =$	
35.	$6 \times 6 =$	
36.	$6 \times 3 =$	
37.	$6 \times 2 =$	
38.	$6 \times 7 =$	
39.	$6 \times 8 =$	
40.	$11 \times 6 =$	
41.	$6 \times 11 =$	
42.	$12 \times 6 =$	
43.	$6 \times 12 =$	
44.	$13 \times 6 =$	

B

Number Correct: _____

Improvement: _____

Multiply with Six

1.	$6 \times 1 =$	
2.	$1 \times 6 =$	
3.	$6 \times 2 =$	
4.	$2 \times 6 =$	
5.	$6 \times 3 =$	
6.	$3 \times 6 =$	
7.	$6 \times 4 =$	
8.	$4 \times 6 =$	
9.	$6 \times 5 =$	
10.	$5 \times 6 =$	
11.	$6 \times 6 =$	
12.	$6 \times 7 =$	
13.	$7 \times 6 =$	
14.	$6 \times 8 =$	
15.	$8 \times 6 =$	
16.	$6 \times 9 =$	
17.	$9 \times 6 =$	
18.	$6 \times 10 =$	
19.	$10 \times 6 =$	
20.	$1 \times 6 =$	
21.	$10 \times 6 =$	
22.	$2 \times 6 =$	

23.	$9 \times 6 =$	
24.	$3 \times 6 =$	
25.	$8 \times 6 =$	
26.	$4 \times 6 =$	
27.	$7 \times 6 =$	
28.	$5 \times 6 =$	
29.	$6 \times 6 =$	
30.	$6 \times 5 =$	
31.	$6 \times 10 =$	
32.	$6 \times 1 =$	
33.	$6 \times 6 =$	
34.	$6 \times 4 =$	
35.	$6 \times 9 =$	
36.	$6 \times 2 =$	
37.	$6 \times 7 =$	
38.	$6 \times 3 =$	
39.	$6 \times 8 =$	
40.	$11 \times 6 =$	
41.	$6 \times 11 =$	
42.	$12 \times 6 =$	
43.	$6 \times 12 =$	
44.	$13 \times 6 =$	

Name _____ Date _____

1. Draw a picture of the yellow strip at 3 (or 4) different stations. Shade and label 1 fractional unit of each.

2. Draw a picture of the brown bar at 3 (or 4) different stations. Shade and label 1 fractional unit of each.

3. Draw a picture of the square at 3 (or 4) different stations. Shade and label 1 fractional unit of each.

4. Draw a picture of the clay at 3 (or 4) different stations. Shade and label 1 fractional unit of each.
5. Draw a picture of the water at 3 (or 4) different stations. Shade and label 1 fractional unit of each.
6. Extension: Draw a picture of the yarn at 3 (or 4) different stations.

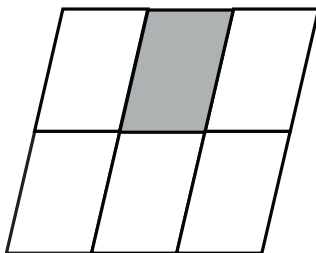
Name _____

Date _____

Each shape is 1 whole. Estimate to equally partition the shape and shade to show the given fraction.

1. $\frac{1}{4}$ 2. $\frac{1}{5}$ 

3. The shape represents 1 whole. Write the fraction for the shaded part.



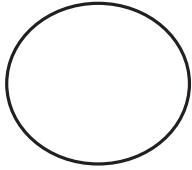
The shaded part is _____.

Name _____

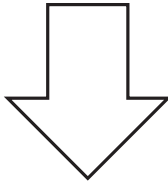
Date _____

Each shape is 1 whole. Estimate to equally partition the shape and shade to show the given fraction.

1. 1 half



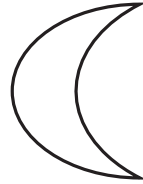
A



B

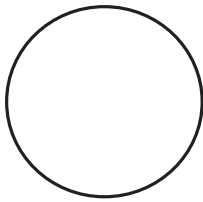


C



D

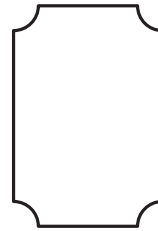
2. 1 fourth



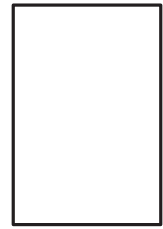
A



B

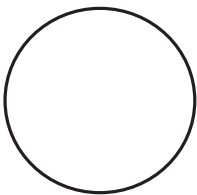


C



D

3. 1 third



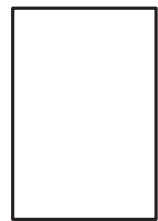
A



B



C



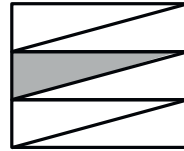
D

4. Each of the shapes represents 1 whole. Match each shape to its fraction.

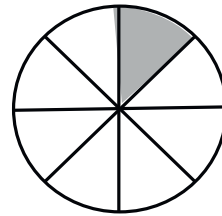
1 fifth



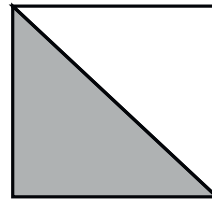
1 twelfth



1 third



1 fourth



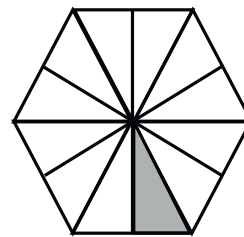
1 half



1 eighth



1 tenth



1 sixth



A

Number Correct: _____

Multiply and Divide by Six

1.	$2 \times 6 =$	
2.	$3 \times 6 =$	
3.	$4 \times 6 =$	
4.	$5 \times 6 =$	
5.	$1 \times 6 =$	
6.	$12 \div 6 =$	
7.	$18 \div 6 =$	
8.	$30 \div 6 =$	
9.	$6 \div 6 =$	
10.	$24 \div 6 =$	
11.	$6 \times 6 =$	
12.	$7 \times 6 =$	
13.	$8 \times 6 =$	
14.	$9 \times 6 =$	
15.	$10 \times 6 =$	
16.	$48 \div 6 =$	
17.	$42 \div 6 =$	
18.	$54 \div 6 =$	
19.	$36 \div 6 =$	
20.	$60 \div 6 =$	
21.	$\underline{\quad} \times 6 = 30$	
22.	$\underline{\quad} \times 6 = 6$	

23.	$\underline{\quad} \times 6 = 60$	
24.	$\underline{\quad} \times 6 = 12$	
25.	$\underline{\quad} \times 6 = 18$	
26.	$60 \div 6 =$	
27.	$30 \div 6 =$	
28.	$6 \div 6 =$	
29.	$12 \div 6 =$	
30.	$18 \div 6 =$	
31.	$\underline{\quad} \times 6 = 36$	
32.	$\underline{\quad} \times 6 = 42$	
33.	$\underline{\quad} \times 6 = 54$	
34.	$\underline{\quad} \times 6 = 48$	
35.	$42 \div 6 =$	
36.	$54 \div 6 =$	
37.	$36 \div 6 =$	
38.	$48 \div 6 =$	
39.	$11 \times 6 =$	
40.	$66 \div 6 =$	
41.	$12 \times 6 =$	
42.	$72 \div 6 =$	
43.	$14 \times 6 =$	
44.	$84 \div 6 =$	

B

Number Correct: _____

Improvement: _____

Multiply and Divide by Six

1.	$1 \times 6 =$	
2.	$2 \times 6 =$	
3.	$3 \times 6 =$	
4.	$4 \times 6 =$	
5.	$5 \times 6 =$	
6.	$18 \div 6 =$	
7.	$12 \div 6 =$	
8.	$24 \div 6 =$	
9.	$6 \div 6 =$	
10.	$30 \div 6 =$	
11.	$10 \times 6 =$	
12.	$6 \times 6 =$	
13.	$7 \times 6 =$	
14.	$8 \times 6 =$	
15.	$9 \times 6 =$	
16.	$42 \div 6 =$	
17.	$36 \div 6 =$	
18.	$48 \div 6 =$	
19.	$60 \div 6 =$	
20.	$54 \div 6 =$	
21.	$\underline{\quad} \times 6 = 6$	
22.	$\underline{\quad} \times 6 = 30$	

23.	$\underline{\quad} \times 6 = 12$	
24.	$\underline{\quad} \times 6 = 60$	
25.	$\underline{\quad} \times 6 = 18$	
26.	$12 \div 6 =$	
27.	$6 \div 6 =$	
28.	$60 \div 6 =$	
29.	$30 \div 6 =$	
30.	$18 \div 6 =$	
31.	$\underline{\quad} \times 6 = 18$	
32.	$\underline{\quad} \times 6 = 24$	
33.	$\underline{\quad} \times 6 = 54$	
34.	$\underline{\quad} \times 6 = 42$	
35.	$48 \div 6 =$	
36.	$54 \div 6 =$	
37.	$36 \div 6 =$	
38.	$42 \div 6 =$	
39.	$11 \times 6 =$	
40.	$66 \div 6 =$	
41.	$12 \times 6 =$	
42.	$72 \div 6 =$	
43.	$13 \times 6 =$	
44.	$78 \div 6 =$	

KEY CONCEPT OVERVIEW

In Lessons 1 through 4, students learn how to **partition** a line or shape into equal parts. They create displays of **unit fractions** (e.g., $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$) by using items such as paper strips, clay, cups of water, paper circles and rectangles, and yarn.

You can expect to see homework that asks your child to do the following:

- Represent unit fractions in multiple ways (e.g., with circles, beakers, paper strips, or rectangles).
- Understand and represent objects that are “cut” into equal parts.
- Label the **fractional unit** on objects based on the number of equal cuts and identify how many parts are shaded.

SAMPLE PROBLEM (From Lesson 3)

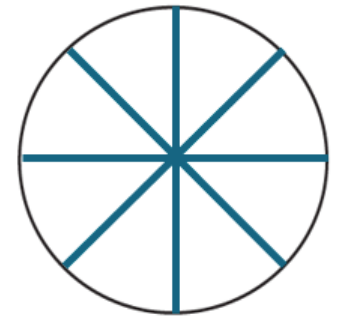
Each shape is one whole. Estimate to divide each into equal parts by using a different fractional unit. Write the name of the fractional unit below the shape.



Thirds



Sixths



Eighths

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Chocolate bars are always fun and motivating for kids! Get a chocolate bar that has 12 sections. Ask your child to break up the chocolate bar and display it in different ways, such as halves, thirds, fourths, or sixths.
- Tape a string across a doorway so your child can reach it. Make sure the string is taut and parallel with the floor (not slanted). Using the door frame as the endpoints of the string, ask your child to show where to partition the string with clothespins to create different fractional units such as halves, thirds, fourths, sixths, eighths, or tenths. (Miniature clothespins can be found at hobby stores.) Alternatively, your child can thread O-shaped cereal or beads on the string before you tape the string to the door frame and then slide the beads or cereal into place based on fractional units you suggest.

TERMS

Fractional unit: The number of parts in a whole, written in word form (e.g., halves, thirds, fourths, sixths, eighths).

Unit fractions: Fractions with a numerator of 1. For example, $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ are all unit fractions.

MODELS

Partition: To divide or “cut up” a whole into equal parts.

