

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)

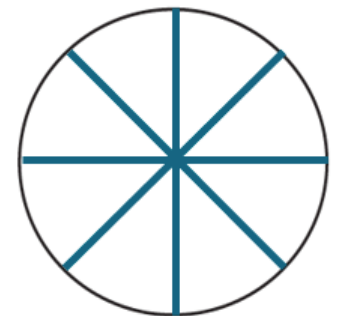
Each shape is one whole. Estimate to divide each into equal parts by using a different fractional unit. Write the name of the fractional unit below the shape.



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.

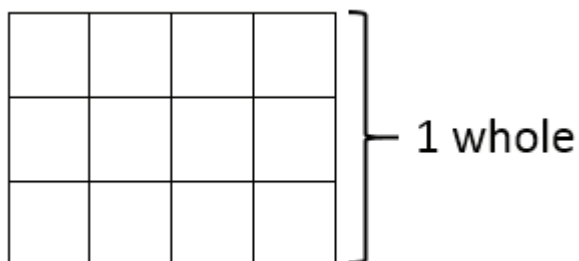
TERMS

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.



KEY CONCEPT OVERVIEW

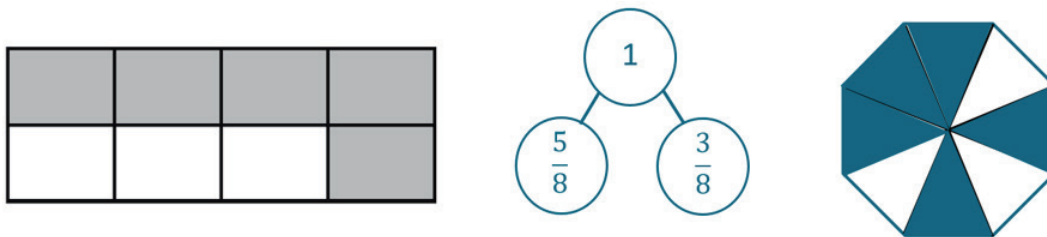
In Lessons 5 through 9, students continue to work with equal parts of a whole. They use **number bonds** to learn that any **non-unit fraction** is created by a series of unit fractions (e.g., 3 fourths is three copies of 1 fourth). Students also receive an introduction to fractions greater than one whole.

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

- Identify the equal parts in **unit form** and **fraction form** in an image.
- Partition objects into equal parts and draw number bonds to match the images.
- Identify the number of shaded parts as well as the number of unshaded parts.

SAMPLE PROBLEM (From Lesson 8)

Show a number bond that represents the shaded and unshaded parts in the rectangle shown below. Draw a different visual model that the same number bond could represent.



In the number bond, $\frac{5}{8}$ represents the shaded part in one whole.

The $\frac{3}{8}$ represents the unshaded part.

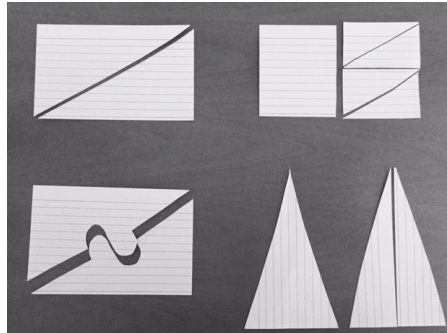
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HOW YOU CAN HELP AT HOME

- Ask your child to break apart a chocolate bar that has an even number of equal sections and display it in different ways, such as halves, thirds, fourths, and sixths. Ask him to show you different non-unit fractional amounts, such as $\frac{2}{6}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{2}{4}$, and $\frac{5}{6}$. By adding a second chocolate bar, your child can create fractions larger than one whole, such as $\frac{11}{6}$, $\frac{5}{3}$, and $\frac{5}{4}$.

HOW YOU CAN HELP AT HOME

- Get a package of index cards and work with your child to see how many different “halves” you can cut out of the index cards. Challenge each other to get creative and defend why the images you create are (or are not) halves! Repeat this for other fractional units, such as thirds, fourths, sixths, and eighths.



TERMS

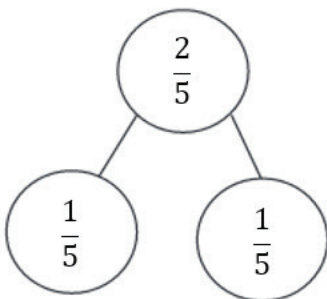
Fraction form: A number written in the form of a fraction, for example, $\frac{1}{2}$ or $\frac{19}{8}$.

Non-unit fraction: A fraction with a numerator other than 1. For example, $\frac{3}{4}$, $\frac{9}{8}$ and $\frac{2}{6}$ are all non-unit fractions.

Unit form: A number expressed in terms of its fractional unit. For example, 1 half, 2 thirds, and 4 fifths are all numbers written in unit form.

MODELS

Number Bond: A model that demonstrates a part–part–whole relationship.



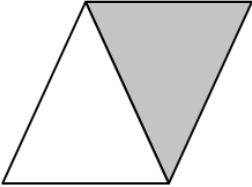
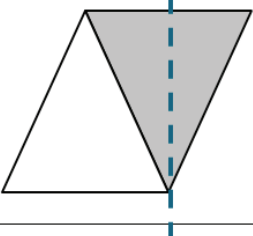
KEY CONCEPT OVERVIEW

In Lessons 10 through 13, students reason with and compare unit fractions based on the same whole.

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

- Compare unit fractions (fractions with a 1 in the numerator) by using fraction strips.
- Partition the same objects into different unit fractions and write a true comparison statement.
- Complete the drawing of a larger shape that represents one whole, when given the shape of a unit fraction.
- Identify a shaded part in different ways depending on what is defined as one whole. (See Sample Problem.)

SAMPLE PROBLEM (From Lesson 13)

The shape represents 1 whole. Write a unit fraction to describe the shaded part.	The shaded part represents 1 whole. Divide 1 whole to show the same unit fraction you wrote in part (a).
<p>a.</p>  <p style="text-align: center;">$\frac{1}{2}$</p>	<p>b.</p> 

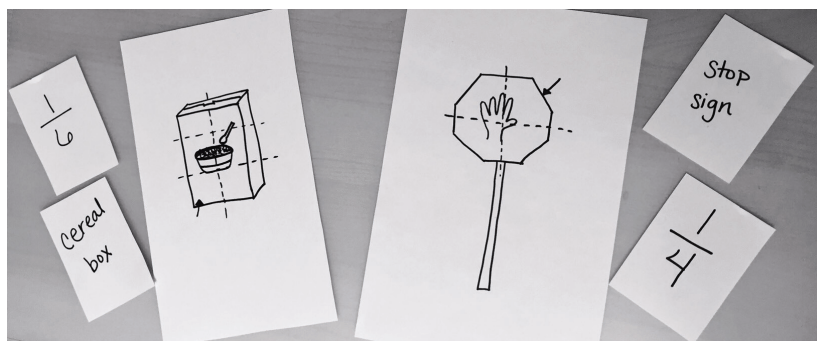
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HOW YOU CAN HELP AT HOME

- Play Guess My Fraction Drawing with your child.

1. Write the following five unit fractions on index cards, one fraction per card: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{8}$. Place the cards facedown in a pile.

2. On a second set of five cards, write the names of the following five objects: a volleyball, a stop sign, a cereal box, a rectangular TV screen, and a computer keyboard. You might also come up with other objects that can easily be divided into fractions. Place the cards facedown in another pile.



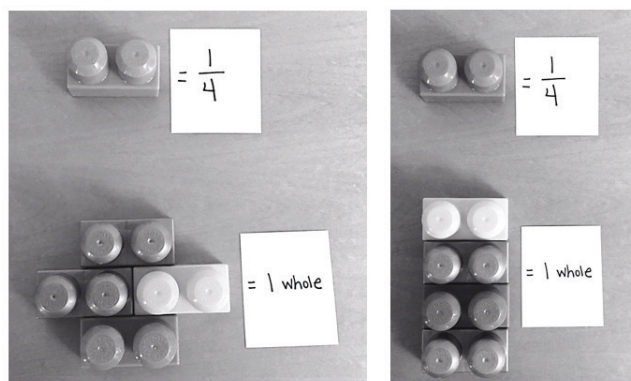
3. The first player chooses one card from the fraction pile and one card from the object pile, keeping both cards hidden from the other player(s). The first player then attempts to draw just the unit fraction of that object (e.g., $\frac{1}{4}$). The other player(s) try to guess what the object is and what fraction is being depicted. (See image above.)

4. The player who guesses correctly scores 1 point. The next player repeats Step 3. Continue taking turns until someone reaches 10 points.

Place used cards face up, in separate object and fraction piles, off to the side. When all the cards have been used, shuffle each pile, turn them facedown, and keep playing! There will be new combinations.

- Use building blocks or snap block sets. Designate one block to represent a particular unit fraction, and ask your child to build one whole by using other same-sized blocks. For example, show your child a block and say, “This is $\frac{1}{4}$. Let’s build what one whole could look like!” You can make several different representations. (See images at right.)

Discuss why your representations are correct.



You can also play the game the other way. Build something simple to represent one whole by using several same-sized blocks, and tell your child, “This is one whole. How many equal-sized units did I use? What fraction is each block?” Let your child then build something to represent one whole for you to guess what unit fraction was used.