Roots of Reason
rootsofreason.org

Every Fraction Has a Picture

Stuck?
Scan for the anchor chart

A fraction is a number, and numbers have pictures.
This set teaches the **three pictures** of three fourths.

1 The shape picture

Cut one whole into 4 equal parts. Shade 3 of them.

2 The strip picture

Same idea, stretched into a bar. 4 equal pieces, 3 shaded.

3 The number line picture

Cut the space between 0 and 1 into 4 equal jumps. Land on the 3rd mark.

Same rule as always: *"If you can't draw it, you don't get it."*

Roots of Reason

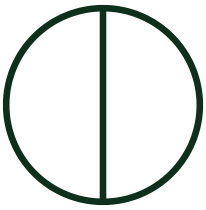
Fraction Models · Shape pictures

Name _____ Date _____

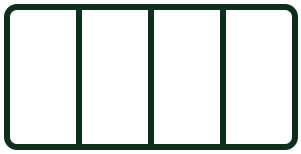
Shade It, Say It

The shaded part is the fraction.
Count parts in all, then count shaded parts.

1. **Shade it.** The cuts are already fair. Shade each shape to match its fraction.



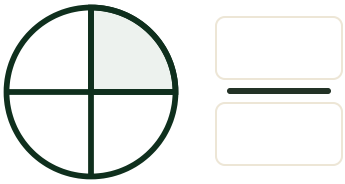
shade **1/2**

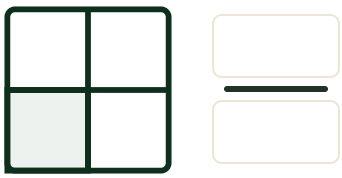


shade **3/4**

shade **2/3**

2. **Say it.** Write the fraction each picture shows. Bottom number first: how many parts in all?





Say each one out loud: "3 out of 4 equal parts."

Roots of Reason

Fraction Models · Strip pictures

Name _____ Date _____

Fraction Strips

Strips are the same whole, cut different ways.
Stack them and the pieces **compare themselves**.

1. All three strips are the same size. Cut the first into **2 equal parts**, the second into **3**, the third into **4**. Then shade **one part** of each strip and label it.

one part is one _____

one part is one _____

one part is one _____

2. Look at your strips. Which piece is bigger, one third or one fourth? Circle one.

one third one fourth

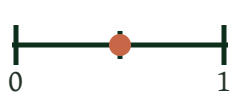
More pieces from the same whole means each piece is _____

Roots of Reason

Fraction Models · Number line pictures

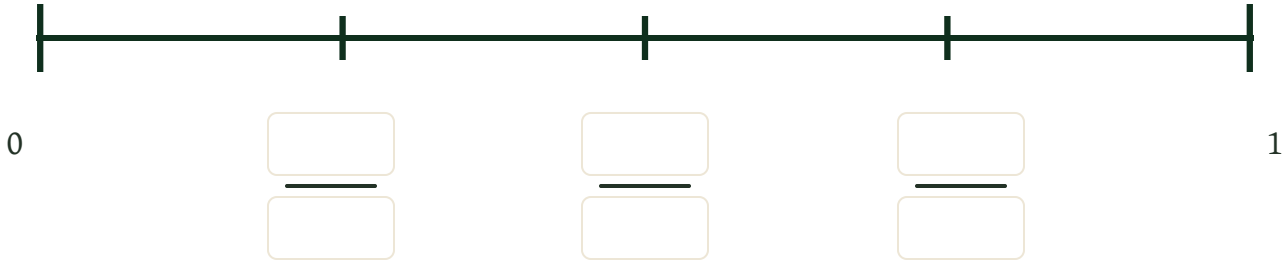
Name _____ Date _____

Fractions Live on the Number Line



A fraction is a **place** between 0 and 1.
Equal jumps, just like equal parts.

1. The line is already cut into **4 equal jumps**. Write the fraction that names each mark.



2. Your turn to cut. Make **2 equal jumps** on this line, then put a dot exactly at **one half**.

Is three fourths closer to 0 or to 1? _____ How do you know from the line?

_____

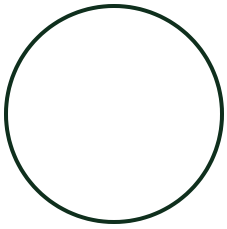
Name _____ Date _____

One Fraction, Three Pictures

Show **two thirds** every way you know.
If all three pictures agree, you own this fraction.

1. Draw **2/3** three ways. Start each picture from what is given.

shape



strip

number line

2. **Think about it.** Which picture is easiest for you to draw? Which one helps you most when fractions get hard? Why?

_____

_____

_____

Real-life photo: a ruler, measuring cup, or gas gauge

Number lines hide in rulers and measuring cups.

Roots of Reason
rootsofreason.org

Answer Key

FRACTION MODELS · SET 3 OF 4 · GRADE 3

Answer Key and Teacher Notes

Shade it, say it (page 2)

1. Any correct count of shaded parts works: *1 of 2*, *3 of 4*, *2 of 3* **2.** *1/4*· *2/3*· *1/4*. Insist on the sentence "out of equal parts", not just the digits.

Fraction strips (page 3)

1. Fair cuts into 2, 3, 4; one part shaded on each; labels *half*, *third*, *fourth* **2.** *one third* is bigger; more pieces means each piece is *smaller*. This inverts whole-number intuition, so expect hesitation.

Number line (page 4)

1. Marks left to right: *1/4*, *2/4*, *3/4* **2.** One tick in the middle, dot at *1/2*; 3/4 is closer to *1* because it is 1 jump from 1 but 3 jumps from 0.

One fraction, three pictures (page 5)

1. Circle in 3 equal parts, 2 shaded; strip in 3 equal parts, 2 shaded; line cut into 3 equal jumps with a dot at the 2nd mark **2.** Any honest reflection counts. Push past "the circle is easiest" to a reason.

The number line is the picture students avoid and the one that matters most later: it is how fractions become numbers rather than pieces of pizza. If page 4 wobbles, put a strip directly above a number line of the same length and show the tick marks lining up with the cuts. Do not move on to comparing or adding fractions until all three pictures of the same fraction agree on page 5.