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Stuck? Scan for the anchor chart

FRACTION EQUIVALENCE · SET 4 OF 4 · GRADE 3

Same Number, New Name

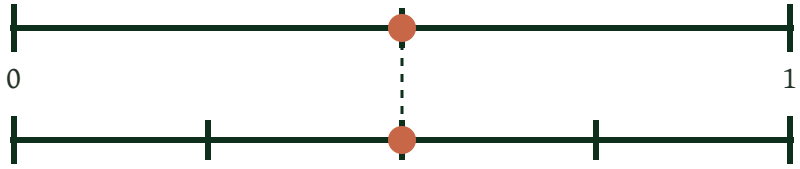
One half and two fourths are not two answers.
They are **one number** wearing two names.

1 Cut every piece again and nothing is lost

1 of 2 shaded = 2 of 4 shaded = 4 of 8 shaded

The shading never moved. Only the number of cuts changed.

2 Equal fractions land on the same place



The top line takes **2 jumps** to reach 1. The bottom line takes **4**. One half and two fourths stop at the same spot.

3 Whole numbers have fraction names too

$\frac{4}{4} = 1$

$3 = \frac{3}{1}$

Three wholes, each one cut into a single piece. The bottom number can be 1.

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Fraction Equivalence · Making a new name

Name _____ Date _____

Find the Twins

1 of 3

Cut every piece in two and the picture keeps the same shading with **twice as many names**.

2 of 6

1. The top strip is already shaded. Cut the bottom strip along the dotted marks, then shade **the same amount** and write what you shaded.

$\frac{1}{2} = \_\_\_\_$ of $\_\_\_\_$

$\frac{1}{3} = \_\_\_\_$ of $\_\_\_\_$

$\frac{3}{4} = \_\_\_\_$ of $\_\_\_\_$

2. **Look at your three answers.** Every time you cut each piece in two, what happened to the two numbers in the fraction?

both numbers doubled | only the bottom doubled | both numbers stayed the same

The amount of the strip that is shaded _____

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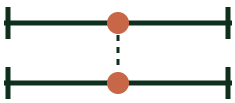
Fraction Equivalence · On the number line

Name _____ Date _____

Same Point, Two Names



If two fractions are the same number, the line has **nowhere else to put them.** $\frac{1}{2} = \frac{2}{4}$

1. Both lines are the same length. Put a dot at **1/2** on the top line and a dot at **2/4** on the bottom line. Then draw a straight line between your two dots.

0 cut into 2 equal jumps 1

0 cut into 4 equal jumps 1

Your line between the dots goes straight down sideways

2. This line is cut into **6 equal jumps**. Put a dot at **4/6**. Then write the name that same point has on a line cut into thirds.

$\frac{4}{6} =$ ____ of ____ How many sixths make one third? ____

Roots of Reason

Fraction Equivalence · Whole numbers

Name _____ Date _____

Whole Numbers Wear Fractions

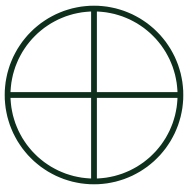
4 of 4

Shade every piece and you are back to **one whole**.
Count wholes and the bottom number is 1.

$$\frac{4}{4} = 1 = \frac{1}{1}$$

1. Shade **every** piece, then write the fraction you shaded and what it equals.

_____ of _____ = _____



_____ of _____ = _____

_____ of _____ = _____

2. Draw the wholes, then finish the fraction. Each whole stays in **one piece**.

2 wholes = $\frac{2}{\square}$

5 wholes = $\frac{\square}{\square}$

3. **Read it backward.** Write the whole number each fraction is hiding.

$\frac{8}{1} = \square$ $\frac{6}{6} = \square$

One of these is a pile of wholes. The other is a whole cut up and put back together.

Name _____ Date _____

Which One Is Bigger

same size pieces

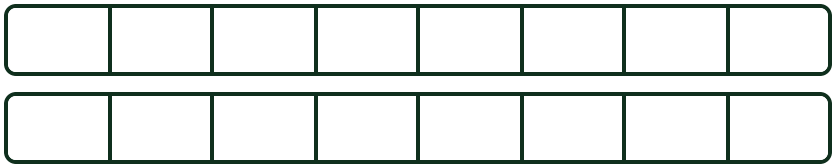
Compare the **count** when the pieces match.
Compare the **piece** when the count matches.

same count

1. **Same bottom number.** Shade each strip, then circle the bigger fraction.

3/8

5/8



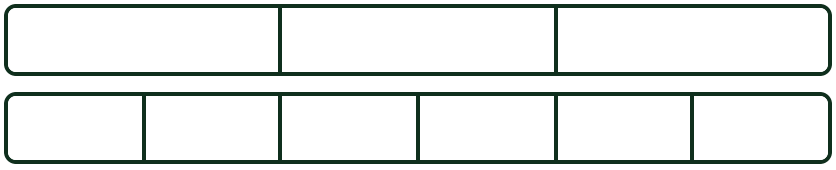
3/8 5/8

Same size pieces, so just count them.

2. **Same top number.** Shade each strip, then circle the bigger fraction.

2/3

2/6



2/3 2/6

Same count, so the bigger piece wins.

3. **The trap.** Ada ate half of a small pizza. Ben ate a third of a giant pizza. Ben ate more food. Did Ada break the rule that one half is bigger than one third?

yes, the rule broke no, the wholes were different

Comparing fractions only works when both come from the _____

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Answer Key

FRACTION EQUIVALENCE · SET 4 OF 4 · GRADE 3

Answer Key and Teacher Notes

Find the twins (page 2)

1. *2 of 4* · *2 of 6* · *6 of 8* **2.** *both numbers doubled*; the shaded amount *did not change*. Shading must line up with the strip above it, not just count correctly.

Same point, two names (page 3)

1. Both dots land on the middle tick, so the line between them goes *straight down* **2.** Dot on the 4th tick; *2 of 3*; 2 sixths make one third.

Whole numbers wear fractions (page 4)

1. *3 of 3 = 1* · *4 of 4 = 1* · *6 of 6 = 1* **2.** Two whole shapes, *2/1*; five whole shapes, *5/1* **3.** *8* and *1*

Which one is bigger (page 5)

1. *5/8* **2.** *2/3* **3.** *No, the wholes were different.* One half is bigger than one third only when both come from the *same whole*.

Set 4 closes the strand, so nothing here is a shortcut. Equivalence is taught as re-cutting rather than as multiplying the top and bottom by the same number, because a student who only knows the rule cannot tell whether 2/4 got bigger. Page 3 is the check that matters: if the two dots do not land together, the jumps were not equal, and the fix is on Set 3 page 4, not here. Page 5 deliberately never compares two fractions with different tops and different bottoms, which is Grade 4 work. Task 3 is the one to talk through out loud, because the same-whole condition is the part students drop first and the part every later comparison depends on.