# Same Amount, New Name

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|---|---|---|---|
| **Teacher** | | **Class** | Grade 3 |
| **Subject** | Math | **Topic** | Equivalent fractions |
| **Date** | | **Room** | |
| **Lesson length** | 60 minutes | **Country** | United States |

Students learn that different fractions can show the same amount. They fold strips to prove 1/2 = 2/4 and 2/3 = 4/6.

## Curriculum links

- Two or more fractions that represent the same amount of the same-size whole are equivalent fractions [1]
- Representations such as pizzas, circles, rectangles, and fraction models all help students to visually understand how two fractions can be equivalent [1]

## Learning objectives

- Students will recognize that 1/2 = 2/4 covers the same amount of the same-size whole.
- Students will generate simple equivalents like 2/3 = 4/6 by splitting parts equally.
- Students will explain why fractions are equivalent using a visual fraction model.

## Success criteria

- I can show 1/2 = 2/4 with same-size strips.
- I can make 2/3 = 4/6 by cutting each part in half.
- I can explain why they match in my own words.

## What students already know

Hold up 1 whole strip, then ask: If I cut this same strip into 2 equal parts, what is 1 part called? What if I cut it into 4 equal parts?

## Key words

| | |
|---|---|
| **equivalent fractions** | different-looking top and bottom numbers that stand for the same amount of the same-size whole [1] |
| **whole** | the full single shape or bar we start with before cutting [1] |
| **numerator** | the top number that counts how many parts are shaded or used |
| **denominator** | the bottom number that counts how many equal parts the whole is cut into |
| **bar model** | same-size rectangles lined up to compare shaded lengths [10] |

## Materials

- paper strips of the same size, 3 per student plus spares
- crayons or colored pencils
- pre-folded strips in halves and fourths
- Slides 1-6, 8, 10-11

## Before the lesson

- Cut paper strips of the same size, 3 per student plus spares, and pre-fold some into 2 and 4 equal parts
- Test Slide 5 Video clip 1 (0:00-5:00) for sound and picture
- Print Worksheet Task D page 4, one copy per student

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- Video clip 1 3rd grade equivalent fractions (0:00-5:00) on Slide 5
- Worksheet Task D page 4 - Fraction bars
- Set out crayons and clear desks for lining up strips side by side

## Lesson outline

**0–5 min** **Starter** 5 min · Whole class

*Hook interest and check halves and fourths language before modeling equivalence.*

**YOU DO**

1. Show Slide 1 and welcome the class to finding equivalent fractions with pictures.
2. Show Slide 2 question about two friends with same-size bars eating 1/2 and 2/4.
3. Say the hook and ask partners to predict: same lunch or not, and why.
4. Take 2-3 predictions without confirming, to revisit after folding.

**STUDENTS DO**

1. Look at Slide 2 and listen to the hook.
2. Turn to a partner and predict if 1/2 and 2/4 are the same.
3. Share one prediction with the class.

**Say:** I folded once, you folded twice - did we color the same amount? Let's test it. Turn to your partner and predict if 1/2 and 2/4 are the same amount. Be ready to prove it with strips.

**Ask:** What do you notice about the two bars on Slide 2? (They are the same size, but cut into 2 parts and 4 parts.) · What does 1/2 mean? (1 shaded part out of 2 equal parts of the same whole.) · Could 1/2 and 2/4 be the same amount even if they look different? (Maybe, if the shaded lengths match for the same-size whole.)

**Check understanding:** Show thumbs up if you think same, sideways if not sure. If many are unsure, keep predictions visible and say we will test with strips.

**Support:** Point to the 1 whole bar and count parts together: halves have 2 parts, fourths have 4 parts.
**Stretch:** Ask: what other fraction might also equal 1/2 before we test?

Use: Slides 1-2

**5–17 min** **Teaching** 12 min · Whole class

*Model that equivalents cover the same amount of the same-size whole.*

**YOU DO**

1. Show Slide 3 and explain that 1/2 has many twins like 2/4 and 3/6 [3] because equivalent means same amount of same-size whole [1].
2. Show Slide 4 steps and model with two same-size strips: shade 1/2, then split each part into 2 mini-parts to get 2/4.
3. Play Video clip 1 (0:00-5:00) on Slide 5 and ask students to listen for same whole, same amount.
4. Line up both strips to show shaded lengths match exactly.

**STUDENTS DO**

1. Watch the steps and video and track how the shaded length stays the same.
2. Count aloud the total parts for the bottom number and shaded parts for the top number.
3. Choral read 1/2 = 2/4 when strips line up.

**Say:** Equivalent fractions look different but cover the same amount of the same-size whole. When I cut each half into two equal smaller parts, I get more parts but the colored length does not change. Watch how the shaded parts line up.

**Worked example:** Start with two same-size strips. Strip A: cut into 2 equal parts, shade 1, so 1/2. Cut each part into 2 equal mini-parts. Now there are 4 equal parts in all and 2 are shaded, so 2/4. Line up strips: shaded lengths match, so 1/2 = 2/4 [17].

**Ask:** Why must the two strips be the same size? (Fractions can only be compared when they come from wholes of the same size [1].) · After splitting, how many total parts and how many shaded? (4 total parts, 2 shaded, so 2/4.) · How do we know they are equivalent? (They represent the same part of the same whole [4], the shaded lengths match.)

**Check understanding:** Hold up mini-whiteboards with = or not = for 1/2 and 2/4. Reteach lining up strips if less than 80 percent show =.

**Support:** Use pre-folded strips to compare 1/2 and 2/4 side by side and only count shaded length [5]. **Stretch:** Ask what would happen if we split each fourth again - predict the new top and bottom numbers.

Use: Slides 3-5, Video clip 1 (0:00-5:00)

17–27 min **Guided pairs** 10 min · Pairs

*Recognize three twin pairs and practice explaining why they match.*

**YOU DO**

1. Show Slide 6 cards for 1/2 = 2/4, 2/3 = 4/6, and 1/3 = 2/6.
2. Model 2/3 = 4/6 with bar pictures: two thirds shaded, then cut each third in half to get four sixths.
3. Ask pairs to rehearse the sentence: They are equivalent because the whole is the same size and the shaded part is the same size [8].
4. Cold-call two pairs to explain one twin pair using the cards.

**STUDENTS DO**

1. Study Slide 6 cards with a partner and point to matching shaded lengths.
2. Practice saying They are equivalent because the whole is the same size and the shaded part is the same.
3. Explain one pair to the class when asked.

**Say:** Look at the twin pairs. Different pieces, same amount. Tell your partner which two match and use the word because. Point to where the color covers the same length.

**Worked example:** Bar A: same-size bar cut into 3 equal parts, shade 2, so 2/3. Cut each part into 2 equal mini-parts. Now 6 equal parts in all, 4 shaded, so 4/6. Shaded lengths match, so 2/3 = 4/6. Their areas are the same with respect to the same-sized whole [8].

**Ask:** How does 2/3 become 4/6? (Divide each of the parts into the same number of equal parts, here 2 smaller parts each [8].) · Why are 1/3 and 2/6 equivalent? (Same-size whole and same shaded length, even if the cuts look different.)

**Check understanding:** Listen for because with same whole and same shaded size. If explanations miss same whole, model the sentence again and have all repeat.

**Support:** Limit cards to 1/2 = 2/4 first, with the 1 whole bar left showing as a size guide. **Stretch:** Ask pairs to name another twin for 1/2, such as 3/6, and tell how they know.

Use: Slide 6

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27–50 min **Main activity** 23 min · Pairs

*Generate equivalents by folding and prove matches with strips and bars.*

**YOU DO**

1. Show Slide 8 task and hand out same-size strips and crayons.
2. Guide Step 1: fold one strip in halves, shade 1/2; fold second strip in quarters, shade 2/4, then line up to compare.
3. Guide Step 2: repeat with thirds and sixths to make 2/3 = 4/6 by folding thirds in half.
4. Hand out Worksheet Task D and ask students to shade or name bars to show the same matches.

**STUDENTS DO**

1. In pairs, fold, shade, and compare 1/2 and 2/4, then write 1/2 = 2/4.
2. Repeat by folding for 2/3 and 4/6 and line up to check the match.
3. Complete Worksheet Task D bars to show the same equivalent amounts.

**Say:** Fold carefully so parts are equal. Shade, then line up the tops of your strips. If the colored lengths match exactly, write the equation. Do halves first, then try thirds and sixths with your partner.

**Worked example:** Student A folds a strip into 2 equal parts and colors 1 part. Student B folds a same-size strip into 4 equal parts and colors 2 parts. They line up the strips: colored parts cover the same length, so they write 1/2 = 2/4 and say they cover the same amount [1].

**Ask:** Do your shaded parts line up exactly? What does that tell you? (Yes, so 1/2 = 2/4, same amount of the same-size whole.) · How did you make 4/6 from 2/3? (Cut each third into 2 equal smaller parts, now 4 out of 6 are shaded.) · What if strips are different sizes? (We cannot tell, wholes must be the same size to compare [1].)

**Check understanding:** Walk around with a checklist for lined-up strips and correct equations. If folds are unequal, refold together using edge-to-edge matching.

**Support:** Start with only halves, using pre-folded strips to compare 1/2 and 2/4 side by side [5]. **Stretch:** Fold a third same-size strip into 6 or 8 equal parts and find what equals 1/2.

Use: Slide 8, Worksheet Task D

50–60 min **Plenary** 10 min · Whole class

*Confirm the twin pairs and check who can explain equivalence.*

**YOU DO**

1. Hold up two matching class strips and ask pairs to read the equation aloud.
2. Show Slide 10 vote and take a quick show of hands for bar strips, circles, or number line.
3. Show Slide 11 true-or-false statements and ask students to justify with same whole, same shaded size.
4. Set the exit ticket and preview next work on number lines.

**STUDENTS DO**

1. Hold up strips, read 1/2 = 2/4 and 4/6 = 2/3 aloud.
2. Vote for a favorite model and give one reason.
3. Answer true-or-false and write the exit ticket.

**Say:** Show me your twins. Hold up both strips and read your equation. Now vote for the helper that best shows why they match. Tell me why in one clear sentence.

**Ask:** True or false: 1/2 = 2/4 because they cover the same amount? (True, same whole, same shaded size.) · True or false: 4/6 = 2/3 because they cover the same amount? (True, more parts but smaller parts, same total color.) · Why are 1/2 and 1/3 not equivalent when one part is shaded in each? (The shaded sizes are different, even if the count of shaded parts is 1.)

**Check understanding:** Use Slide 11 responses and exit slips. If many miss the why, repeat the because sentence with strips tomorrow.

**Support:** Provide sentence starter: The whole is the same size and the shaded part is the same size, so...
**Stretch:** Ask students to predict the next twin for 1/2 after 2/4 and 3/6 and how to make it.

Use: Slides 10-11

## Common mistakes

| Mistake | How to spot it | How to fix it |
|---|---|---|
| Thinking 1/2 and 1/3 are equivalent because each has 1 shaded part. | Student matches any fractions with the same numerator without checking shaded size. | Overlay same-size wholes and compare shaded area, not just count of parts, since two fractions are equivalent only if areas are the same with respect to the same-sized whole [8]. |
| Comparing fractions from different-size wholes. | Student says a small 1/2 equals a large 1/2 strip piece by piece without lining up wholes. | Remind that fractions can only be compared when they come from wholes of the same size [1]; re-line strips edge to edge. |
| Changing only the top or bottom number to make a twin. | Student writes 1/2 = 1/4 or 1/2 = 2/3 after cutting more parts but shading the same count. | Show you must cut each part into the same number of equal parts and count all parts and shaded parts again [8]; more parts means smaller parts [14]. |

## Support

- Start with only halves, using pre-folded strips to compare 1/2 and 2/4 side by side [5].
- Keep the 1 whole strip visible as a size guide and use sentence starters for the why explanation.

## Stretch

- Fold a third same-size strip into 6 or 8 equal parts and find what equals 1/2.
- Build two different matches for 1/2, such as 2/4 and 3/6, and explain both.

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## For the LSE or teaching assistant

Stay with the main activity pairs. Help with edge-to-edge folding, counting equal parts, and rehearsing the because sentence. Keep pre-folded spares ready.

## Check for understanding

| Question | Answer |
|---|---|
| Draw same-size bars to show if 1/2 = 2/4. Why or why not? | Yes, shaded lengths match for the same-size whole. |
| Fill the missing number: 2/3 = ?/6. How did you make it? | 4/6, by cutting each third into 2 equal parts. |
| Finish: 1/2 and 2/4 are equivalent because... | They are the same amount of the same-size whole / same shaded size. |

## Homework

Ask a family member to check your strip twins 1/2 = 2/4 and 2/3 = 4/6 and practice saying why.

## Sources


1. 2025-2026 3rd grade Math Curriculum · boepublic.parkhill.k12.mo.us · https://boepublic.parkhill.k12.mo.us/attachments/31a5142e-30b9-4cb1-af05-e527a506fab8.pdf
2. Grade 3 Math | SFUSD · sfusd.edu · https://www.sfusd.edu/learning/curriculum/elementary-school/mathematics/grade-3-math
3. Equivalent fractions - Math Help - LibGuides at Tulsa Community College · guides.library.tulsacc.edu · https://guides.library.tulsacc.edu/Mathematics/equivalent-fractions
4. Equivalent Fractions - Ximera · ximera.osu.edu · https://ximera.osu.edu/m4t/elementaryTeachersOne/elementaryReading/Numbers/EquivalentFractions
5. 19 Equivalent Fractions Worksheets for Practice | Endolab ... · endolab.ucdavis.edu · https://endolab.ucdavis.edu/equivalent-fractions-worksheets
6. Equivalent fractions - Copy of DIY Maths - LibGuides at ... · libguides.cccua.edu · https://libguides.cccua.edu/c.php?g=617810&p=4298721
7. Equivalents Fractions - Department of Mathematics at UTSA · mathresearch.utsa.edu · https://mathresearch.utsa.edu/wiki/index.php?title=Equivalents_Fractions
8. Math Notes: Methods for Generating and Explaining Equivalent Fractions · crdg.hawaii.edu · https://crdg.hawaii.edu/developing-teacher-expertise-mathematics/modules/facilitator-resources/facilitator-fractions-resources/Session9/resources/s09_p5_mathnotes_equivalent-fractions.pdf
9. Equivalent fractions - KS2 Maths resources for Year 4 - BBC · bbc.co.uk · https://www.bbc.co.uk/bitesize/articles/zbqkvwx
10. How to find equivalent fractions - BBC Bitesize · bbc.co.uk · https://www.bbc.co.uk/bitesize/articles/zhbxxbk
11. Kids Math: Equivalent Fractions - Ducksters · ducksters.com · https://www.ducksters.com/kidsmath/fractions_equivalent.php
12. Flexi answers - How can you tell if a fraction is equivalent? | CK-12 Foundation · ck12.org · https://www.ck12.org/flexi/cbse-math/types-of-fractions/how-can-you-tell-if-a-fraction-is-equivalent/
13. Equivalent Fractions For Kids | Fractions With The Same Value · learnwithsitesforkids.com · https://learnwithsitesforkids.com/subjects/math/fractions/equivalent-fractions/
14. Equivalent Fractions Explained | Definition, Examples & Quiz ... · workybooks.com · https://www.workybooks.com/resources/math-vocabulary/equivalent-fractions
15. Equivalent Fractions - Dr Mike's Math Games for Kids · dr-mikes-math-games-for-kids.com · https://www.dr-mikes-math-games-for-kids.com/equivalent-fractions.html
16. Equivalent Fractions Math Video for Kids | 3rd, 4th & 5th Grade ... · generationgenius.com · https://www.generationgenius.com/videolessons/equivalent-fractions/
17. Equivalent Fractions · mathsisfun.com · https://www.mathsisfun.com/equivalent_fractions.html%7D
18. equivalent fractions - calcsolver · calcsolver.us · https://calcsolver.us/category/equivalent-fractions/