Unit Fractions: Equal Parts and the Same Whole

Prepare and keep the stages separate

Learning target

Name one of equal parts as a unit fraction and compare two unit fractions referring to the same whole.

Intended audience and limits

US Grade 3. Grade placement has not been validated. Check the prerequisites and your local curriculum; this sequence is not a complete course.

Before starting

Identify the whole being discussed, count up to eight parts, compare equal lengths and distinguish equal from unequal parts. Fraction notation is introduced in the teaching pages.

Preparation and sequence

Prepare the chosen student files and ordinary paper and pencil. Give readiness first, then model and guided practice. Reserve the independent file until after teaching. Clarify access before selecting a response route. Use the later file after another learning opportunity, without showing its tasks during the teaching or response lesson.

No time estimate is available. Plan the selected activities from the teacher guide and learner responses.

Evidence and access

Look for a complete identified whole, equal parts, one selected part and a same-whole explanation of a unit-fraction comparison.

Read the prompt aloud without supplying the fraction name; allow pointing, an oral explanation or a labeled drawing. Enlarge the HTML or print locally at a suitable scale. Shading and outlines have text descriptions. Do not interpret a reading, visual-access or drawing problem as fraction evidence.

Unit Fractions: Equal Parts and the Same Whole

Choose a response from observed work

Read the selected guided or independent response with the learner. Clarify access, task wording, notation and prerequisite knowledge first. These are conditional teaching options, not learner diagnoses or validated scoring cutoffs.

Check the whole and equal parts

If observed: The learner names a fraction by counting unequal pieces or cannot locate the complete whole after prompt access is clarified.

Trace the outside whole first. Compare the sizes of its parts before counting them. Ask the learner to sketch or fold a new equal-part whole and explain one selected part.

Use: Response A: Check equal parts. Next evidence: Look for a complete whole, equal parts and an explanation of one selected part.

Reserve for later: Later response 1.

Compare parts of the same whole

If observed: The learner chooses the larger denominator as the larger unit fraction, after identifying the same-sized wholes and naming the shaded parts.

Keep the two whole outlines matched. Compare one part of each before writing the symbols. Ask what happens to the size of one part when the same whole has more equal parts.

Use: Response B: Keep the whole fixed. Next evidence: Look for same-whole reasoning connected to the comparison, not a memorized denominator rule.

Reserve for later: Later response 1, Later response 2.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Readiness 1

Look at Strip A and Strip B. Each outside outline is one whole. Which strip is split into equal parts? Explain what you checked. Do not name a fraction yet.

Accept: Strip A has equal parts. Its four parts are the same length. Strip B has three parts with different lengths. Count alone does not establish equal parts.

Look for: Identify the whole outline and compare part sizes, not just the number of dividing lines.

Readiness 2

Point to the whole of Strip A. How many equal parts make that whole? How many are shaded?

Accept: The whole is the full outside rectangle of Strip A; four equal parts make it; one part is shaded.

Look for: Distinguish the entire outlined whole from the shaded part.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Worked teaching example

Strip C is one whole divided into three equal parts; one part is shaded. Name the shaded part with words and fraction notation. Explain what the 1 and 3 tell us.

Accept: One third, written 1/3. The 3 counts the equal parts making the whole; the 1 counts the part being named.

Look for: Name one of three equal parts and connect both numbers to this same whole.

Guided practice 1

Strip D is one whole. Name the one shaded part and explain both numbers in your fraction.

Accept: One sixth, 1/6: six equal parts make the whole and one is shaded.

Look for: Use equal parts, the complete whole and one selected part.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Guided practice 2

Strips E and F represent the same-sized whole. E has one of two equal parts shaded; F has one of four equal parts shaded. Which shaded part is larger? Explain with the strips.

Accept: The half in E is larger than the quarter in F. With the same whole, dividing it into fewer equal parts makes each part larger. 1/2 > 1/4.

Look for: Confirm the same whole before comparing and reason from part size.

Guided practice 3

A learner says, “Strip B has three parts, so its shaded piece must be one third.” Is that reasoning enough? Explain and sketch a whole in which one part really is one third.

Accept: No. Strip B has unequal parts, so counting three pieces does not justify one third. A valid sketch has one whole divided into three equal parts and one selected part.

Look for: Reject counting unequal pieces as a denominator rule; construct equal thirds.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Independent response 1

Strips G and H are equal-sized wholes. Name each shaded unit fraction. Which is larger? Explain how the equal wholes help you decide.

Accept: G shows 1/3; H shows 1/6. 1/3 is larger because each of three equal parts of the same whole is larger than each of six equal parts.

Look for: Name both fractions, compare the same whole and explain size rather than choosing the larger denominator.

Independent response 2

Strip J is one whole divided into eight equal parts with one shaded. Name the shaded part and explain both numbers. Would counting the parts still be enough if the eight parts had unequal sizes? Explain.

Accept: One eighth, 1/8. Eight equal parts make the whole and one is shaded. If the parts were unequal, merely counting eight would not justify calling a chosen piece one eighth.

Look for: Name the unit fraction and retain the equal-parts condition.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Response A: Check equal parts

Strip K has four parts of unequal sizes. A learner calls the shaded piece one fourth because there are four pieces. Explain what is missing from that reasoning. Draw a different whole with four equal parts and shade one.

Accept: The pieces must be equal parts of the whole; counting four unequal pieces is not enough. A correct new drawing divides one whole into four equal regions and shades one.

Look for: Check equality and the whole before applying a fraction label.

Response B: Keep the whole fixed

Strips L and M are equal-sized wholes. L shows one third and M shows one eighth. Someone chooses the eighth as larger because 8 is greater than 3. Use the strips to explain and revise the comparison.

Accept: The third is larger: 1/3 > 1/8. These wholes are the same size; eight equal parts are each smaller than three equal parts. The denominator counts equal parts, not the size of one part.

Look for: Use the same whole and explain why the denominator-only comparison is reversed.

Unit Fractions: Equal Parts and the Same Whole

Teacher answers and reasoning evidence

Later response 1

Strips N and P are equal-sized wholes. Name each shaded unit fraction and compare them with an explanation.

Accept: N shows 1/4; P shows 1/8. 1/4 > 1/8 because a fourth is a larger part of this same whole than an eighth.

Look for: Name both parts and justify comparison using the same whole.

Later response 2

Strip Q and Strip R are different-sized wholes. Q has half shaded and R has one quarter shaded. Can the fraction names alone tell which shaded physical strip is longer? Use these drawings to explain what you must check.

Accept: No. The names refer to different wholes. Here Q is a shorter whole and its half has the same drawn length as the quarter of the longer R whole. Compare the whole sizes and the actual shaded lengths, rather than using fraction names alone.

Look for: Distinguish numerical fractions of a common unit from physical pieces of different-sized wholes. Exact measuring is not required.

Unit Fractions: Equal Parts and the Same Whole

Sources, scope and responsible use

This sequence covers unit fractions of equal parts and comparisons using the same whole, with denominators 2, 3, 4, 6 and 8. It is not a full fractions course.

AI-authored materials. Classroom effectiveness, calibrated assessment properties and physical classroom use have not been established. A single response is limited evidence, not a diagnosis. Later tasks are different instructional checks, not equivalent test forms.

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Common Core State Standards Initiative: Grade 3 Number and Operations—Fractions. https://www.thecorestandards.org/Math/Content/3/NF/ (accessed 2026-10-23). Concept reference for unit fractions and comparison using the same whole; denominator scope 2,3,4,6,8. Not a claim of complete standards alignment.