Grade 5 — 30-minute Blend Lesson: Fractions (Focus: Fractions)

Generated on April 1, 2026 at 07:03 AM

Lesson Overview

A 30-minute blended lesson that launches with a concept-first prompt, uses a short multimedia mini-lesson with explicit modeling, and moves students into peer workshop casework tied to community scenarios. Students cycle through inquiry, coached practice, and reflection to build unit reasoning, quantity relationships, equivalence, and composition/decomposition of fractions. Low materials needed.

Learning Objectives (measurable)

- Reason about fractions as quantities and unit parts of a whole using area and set models.
- Generate and identify equivalent fractions and compose/decompose fractions into unit fractions.
- Apply fraction strategies to solve two community-linked problems and explain why strategies preserve equivalence and quantity.
- Explain and demonstrate strategies in peer groups using correct mathematical language.

Success criteria (for the lesson)

- Explain the fraction relationship or strategy correctly in at least 2 of 3 peer explanations.
- Produce correct equivalent fractions for a given fraction using at least two methods.
- Solve at least one community scenario with correct reasoning and justify equivalence or decomposition.

Materials (low)

- Paper and pencil per student
- Optional: one printed 1-page diagram (circle and bar models) or project a single-slide 60–90 second teacher video (or audio vignette) illustrating fraction partitioning
- Timer (phone/clock)

Mastery Threads Anchored

- Unit reasoning: using unit fractions to build other fractions.
- Quantity relationships: comparing and composing fractions to represent amounts.
- Equivalence: creating and justifying equivalent fractions.
- Composition/decomposition: breaking fractions into unit fractions and recombining.

Lesson Timeline (30 minutes)

1. Launch — Concept-first prompt & multimedia (4 minutes)
2. Mini-lesson with explicit modeling (short) (5 minutes)
3. Peer workshop: collaborative community casework (10 minutes)
4. Coached practice + pulse checks (7 minutes)
5. Quick whole-class pulse + exit checkpoints (4 minutes)

Step-by-step Lesson Sequence

1) Launch — Concept-first prompt and multimedia (4 minutes)

- Display or read the prompt aloud: "If a local bakery uses 3/4 of a bag of flour to bake 12 muffins, how can we think about 3/4 as units so we could scale, share, or compare with another baker?"
- Play a short 60–90 second teacher video or show one-slide graphic that:
  - Shows a circle partitioned into fourths and a bar partitioned into fourths.
  - Labels 3 shaded parts and highlights unit fractions (1/4).
  - Quickly demonstrates two ways to make an equivalent fraction (doubling partitions to show 6/8; splitting unit parts to show 12/16).

- Prompt students to turn to a partner and state in one sentence what 3/4 means in this bakery scenario (30 seconds).

Purpose: start with concrete community context, activate inquiry.

2) Mini-lesson with explicit modeling (5 minutes)

- Teacher models (brief, 2 worked examples on the board/screen):
  1. Show how to generate equivalent fractions for 3/4 by multiplying numerator and denominator by 2 and by 3 (3/4 = 6/8 = 9/12). Annotate why the quantity stays the same.
  2. Decompose 3/4 into unit fractions: 3/4 = 1/4 + 1/4 + 1/4, and show recomposition as 3 × (1/4).

- Model the language to use: "unit fraction," "equivalent," "compose/decompose," and a one-sentence justification: "Multiplying numerator and denominator by the same number partitions each quarter into the same smaller parts, so total quantity is unchanged."

Note: Keep modeling short and immediately hand work to peers; avoid long I-do lecture.

3) Peer workshop — Collaborative community casework (10 minutes)

- Organize students into pairs or trios. Give each group two community scenarios (printed or projected).
  Scenario A (baking): "The bakery recipe uses 3/4 bag to make 12 muffins. Another baker uses 9/12 bag for the same number of muffins. Explain in your group how 3/4 and 9/12 show the same amount of flour. Show at least two representations (fraction sentence, drawing, or unit-fraction sum)."
  Scenario B (garden): "A community garden has a raised bed 1 whole long. If people planted 5/8 of the bed with tomatoes and 1/8 with peppers, explain how to decompose and recombine to show how much of the bed is planted and produce an equivalent fraction if the bed were thought of in 16 equal parts."
- Task requirements for each group:
  - Produce a short written response (1–2 sentences) and a quick sketch (bar or circle).
  - Use at least two strategies (equivalence by multiplication, unit-fraction decomposition, or addition of fractions).
  - Assign roles: recorder, speaker, sketcher (rotate roles each lesson).

- Peer feedback protocol: after 4 minutes, each group swaps answers with a different group and gives one specific mathematical comment (what is correct and one thing to refine).

4) Coached practice + Pulse Checks (7 minutes)

- Teacher circulates, listens to reasoning, offers targeted coaching: ask groups to justify equivalence (e.g., "How did you decide to multiply by 3? How does that preserve quantity?").
- Pulse Check 1 (during circulation, ~2 minutes): Quick group oral check. Success criteria: "Each group must state one correct equivalence and show the operation (e.g., $3/4 \times 2/2 = 6/8$) and explain why the amount stays the same in one sentence." Teacher listens for accurate operation and justification in at least 2/3 of groups.
- After coaching, groups revise as needed.
- Pulse Check 2 (end of coached practice, ~2 minutes): Quick written self-check on paper: "List one decomposition and one recomposition you used. Circle which strategy helped you decide common parts." Success criteria: "Student lists a decomposition like $3/4 = 1/4 + 1/4 + 1/4$ and a recomposition with correct arithmetic or equivalent fraction."

5) Whole-class pulse and exit checkpoints (4 minutes)

- Bring class together. Ask 2–3 groups to briefly (30 sec each) share their community solution and reasoning. Teacher affirms mathematical language and highlights equivalence or composition reasoning.
- Pulse Check 3 (class pulse ~1 minute): Success criteria: "Students explain the strategy correctly in at least 2/3 of sharings" — teacher notes who met criteria.
- Exit: Distribute the 10 quick quiz-style checkpoints (see next section) as an exit ticket to complete individually in remaining time or as a homework if class time is short.

Embedded Pulse Checks (2–3) — explicit

- Pulse Check 1 (Group oral during coached practice)
  - Task: State one correct equivalence and show the operation (example: 3/4 × 2/2 = 6/8) and say why quantity is unchanged.
  - Success criteria: Correct multiplication of numerator and denominator and one accurate sentence about preserved quantity. Target: at least 2/3 of groups meet this.

- Pulse Check 2 (Written self-check during coached practice)
  - Task: Write one decomposition and one recomposition (e.g., 3/4 = 1/4 + 1/4 + 1/4; 3/4 = 6/8).
  - Success criteria: Decomposition and recomposition are mathematically correct and connected (student circles the strategy used).

- Pulse Check 3 (Whole-class share)
  - Task: Two groups state their community answer and justification aloud.
  - Success criteria: At least 2/3 of shared responses correctly explain composition or equivalence using appropriate language.

10 Quiz-style Checkpoints (exit ticket) with success criteria and brief answer keys

Students complete individually. Each item is short (multiple choice, short computation or short justification).

1. Represent 3/4 as a sum of unit fractions.

   - Success criteria: Writes 3/4 = 1/4 + 1/4 + 1/4.
   - Answer: 1/4 + 1/4 + 1/4

2. Find two equivalent fractions for 2/5.

   - Success criteria: Shows multiplication of numerator and denominator by the same nonzero integer twice (e.g., ×2 and ×3).
   - Answers: 4/10 and 6/15 (or any other correct equivalents)

3. True or False: 4/6 is equal to 2/3. If true, show the operation.

   - Success criteria: States True and demonstrates simplification by dividing numerator and denominator by 2.

- Answer: True; 4/6 ÷ 2/2 = 2/3

4. Add these fractions with like denominators: 2/7 + 3/7.

    - Success criteria: Adds numerators, keeps denominator; shows 5/7.
    - Answer: 5/7

5. Decompose 7/8 into a sum that includes unit fractions and then recombine into an equivalent fraction with denominator 16.

    - Success criteria: Shows 7/8 = 1/8 + ... (7 times) or 7×(1/8) and multiply top and bottom by 2 to make 14/16.
    - Answer: 7/8 = 1/8 + ... + 1/8 (7 times); equivalent: 14/16

6. Which is greater: 5/8 or 3/5? Show a comparison strategy (convert to common denominator or use benchmarks).

    - Success criteria: Uses a correct comparison method and concludes which is greater with justification.
    - Example answer: Convert to common denominator 40: 5/8 = 25/40, 3/5 = 24/40 -> 5/8 is greater.

7. A recipe uses 1/3 cup sugar. How many 1/9 cups make the same amount? Show multiplication.

    - Success criteria: Demonstrates that 1/3 = 3/9 using multiplication by 3/3.
    - Answer: 3 of the 1/9 cups (1/3 = 3/9)

8. Two friends share a pizza. One ate 2/6 and the other ate 1/3. Do they ate the same amount? Explain.

    - Success criteria: Recognizes 1/3 = 2/6 and provides an explanation (equivalence).
    - Answer: Yes. 1/3 = 2/6 so they ate equal amounts.

9. Convert the mixed number 1 1/2 to an improper fraction.

    - Success criteria: Correct conversion using 1×2 + 1 = 3/2.
    - Answer: 3/2

10. Short justification: Explain in one sentence why multiplying numerator and denominator by the same number gives an equivalent fraction.

- Success criteria: Student gives a correct conceptual justification (e.g., "It makes the pieces smaller/bigger but keeps the same total amount because each part is split equally; the ratio stays the same").
- Example answer: "Multiplying both parts partitions each unit into the same number of smaller equal pieces, so the fraction represents the same proportion of the whole."

Scoring guidance: 9–10 correct = mastery; 7–8 = developing with targeted reteach; 6 or fewer = need small-group intervention.

Metacognition Prompts (embedded)

- During peer workshop (write-and-share): "How does the strategy your group used help you reason about real-life sharing, measuring, or scaling? Give one real-world example (beyond the bakery/garden) where this helps."
- Exit ticket reflection (one sentence): "Which strategy helped you most today (equivalence by multiplication, unit-fraction decomposition, or common denominator conversion), and how could you use it outside class?"
- Closed reflection for teacher notes: Ask students to rate confidence 1–4 on their exit ticket and write one specific next step to improve.

Example metacognitive responses expected:

- "Using unit-fraction decomposition helped me think how to split a chocolate bar among 3 friends because each piece is 1/3; if we needed smaller pieces, I can create equivalent fractions to see how many small pieces equal a larger piece."
- "I used equivalence to compare paint amounts when two neighbors measured in different containers."

Differentiation & Supports

- For learners needing support:
  - Provide printed fraction strips or pre-drawn bar models.
  - Limit scenarios to one representation (area or bar) and provide sentence starters (e.g., "I multiplied numerator and denominator by __ to get __ because __").
  - Small-group reteach focusing on unit fractions and one-step equivalence.

- For advanced learners:
  - Ask to create a third community scenario involving scaling (e.g., double or 1/2 the recipe) and solve using equivalent fractions.
  - Challenge: Give an improper fraction and ask to express it as a sum of unit fractions in more than one way.

Assessment Notes & Teacher Moves (during lesson)

- Coach language: prompt students to use "unit fraction," "equivalent," "compose/decompose."
- Listen for reasoning that connects operations to quantity (e.g., "We multiplied by 2/2 so each quarter became two eighths and the total quantity didn't change").
- Use exit quiz to plan next small-group instruction: target misconceptions on equivalence or decomposition.
- Keep modeling concise and immediately transfer activity to peers to honor the Blend approach (peer workshops + multimedia + coached practice).