Lesson 31 NUMBER

What is a fraction? — review part-whole

CURRICULUM ALIGNMENT

NUM.FRC.4a explore (model, compare and convert) the relationships between fractions, decimals and percentages.

INTERACTIVES Pizza Slicer · display, explore

LESSON ARC

Open with the pizza hook on the IWB — three slices gone, five left of eight. Walk four worked examples (1/2, 3/4, 5/8, 7/12) naming the denominator first, then the fraction name. Three pupils take the pizza-slicer interactive at the board for 1/3, 2/5, 3/7 while the class names them aloud and thumbs-checks equal slices. Pupils sketch 1/2, 3/4, 5/8 in their copies, then fold paper strips into halves, quarters and eighths at their seats. Maths-talk wrap locks in 'bigger bottom = smaller piece' for tomorrow's equivalence lesson.

TEACHING MOVES

1. **Getting Started.** Display the pizza and take three hands-up answers only — no open call-outs. Keep talk on 'how many total, how many gone, how many left'. Resist any pupil who jumps to '5/8' — that language belongs to the next step.
2. **Watch and Notice.** Walk all four in order — for each, point at the bottom number FIRST and say it out loud before counting shaded slices. On 7/12, pause and ask 'where do we see twelfths in real life?' — wait for months, clock, dozen eggs. Do not advance until the class can name it aloud: 'twelve equal parts, seven shaded — seven twelfths.'
3. **Try It Together.** Three engagement beats per fraction — the class names the denominator before the slicer is set, thumbs up/sideways on equal slices, then names the fraction aloud. The 3/7 example is the trickiest because seven slices don't make a tidy clock-face — narrate slowly and accept a slightly wobbly drawing.
4. **Sketch the Pizzas in Your Copy.** Circulate the room — 5/8 is the one to watch. Say aloud the trick: quarter the circle first, then halve each quarter. Don't mark; just glance and nudge. 7/12 stays on the board — don't ask for it in the copy.
5. **Class Challenge.** Hand out three paper strips per pupil (two needed plus a spare). Circulate and check each fold lands on equal parts BEFORE pupils shade — an uneven fold ruins the fraction name. Keep folding brisk; this is practice, not re-teach.
6. **What Did We Notice?.** Display-only — no writing. Listen for the rule in pupils' own words and revoice it: 'the bigger the bottom number, the smaller each piece — same pizza, more people sharing.' This is the bridge into tomorrow's equivalence lesson.

COMMON MISCONCEPTIONS

⚠ Pupils fold a strip into three pieces where one piece is clearly bigger than the others, then label one section '1/3'. They've counted three parts and called it thirds without checking the parts are equal.

Stop the pupil and lay their strip beside a correctly-folded thirds strip from a neighbour. 'Are these the same size piece?' Open the strip flat, refold along the existing creases as reference, then re-attempt the thirds fold. Say aloud: 'three pieces only — only if they're equal.'

⚠ Pupils say 'one eighth is bigger than one half because eight is bigger than two'.

Cut the pizza on the IWB into 2 slices, then into 8. Point at one slice of each. 'Same pizza — which slice would you rather eat?' Then revoice: the bigger the bottom number, the more people sharing, so the smaller the piece each person gets.

⚠ On the 5/8 copybook sketch, pupils crowd all eight wedges into one half of the circle and leave the other half blank or with two huge wedges.

Show the quarter-then-halve trick on the board live — draw a circle, halve it, halve each half (now quarters), halve each quarter (now eighths). Pupils redraw underneath their first attempt rather than erasing — they see the improvement.

DIFFERENTIATION

EMERGING

- Pre-fold one demonstration strip into halves and quarters and leave it on their desk as a visual reference while they fold their own.
- On the copybook sketches, accept halves and quarters only — skip the 5/8 sketch and stay with circles they can subdivide confidently.

DEVELOPING

- After the eighths strip, ask: shade three eighths on one strip and one quarter on another — which is more? How do you know without measuring?
- Give the prompt: 'if you folded the strip one more time, what fraction would each section be?' Predict before folding.

PROFICIENT

- Pose: 'fold a strip into thirds without measuring — how will you know your thirds are equal?' Let pupils try, fail, refine. Thirds resist the halve-and-halve-again trick, which makes it real problem-solving territory.

↗ **Cross-curricular:** Tie to SESE — pupils name twelfths they meet in the school day: months of the year, hours on the clock face, eggs in a dozen.

ANSWER KEY

a) 1/2 = 4 slices = 4/8.

b) 3/4 = 6 slices = 6/8.

c) 5/8 = 5 slices.

d) 5/8 > 1/2 (5 slices is more than 4 slices).

Q1: 3/11

Q2: 5/7

a) Always — Same numerator — bigger denominator means smaller piece.

b) Never — 1/2, 2/4, 4/8 all equal a half.

c) Never — Opposite — bigger denominator = more, smaller pieces.

d) Always — 1/2 = 50/100 = 50%.

e) Never — 1/2 ≠ 2/3. Equivalents come from multiplying, not adding.

f) Always — Improper fractions: 5/4, 7/3, 9/8 are all > 1.

EXTENSION SHEET · STRETCH ANSWERS

S1: 12 parts (4/5 = 12/15)

S2: 4/11

S3: 5/6