

Fractions and decimals review

CURRICULUM ALIGNMENT

NUM.FRC.3a

compare and express in equivalent terms; and order fractions.

NUM.FRC.3b

calculate the fraction of quantities and express in multiple ways.

NUM.PVT.3

explore equivalent numerical expressions of numbers using the base ten system.

INTERACTIVES

Pizza Slicer · challenge, display, explore

Fraction Strips · display

WHAT THIS LESSON TEACHES

The bottom number tells how many equal parts the whole was cut into; the top number tells how many of those parts we mean. Fractions and decimals are two ways to name the same parts of a whole.

→ One third means the whole cut into 3 equal parts, one part taken.

→ One half is 0.5; one quarter is 0.25; three tenths is 0.3.

MODEL THIS ON THE BOARD

FIND ONE THIRD OF 6

- 1 Draw 6 dots to show the whole amount.
- 2 Share the dots into 3 equal groups (bottom number is the groups).
- 3 Count one group: it has 2 dots so one third of 6 is 2.

DISCUSSION STARTER

REFLECT

Which model helped you most today — strips, number lines, or grids?

LESSON ARC

Open with the pizza-slices and grid-of-tenths interactives side by side — pupils show one half on both to prime the whole-module idea. Narrate the read-only Watch and Notice snapshots, pausing hardest on one quarter carrying 0.25. Pupils take turns building and naming fractions at the board, then do a three-item copybook check and shade decimals in the Class Challenge. Journal prompts and maths-talk close the module before measures begins.

TEACHING MOVES

1. **Getting Started.** Take three hands-up answers only — no open call-outs. Fish for the idea that one half shows as one shaded slice on the pizza AND five of ten squares on the grid: same amount, two pictures. Don't confirm yet; just gather.
2. **Watch and Notice.** Narrate each snapshot one at a time with a read-together between. Pause on the prediction for one quarter (more parts, smaller pieces). Stress three fifths has NO tidy decimal — head off 'every fraction has a decimal name'. End by pointing back to the first pizza: the same shaded quarter now carries 0.25.
3. **Try It Together.** Call a pupil up per fraction in order — one third, three quarters, seven tenths, one half. Between builds ask 'are all your pieces really the same size?' and revoice a prediction. For one half and seven tenths, have the class read the decimal in the label aloud.

4. **Work It in Your Copy.** Set the three items, then walk the room glancing for one quarter of 8 shared into 4 groups (answer 2), one half written as 0.5 not 0.2, and the fifths ordered smallest first. Prompt, don't correct on the page — this is practice, not marking.
5. **Class Challenge.** Keep it brisk — pupils shade 0.1, 0.5, 0.3, then 0.25 (switch to 4 slices) at the board, predicting before checking. After each, ask 'does the shaded amount match both the decimal and its fraction name?' Press Check and fold the ✓ into your narration; don't re-teach each one.
6. **Show What You Know in Your Journal.** Set one prompt at a time, each drawing on a different module idea. Circulate quietly — this is formative, not collected. Look for a shaded picture beside the two-fifths/ four-fifths comparison so pupils reason from the parts rather than guess.
7. **What Did We Notice?.** Display-only discussion. Revoice a strong answer: 'so a fraction isn't just a picture of pieces — it can be a decimal, and it can tell us how to share an amount.' Head off any pupil claiming every fraction has a tidy decimal twin — three fifths didn't.

COMMON MISCONCEPTIONS

⚠ A pupil says 'three fifths must have a decimal too' and tries to invent one, because one half and one quarter both had tidy decimals.

Return to the three-fifths pizza snapshot. Name it aloud as name-only and contrast it with the one-half label carrying 0.5. Make it explicit: some fractions we know have a matching decimal, many don't — today three fifths and one third are name-only.

⚠ A pupil writes one half as 0.2 in the copybook — they map the single shaded slice straight onto the digit after the point.

Put the grid of tenths beside the half-pizza: half means five of the ten squares, so the decimal is 0.5, not 0.2. Count the shaded tenths aloud together to anchor the digit to the number of parts.

⚠ When shading 0.25 a pupil keeps the ten-slice pizza and shades between squares, not seeing they need to switch to four slices.

Slow the board work here: change the pizza to 4 slices first, shade one, and link back to the Watch and Notice snapshot where that same quarter carried 0.25. Same amount, different slice count.

DIFFERENTIATION

EMERGING

- For the copybook ordering, pre-draw the three blank fifths bars so the pupil only shades and reads the line, not builds the structure.
- Keep this pupil's board turns on the anchor fractions — one half and one quarter — which they've now met several times, rather than seven tenths.

DEVELOPING

- After the journal comparison, ask them to add a third fraction into the two-fifths/four-fifths line and re-order all three.
- Challenge them to find one quarter AND one half of 8 in the copybook and say which is bigger and by how much.

PROFICIENT

- During the Class Challenge, narrate a harder variant to them: 'shade 0.5 two different ways on the same pizza' — five of ten and two of four — and explain why both are correct.
- Ask them to write a sentence a younger pupil could follow explaining why three fifths has no tidy decimal but one half does.

✂ **Cross-curricular:** Tie to home economics — split a real or drawn pizza and price each half and quarter of a €12 pizza in euro and cent.

ANSWER KEY

Scaffold: visual check on the page

Q1: 2

Q2: 5

Q3: 0.5

Q4: 6

Q5: 0.7

Spot: One half is five tenths, so $\frac{1}{2} = 0.5$. Oisín put the denominator 2 in the tenths place instead of working out how many tenths equal a half.

EXTENSION SHEET · STRETCH ANSWERS

S1: $4.8 < 7.32 < 9.84$

S3: $5.9 < 9.84$

S2: $7 > 4.88$