Lesson 2 NUMBER

One whole, ten parts — introducing tenths

CURRICULUM ALIGNMENT

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

NUM.PVT.4 investigate how decimals and percentages (and fractions) can be compared, ordered and expressed in related terms.

INTERACTIVES Fraction Strips · challenge, display, explore

WHAT THIS LESSON TEACHES

If you split **one whole** into **ten equal parts**, each part is one **tenth**. Written as a fraction: **1/10**. Written as a decimal: **0.1**.

→ **3/10** = **0.3** (three tenths).
→ **7/10** = **0.7** (seven tenths).
→ Ten tenths make one whole: 10/10 = **1.0**.

LESSON ARC

Open with the pizza scenario to surface the word 'tenth', then move to the fraction-strips interactive: ten tenths beneath one whole, with halves used as the anchor friend (1/2 = 5/10). Pupils take turns shading tenths at the IWB, then sketch and label 3/10 and 7/10 in their copybooks with a ruler. Class Challenge ends on a between-half-and-7/10 puzzle that previews decimal place value.

TEACHING MOVES

1. **Getting Started.** Tell the pizza-for-ten story and push hard on the word 'equal' — fair sharing means same-sized slices. If a pupil offers 'one tenth' before you do, revoice it back and stop there; don't drift into shading yet.
2. **Watch and Notice.** Walk each snapshot one at a time and do NOT click on until the class has said the matching sentence aloud. The 1/2 = 5/10 anchor is the one to land twice — pupils need it for the Class Challenge puzzle. Point along the dividing lines as you count tenths together to ten.
3. **Try It Together.** Rotate three or four pupils through the IWB for 4/10, 8/10, 9/10. Each time the shading changes, ask the rest of the class 'how many tenths now?' and take a couple of answers before the next pupil comes up. Listen for 'four out of ten' and revoice to 'four tenths' — the fraction wording is the point.
4. **Sketch Tenths in Your Copy.** Walk the rows watching for nine-part strips — pupils miscount because they count dividing lines instead of spaces. Prompt 'count the spaces, not the lines' and 'use your ruler to space them evenly'. Two labelled strips per pupil is the target.
5. **Class Challenge.** Keep the first three brisk — pupils shade, class checks, tap Check. On the fourth puzzle, pause BEFORE the shading. Ask 'half is how many tenths?' (five), 'and 7/10 is?' (seven), 'so what sits between?' — let pupils reason to 6/10 before anyone touches the board. Don't over-explain anything here; the same bank reruns tonight as homework.
6. **What Did We Notice?.** Display-only — nobody writes. Fish for ten 10c coins making €1, ten centimetres making a decimetre, ten units making one ten on the place-value blocks. Land the bridge line out loud: 'ten units make one ten; ten tenths make one whole — the same rule, smaller pieces.'

COMMON MISCONCEPTIONS

⚠ Pupils say 'four out of ten' instead of 'four tenths', treating the strip like a counting-out-of problem rather than a fraction.

Don't correct directly — revoice. When a pupil says 'four out of ten', repeat back 'four tenths, yes' and have the class say the fraction wording aloud before the next pupil comes up. Do this every time you hear it; consistency is what fixes it.

⚠ When sketching the strip in the copybook, pupils draw nine equal parts instead of ten — they counted the dividing lines instead of the spaces between them.

Hold up a sample at the front and count the spaces aloud with the class. 'Ten parts means nine lines inside, plus the two ends.' Have pupils redraw using the ruler, counting spaces as they go.

⚠ On the between-half-and-7/10 puzzle, pupils freeze or guess randomly because they haven't held onto 1/2 = 5/10 from the Watch and Notice step.

Rebuild it on the IWB before the shading. Shade five tenths and label 'half'. Shade seven tenths beside it and label '7/10'. The gap between them is where the answer lives — pupils can see it's six tenths before they reason it.

DIFFERENTIATION

EMERGING

- Sit beside pupils during the copybook sketch and pre-draw the rectangle outline; they only need to mark the ten parts and shade.
- For the Class Challenge, partner them with a confident pupil at the board for their turn — the confident pupil counts aloud while the emerging pupil drags the shading.

DEVELOPING

- After the copybook page, ask: 'if 3/10 is shaded, how many tenths are NOT shaded? Write both fractions under your strip.' Builds the complement-to-one idea without naming it.
- Pose a fresh between-puzzle in copybook: shade a fraction that's more than 2/10 but less than half. How many tenths is that?

PROFICIENT

- Direct fast finishers to the extension bank on their device while you circulate the room.
- Pose: 'if we cut each tenth in half, how many pieces do we have, and what would we call one of them?' Don't tell — let them reason it and report back at the maths-talk.

Cross-curricular: Tie to SESE — ten 10c coins make €1, and ten centimetres make a decimetre on a metre stick. Both are 'ten of these make one of those', the same idea as today.

ANSWER KEY

a) $3/10 = 0.3$

b) $7/10 = 0.7$

c) Any of 6/10 (= 0.6) — only one tenths option between $1/2 = 5/10$ and 7/10.

d) $10/10 = 1 = 1.0$

Q1: $2.52 = 2 + 0.5 + 0.02$

Q2: $6.96 = 6 + 0.9 + 0.06$

Q3: between 4 and 5, closer to 4

Q4: between 3 and 4, closer to 3

EXTENSION SHEET · STRETCH ANSWERS

S1: between 3 and 4, closer to 3

S2: $5.71 = 5 + 0.7 + 0.01$

S3: $8.32 = 8 + 0.3 + 0.02$