

Tenths: the first decimal place

CURRICULUM ALIGNMENT

NUM.PVT.3

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

NUM.FRC.3a

compare and express in equivalent terms; and order fractions.

INTERACTIVES (Place Value Blocks (Dienes) · challenge, display, explore)

WHAT THIS LESSON TEACHES

When one whole is split into ten equal parts, one part is called a tenth and is written 0.1 as a decimal. The tenths digit sits just after the decimal point.

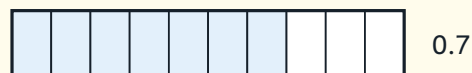
→ A loaf cut into ten fair slices: one slice is 0.1 of the loaf.

→ In 0.4 the zero is the whole-ones place and the 4 counts four tenths.

MODEL THIS ON THE BOARD

WRITING SEVEN TENTHS AS A DECIMAL

- 1 The bar is split into **ten** equal parts, so each part is one tenth.
- 2 **Seven** of the parts are shaded to show seven tenths.
- 3 Seven tenths goes in the tenths place, right after the point, as **0.7**.



DISCUSSION STARTER

REFLECT

Can you picture one tenth of something you use every day?

LESSON ARC

Hold up a metre paper strip ruled into ten equal parts and ask what to call just one part. On the place-value mat, reveal that same whole as ten sticks and shade one — one tenth, 0.1 — landing hard on 0.5 as exactly one half. Pupils build 0.2, 0.5, 0.8, 0.9 at the board saying both names aloud, then draw and shade 0.4 in their copy. The Student Activity Book page is desk practice.

TEACHING MOVES

1. **Getting Started.** Hold up the metre strip ruled into ten equal parts and give five seconds of silent think-time before taking three hands-up — not open call-outs. Do NOT name 'tenth' yet; the naming belongs to Watch and Notice.
2. **Watch and Notice.** Reveal each value on the mat one at a time and have two pupils read it in both names before moving on. On 0.5, show the strip half-shaded and say aloud 'five tenths is exactly one half' — this is the load-bearing beat, don't rush past it. Point back to the paper strip and stress it's the same whole, now shown as ten sticks.
3. **Try It Together.** Call 0.2, 0.5, 0.8, 0.9 in turn; a different pupil taps each while the whole class says both names in unison — 'two tenths, zero point two'. Listen for 'nought point twenty' and steer straight to 'two tenths'. Keep each turn under five minutes.

4. **Draw and Shade in Your Copy.** Walk the room glancing for ten roughly-equal parts and the point in the right place — watch for 4.0 written instead of 0.4. This is copybook practice, not marking; a quick pen-tap on a stray decimal point is enough.
5. **Class Challenge.** Run 0.1, 0.3, 0.7, 0.9 briskly — have the class predict the number of shaded sticks before each pupil taps, then use the Check tick as your confirm: 'yes — seven tenths, that's it.' Consolidation, not re-teaching.
6. **What Did We Notice?.** Push the 'why ten?' question and listen for pupils tying it to base ten — ten units make a ten, ten tenths make one whole. Revoice a strong answer and head off 'any split is a tenth': press that the parts must be equal AND there must be exactly ten.

COMMON MISCONCEPTIONS

⚠ Pupils read 0.2 as 'nought point twenty' — they carry whole-number reading habits across the point. Stop and point to the two shaded sticks: 'we can see two of them — two tenths, zero point two.' There's no 'twenty' to be seen on the mat. Have that pupil re-read the shaded sticks by counting them aloud.

⚠ Pupils write four tenths as 4.0 instead of 0.4 — they put the 4 in the whole-ones place. On the mat, contrast the shaded sticks for 0.4 (part of one whole) with what 4.0 would need (four whole strips). Circle the whole-ones place and the tenths place, and have the pupil name which place the 4 belongs in.

⚠ Pupils call any split-into-parts a tenth, even when the parts are unequal or there aren't ten of them. Show a strip split into unequal chunks alongside the ten-equal-part strip. 'Are these fair slices? Are there ten?' Press that both conditions — equal parts and exactly ten — must hold for a tenth.

DIFFERENTIATION

EMERGING

- Keep these pupils reading 0.1, 0.3, 0.5 only while the class moves to higher tenths — start from a mat with the ten sticks already outlined so they only count the shaded ones.
- In the copybook, give them a pre-drawn ten-part bar so they shade and label rather than dividing the bar themselves.

DEVELOPING

- After the copybook bar, ask them to shade a second bar showing more than 0.5 and say whether it's more or less than one half, and how they know.
- Pose 0.3 and 0.30 side by side: same amount or different? Have them justify using the sticks.

PROFICIENT

- Ask: which tenths on the mat can also be named as another fraction — is 0.5 the only one? Let them hunt (0.2, 0.4...) and explain each without being told the answer.
- Have them narrate to the class why five tenths and one half shade the exact same strip, as if teaching a younger pupil.

✚ **Cross-curricular:** Tie to the measures strand — pupils mark a metre length of string into ten equal parts and read each mark as tenths of a metre.

ANSWER KEY

a) 0 in U, 3 in t

c) 0.9

Q1: 0.2

Q2: 0.1

Q3: 0.5

Q4: 8 tenths

Q5: 0.4

Q6: 6

EXTENSION SHEET · STRETCH ANSWERS

S1: 2 (tenths digit of 7.2)

S2: 9 (tenths digit of 6.9)

S3: 6 (tenths digit of 4.6)

S4: 9 (tenths digit of 2.9)

S5: €1.70 (write both as cent: 170 cent vs 56 cent)

Investigation: Tenths in real life — open-ended; scan pupils' working for valid solution paths rather than a single answer.