

Reading decimals to tenths and hundredths

CURRICULUM ALIGNMENT

NUM.PVT.4

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

NUM.FRC.4a

explore (model, compare and convert) the relationships between fractions, decimals and percentages.

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

WHAT THIS LESSON TEACHES

Each digit in a decimal sits in a place. Reading from the decimal point: tens, units, **then tenths, hundredths, thousandths.**

→ **12.45** → 1 ten, 2 units, 4 tenths, 5 hundredths.

→ **0.07** → 0 units, 0 tenths, 7 hundredths.

LESSON ARC

Open with three relabelled Dienes pictures on the IWB — flat is now 1, rod is one tenth, small cube is one hundredth — and let pupils notice the relabel before you name it. Walk four worked examples (0.3, 0.27, 1.05, 2.30) on a U/t/h mat, pivoting on what the zero is doing in each. Pupils take turns building called numbers at the board, then sketch the same four into a U/t/h grid in their copybooks. Class Challenge bank (0.06 → 2.50) reruns at home.

TEACHING MOVES

- Getting Started.** Don't reveal the new key. Point at the flat first and take two or three guesses out loud — listen for 'but that's a hundred!' That's the right reaction. Revoice: 'same blocks, brand-new labels — let's see what they tell us today,' then name the key.
- Watch and Notice.** Slow right down on 1.05 — this is the lesson's load-bearing moment. Before you reveal, ask 'where does the zero have to go?' Then ask what would happen if you rubbed it out. The 2.30 question (what changes if we rub out the trailing zero?) seeds the maths-talk wrap, so don't answer it here — leave it hanging.
- Try It Together.** Call four to six numbers in a deliberate sequence — 0.6, 0.45, 1.02, 0.80. After each build, have the watching class read the number aloud so every pupil voices each one. Revoice 'naught point forty-five' as 'naught point four five' or 'forty-five hundredths' every single time it surfaces.
- Sketch and write in your copy.** Walk the row checking column alignment, not answers. If a pupil writes 1.05 with the 5 under the tenths column, point at their own U/t/h headers and ask 'where does the 5 go?' — don't fix it for them.
- Class Challenge.** Keep the board work brisk — pupils see this same bank again tonight as homework, so over-explaining here costs you the consolidation. Insist on naming what each zero is doing before checking: place-holder (1.07, 0.06) or silent on the right (2.50).
- What Did We Notice?.** Hold both questions side by side on the board. The payoff is one sentence in pupil-voice: the zero in 0.40 is silent, the zero in 1.05 is doing work. Revoice and let it land — don't write it down.

COMMON MISCONCEPTIONS

⚠ Pupils read 0.45 as 'naught point forty-five' — they're treating the decimal portion like a two-digit whole number.

Stop and rebuild 0.45 on the place-value mat next to 45. Same digits, very different value. Point at the U/t/h headers and have the pupil read each digit by its column — 'four tenths and five hundredths, together forty-five hundredths.' Revoice every time it slips for the rest of the lesson.

⚠ Pupils write 1.05 as 1.5 — they skip the empty tenths column because 'there's nothing there'.

Rebuild 1.05 on the Dienes mat — one flat, no rods, five small cubes — then rub out the zero and show what 1.5 looks like (one flat, five rods). The blocks make the gap visible. Ask: 'if we don't write the zero, where do the small cubes live?'

⚠ Pupils think 0.40 is bigger than 0.4 because 'it has more digits'.

Build both on the U/t/h mat side by side. Both have four rods in the tenths column. The 0.40 build has an empty hundredths box noted alongside — same value, just labelled in more detail. Revoice: 'the zero on the right is silent — it adds no new tenths and no new hundredths.'

DIFFERENTIATION

EMERGING

- Stay in tenths only on the IWB build (0.3, 0.6, 0.8) before joining the hundredths examples. Pupils sketch only the U and t columns in their copybook until they're confident.
- Pre-label the U/t/h headers in the copybook for them so they're placing digits, not also building the grid.

DEVELOPING

- After the copybook four, ask: write a decimal where the zero is doing work, and another where the zero is silent. Read both aloud.
- Swap the digits in 1.05 to make 1.50 and 5.01 — which is bigger? How do you know from the columns?

PROFICIENT

- Pose: find three different decimals that all equal 0.4. Explain how you know they're equal using the U/t/h columns.

◦ **Cross-curricular:** Tie to science measurement — pupils measure a copybook's thickness in cm to one decimal place and read the result aloud using the t column.

ANSWER KEY

- a) Row 1: 0 . 2 7
- b) Row 2: 1 . 0 5
- c) Row 3: 2 . 3 0
- d) Row 4: 0 . 0 6
- e) Row 5: 0 . 4 3

Q1: $5.71 = 5 + 0.7 + 0.01$

Q2: $8.32 = 8 + 0.3 + 0.02$

Q3: between 3 and 4, closer to 3

Q4: between 3 and 4, closer to 3

EXTENSION SHEET · STRETCH ANSWERS

S1: between 4 and 5, closer to 4

S3: $2.52 = 2 + 0.5 + 0.02$

S2: $6.96 = 6 + 0.9 + 0.06$