TEACHER RESOURCE BOOK · MATHS · 5TH CLASS

Lesson 21 NUMBER

Subtracting decimals

CURRICULUM ALIGNMENT

NUM.OPS.4 build upon, select and make use of a range of operation strategies.

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

INTERACTIVES Column Subtraction · challenge, display, explore

MODEL THIS ON THE BOARD

9.75 − 4.30 (DECIMAL SUBTRACTION)

$$\begin{array}{r} 9.75 \\ -\ 4.30 \\ \hline 5.45 \end{array}$$

1. Line the decimal points up. If one number has fewer decimal places, fill with zeros.
2. Subtract column by column from the right.
3. Bring the decimal point straight down. Answer: **5.45**.

LESSON ARC

Open with 4.5 − 1.75 on the IWB and a thumbs read: does the line-up rule you already know still work? Walk four worked examples on the column-subtraction interactive, pivoting on 'one of any column breaks into ten of the next.' Pupils mirror the same four in copybook, then a five-problem Class Challenge bank runs at the board with the class predicting each digit before the reveal. Maths-talk wrap ties decomposition back to whole-number regrouping.

TEACHING MOVES

1. **Getting Started.** Run the thumbs read before any voices go up — every pupil commits to a position first. Then take three hands-up answers, not call-outs. Listen for 'you can't take 75 from 5' — that's the live misconception the lesson is built to resolve. Don't reveal the answer.
2. **Watch and Notice.** Walk the four examples one at a time, slow on the regroup mark. Between examples 2 and 3, pause and ask 'will the same trick work when the top is a whole number?' — take a quick thumbs read so pupils watch example 3 with a prediction in their heads. Narrate the chain in 5.005 − 0.999 as 'same trick, one more column.'
3. **Try It Together.** Three pupils take turns at the board for 3.2 − 1.45 — one adds the trailing zero, one works the hundredths regroup, one finishes tenths and units. Have the class predict each digit before it lands. If a pupil says 'you can't take 4 from 0', revoice as 'right, that's our cue to regroup.'
4. **Set Up Your Subtractions.** Walk the room twice in eight minutes. First pass: check decimal-point alignment on problem 1 before pupils commit further. Second pass: catch unmarked regroups on 1.0 − 0.85 and 5.005 − 0.999. Point any stuck pupils back at the on-screen model rather than re-teaching.
5. **Class Challenge.** Keep the board work brisk — pupils tap a digit, then the class predicts the next digit before it lands. Slow only on problem 3 (1.0 − 0.73) so pupils articulate the cascade from units through to hundredths. Direct fast finishers to the extension bank on their devices while you circulate.

6. **What Did We Notice?.** Display-only — no typing, no saving. Listen for pupils naming the place-value pattern. Revoice: 'the rule is the same — it just travels along the chain. Tens to ones, ones to tenths, tenths to hundredths — same trick, smaller pieces.'

COMMON MISCONCEPTIONS

⚠ Pupils set up 4.5 − 1.75 right-aligned like whole numbers, so the 5 lands under the 5 of 1.75 and the points don't line up. They get an answer that looks plausible but is wrong by a factor of ten.

Stop and rebuild on the column-subtraction interactive with the decimal points highlighted in a single vertical column. Add the trailing zero on 4.5 so each column has a digit. Make the habit visible: 'points line up first, then digits follow the points.'

⚠ On 1.0 − 0.85, pupils try to subtract column by column without regrouping and write 1.85 or leave the hundredths blank — they don't see that one whole has to cascade through tenths to reach hundredths.

Pause the board. Walk the cascade aloud: 'one whole becomes ten tenths; one of those tenths becomes ten hundredths.' Show both regroup marks on the interactive. Then ask a pupil to redo it with the class naming each step aloud.

⚠ Pupils write the regroup but forget to reduce the digit they borrowed from — so the tenths column still reads its original digit even after a tenth has been broken up.

Circle every regroup mark on the interactive in two colours: one for 'this digit went down by one', one for 'this column got ten more.' Make the bookkeeping visible. In copybook, insist on both marks before they move to the next column.

DIFFERENTIATION

EMERGING

- Pre-write the trailing zeros for these pupils on a printed slip so they begin the copybook practice with 4.50, 0.60, 1.00 and 5.005 already aligned — they work the columns, not the set-up.
- Pair the cascade problem (1.0 − 0.85) with a teacher-table demo on the column-subtraction interactive before they attempt it independently.

DEVELOPING

- After the copybook four, swap the digits in 5.005 − 0.999 to make 5.005 − 0.987 and ask which columns now need regrouping and which don't.
- Pose 4.50 − ?.?? = 2.75 as a missing-number variant — same regroup, different unknown.

PROFICIENT

- Direct fast finishers to the extension bank on their device while you circulate the room.
- Pose: 'invent a subtraction with three decimal places where every single column needs a regroup. Then check a partner's by working it on paper.'

↗ **Cross-curricular:** Tie to PE — pupils record their long-jump distances in metres to two decimal places, then subtract personal best from class best.

ANSWER KEY

a) $4.50 - 1.75 = **2.75**.

b) $0.60 - 0.27 = **0.33**.

c) $1.00 - 0.85 = **0.15**.

d) $5.005 - 0.999 = **4.006**.

Q1: 63.31

Q2: 51.42

Q3: 69.222

Q4: 50.646

EXTENSION SHEET · STRETCH ANSWERS

S1: 41.138

S2: 39.55

S3: 34.42