

Hundredths: the second 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.

WHAT THIS LESSON TEACHES

One whole split into a hundred equal parts gives hundredths. One tiny square out of a hundred is one hundredth, written $1/100$ or the decimal 0.01. The second digit after the point shows the hundredths.

→ One small square out of a hundred on a 10x10 grid is 0.01

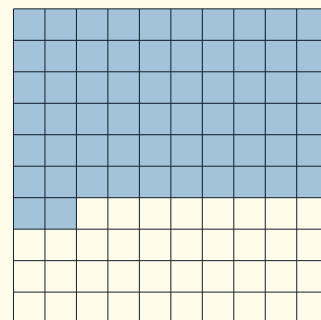
→ In 0.25 the 2 is two tenths and the 5 is five hundredths

→ 0.10 and 0.1 name the same amount

MODEL THIS ON THE BOARD

READING 0.62 ON THE GRID

- 1 The whole 10x10 grid is 1, so each little square is one hundredth (0.01).
- 2 Six full rows are shaded: that is 60 hundredths, or 0.60.
- 3 Two more squares are shaded: 62 hundredths in all, written 0.62.



LESSON ARC

Put the 10x10 grid up and re-anchor it: the whole square is one, not one hundred. Walk four snapshots — 0.01, 0.25, 0.50, then the trap 0.07 — pausing on why the zero holds the tenths place open. Pupils take turns shading 0.10, 0.03, 0.40, 0.62 aloud, then shade 0.30 in their copies with both notations. Class Challenge builds single square to three quarters. Maths-talk closes on $0.10 = 0.1$.

TEACHING MOVES

1. **Getting Started.** Show the grid as pupils settle and give five seconds of silent think-time before hands. Take three hands-up answers only. Push on the shift they'll resist — 'the whole square is one, not one hundred' — since they know this grid as the hundred-square.
2. **Watch and Notice.** Walk the four snapshots one at a time. On 0.25, predict before revealing: 'five whole rows, half the square — what will that be?' The load-bearing beat is 0.07 — do not move on until the class can say why the zero is there: it holds the tenths place open so the 7 counts hundredths.
3. **Try It Together.** Pupils take turns shading 0.10, 0.03, 0.40, 0.62; class agrees or corrects aloud. Make the tenths link explicit on 0.10 (a full row of ten hundredths is one tenth). Have each read as both decimal and fraction over a hundred before you accept it. If handovers run slow, drop 0.62.
4. **Shade Thirty Hundredths in Your Copy.** Pupils shade 30 squares — three full rows is the tidy way — and write both thirty hundredths and 0.30 underneath. Walk the room checking the zero sits in the second place. Glancing, not marking.

5. **Class Challenge.** Keep the board work brisk — single square, full row, quarter, three quarters. Have pupils predict how much is covered before each reveal, and predict the fraction on 0.25 and 0.75 before the Check confirms. Watch for anyone reading 0.01 as 'one tenth' and point straight back to the second place.
6. **What Did We Notice?.** Shade one full row and label it both 0.10 and 0.1 on the same visible amount. Revoice a strong answer: 'ten hundredths make one tenth, just like ten units make one ten.' If anyone says 0.10 is bigger 'because more digits', send them back to the grid to check the shaded amount is identical.

COMMON MISCONCEPTIONS

⚠ Pupils read 0.07 as 'seven tenths' or shade seven of a row of ten — they skip the zero and let the 7 land in the first decimal place.

Stop and shade both 0.07 (seven singles scattered) and 0.7 (seven full rows) on two grids side by side. 'The zero holds the tenths place open so the seven counts hundredths.' Don't move on until a pupil can explain why the zero is there.

⚠ Pupils claim 0.10 is bigger than 0.1 'because it has more digits.'

Shade one full row and label it both ways on the same amount. Same shading, two labels — the amount didn't change. Have a pupil trace the identical row to prove ten hundredths make one tenth.

⚠ Pupils read 0.01 as 'one tenth' — they see one shaded square and reach for the nearest small-decimal name they know.

Point at where the 1 sits: two places after the point, the hundredths place. Contrast with one full row (0.1) so they see one square is far less than one row.

DIFFERENTIATION

EMERGING

- Offer a copy-grid with one or two rows already shaded so pupils only complete the count to 30 and focus on writing 0.30 with the zero in place.
- Hand these pupils the easier Class Challenge targets (0.01, 0.10) at the board, then lean on whole-class confirmation so they reason the answer aloud with the room.

DEVELOPING

- After the copybook 0.30, ask them to shade an amount between 0.10 and 0.40 and say the tenths and hundredths it's made of.
- Give the quarters (0.25, 0.75) as their board targets and ask them to name the fraction before the Check confirms.

PROFICIENT

- Pose: shade 0.06 and 0.60 on two grids and explain to a pupil who mixes them up how the zero changes which place the six lands in — narrate it as a harder variant during the Class Challenge, or pull them ahead into the Student Activity Book page.

✂ **Cross-curricular:** Tie to geography — colour a 100-square as a land-use map and read the shaded fraction (e.g. 0.35 forest) as both a decimal and hundredths.

ANSWER KEY

Scaffold: visual check on the page

Q1: 0.07

Q2: 10

Q3: yes

Q4: 5

Spot: Niamh put 7 in the tenths place. Hundredths are the second place after the point, so seven hundredths = 0.07.

EXTENSION SHEET · STRETCH ANSWERS

S1: 2 (tenths digit of 7.2)

S2: 6 (tenths digit of 4.6)

S3: 9 (tenths digit of 2.9)

S4: 9 (tenths digit of 6.9)

S5: $4.58 = 4 + 0.5 + 0.08$