

Lesson 8 **NUMBER**

Counting on and back in 10s and 100s; 1, 10, 100 more or less

CURRICULUM ALIGNMENT

NUM.PVT.3

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

INTERACTIVES

Number Line Jumps · challenge, display, explore

WHAT THIS LESSON TEACHES

Stepping ten forwards or ten backwards changes only the tens digit, unless the tens digit rolls over past 9 (then the hundreds change too). Counting on or back in 100s changes only the hundreds digit.

→ 240, 250, 260 – the tens digit climbs 4, 5, 6 while the hundreds and units stay the same.

→ 290 add 10 becomes 300 – the nine tens roll into a hundred so tens become 0 and hundreds rise by 1.

MODEL THIS ON THE BOARD

ROLLOVER WHEN ADDING 10 TO 290

- 1 Start at **290** and look at the tens digit.
- 2 The tens digit is already **9**, so it cannot simply climb one more.
- 3 Adding 10 rolls the nine tens into a new hundred: tens become **0** and the hundreds digit rises from **2** to **3**.
- 4 The new number is **300**.

DISCUSSION STARTER

REFLECT

When you count on in tens or hundreds, what stays the same and what changes?

LESSON ARC

Open with 240 on the IWB and count on in tens, pointing at the tens digit as it climbs while the others sit still. Walk four number-line jumps from 234 — the pivot is 10-more-than-290, the roll-over. Class then predicts the changing column before each jump from 315 (including the +1 contrast). Pupils write 1/10/100 more for two start numbers in their copy, then the Class Challenge bank works the roll-over live.

TEACHING MOVES

1. **Getting Started.** Write 240 and count on in tens together, tapping the tens digit each time it climbs. Take two or three hands for 'which part is moving?' — then stop. This is the hook, not the teaching, so keep it under two minutes.
2. **Watch and Notice.** Work the four jumps one at a time on the number line. On 10-less-than-234, ask 'which digit will drop?' and pause before revealing 224. Save your slowest pace for 10-more-than-290: count 'two hundred and ninety, two hundred and... three hundred', pointing at the tens rolling 9→0 and the hundreds climbing 2→3.

3. **Try It Together.** Run the number-line-jumps interactive in explore mode — every jump starts from 315 so nobody navigates away. Whole class predicts the changing column out loud before the arc lands, then a pupil makes the jump. The final +1 is the pay-off: revoice it as 'so a jump of one only touches the units.'
4. **Build the More and Less in Your Copy.** Walk the room glancing at which digit each pupil changed — no marking. Watch 290: 10 more rolls to 300. If a pupil freezes on 100 more than 290, don't give 390 — ask which single column a hundred-jump touches.
5. **Class Challenge.** Run number-line-jumps in challenge mode, brisk. Class calls each answer, the pupil at the board reaches it and presses Check. Let the ✓ do the confirming — don't re-explain each jump. Flag the middle one (290→300) as the careful one before they predict.
6. **What Did We Notice?.** Ask what happens to the tens digit each time, then what happens when it's already 9. Revoice a strong answer: 'so when the tens hit 9, the next ten makes a whole new hundred.' Point back to the 290 example the class watched.

COMMON MISCONCEPTIONS

⚠ Pupils say '10 more than 290 is 2,910' or '2900' — they stick the extra ten on as new digits instead of rolling the tens into the hundreds.

Rebuild it on the number line: land the +10 arc on 300 and count aloud 'nine tens plus one ten is ten tens, and ten tens is one hundred'. Point at the tens resetting to 0 and the hundreds climbing 2→3.

⚠ On '100 more than 234' pupils change the tens or units because they read the jump as 'add a bit' rather than tracking which column the hundred-jump owns.

Put 234 and 334 one above the other on the IWB and cover all but the hundreds column. 'A hundred-jump only ever touches this column.' Then reveal the whole number to confirm the tens and units never moved.

DIFFERENTIATION

EMERGING

- Stay on ten-jumps only from tidy multiples of ten (270, 340) so the units never enter the picture — the pupil tracks just one moving digit before hundred-jumps are added.
- In the copy, do the 1-more and 10-more columns only; leave the roll-over number out until they're steady on the plain cases.

DEVELOPING

- After the copy, ask them to find both 10 more AND 10 less of 305 and say which digit moved each way — does 'less' change the same column as 'more'?
- Give a two-step chain on the board: start at 480, jump 10 more, then 100 more — predict both landing numbers before checking.

PROFICIENT

- At the board, narrate a harder variant live: '10 more than 990 — what rolls now?' Let them reason that both the tens and hundreds roll, making 1,000, and explain it to the class.
- Pose: 'I did one jump and only the hundreds digit changed by one — but my start number ended in 95. What was my start and end?' They justify why the tens didn't move.

✚ **Cross-curricular:** Tie to Geography — read populations of Irish towns to the nearest hundred and ask what 100 more residents would make each figure.

ANSWER KEY

Scaffold: visual check on the page

Q1: 230 fans

Q2: 260 metres

Q3: 370

Q4: 300 euro

Q5: 415

Q6: 260 minutes

Spot: Adding 10 regroupes 9 tens + 1 ten as 1 hundred.
 $296 + 10 = 306$, not 2106.