Lesson 15 NUMBER

# Written addition of 3-digit numbers with regrouping

## CURRICULUM ALIGNMENT

NUM.OPS.3 understand and apply flexibly the four operations; and the relationships between operations.

NUM.PVT.3 explore equivalent numerical expressions of numbers using the base ten system.

INTERACTIVES Column Addition · challenge, display, explore

## LESSON ARC

Stack 156 + 138 on the IWB and leave the units sum (14) hanging — pose the puzzle of where the extra ten goes before naming the rule. Worked examples pivot on '14 is one ten and four units; the ten can't stay here'. Pupils take turns at the board for 264 + 158 and 372 + 249, then set out 437 + 295 in their own copy with carries above. The Class Challenge runs club and GAA additions; Student Activity Book practice follows.

## TEACHING MOVES

1. **Getting Started.** Stack 156 + 138 and add only the units aloud — 'six and eight is fourteen, but fourteen won't fit in one box'. Take two or three hands-up answers on where the ten goes; don't reveal the method, just leave the puzzle open. Listen for any pupil who already uses the word 'carry'.
2. **Watch and Notice.** Always start from the units on the right. On 156 + 138, name the trade out loud — 'fourteen is one ten and four units' — and ask 'why can't the ten stay in the units column?' before writing the carry. Slow right down on 308 + 196 and say 'zero tens plus nine tens plus the carry' so the zero doesn't get skipped.
3. **Try It Together.** Call a pupil up to stack 264 + 158; the class checks the columns line up before any adding starts. Revoice a strong answer — 'so twelve tens is one hundred and two tens, the hundred carries left'. Watch for pupils carrying to the right or forgetting to add the carry in; retype to 372 + 249 in the same interactive for the second pair.
4. **Build Alongside in Your Copy.** Pupils set out 437 + 295 in their own copy (or the squared-paper sheet) — this is the write-not-watch beat. Walk the room glancing for column alignment and the carry written above the next column to the left. No marking; this is practice, not assessment.
5. **Class Challenge.** Brisk board turns — frame 143 + 126 as a gentle no-trade warm-up, not the first hard rung. Before each later item, ask for a thumbs up if it needs a trade, and before 467 + 358 ask 'which of these needs two trades?'. Confirm each answer with the on-screen Check before the next pupil comes up.
6. **What Did We Notice?.** Ask why the carry goes left and never right. Listen for 'ten units make one ten, so it belongs where the tens live' and revoice it — 'the carry is worth more, so it moves to a column worth more'. Head off the idea that the carry is just a leftover with no value.

## COMMON MISCONCEPTIONS

⚠ Pupils write the full units sum in the answer row — 6 + 8 = 14, so they write 14 under the units and the column count goes wrong from there.

Stop and split 14 on the IWB into '1 ten and 4 units'. The 4 stays, the 1 ten has no room here, so it moves left. Have the pupil read back which digit goes in the answer row and which goes up as a carry.

⚠ Pupils forget to add the carry into the next column — they add the two tens digits and ignore the small 1 sitting above them.

Point to the carry digit before adding the tens and say 'we have three numbers to add in this column now, not two'. Re-add the column aloud, touching all three digits including the carry.

⚠ When a zero sits in a column (308 + 196), pupils skip it or get stuck — 'there's nothing to add'. Say it in full: 'zero tens plus nine tens plus the carry'. Zero still holds the column open. Point to the place-value columns so they see the tens slot is real even when it holds nothing.

## DIFFERENTIATION

### EMERGING

- Pre-rule the column frame on the squared-paper sheet so pupils only place digits, not invent the layout — alignment errors disappear and they can focus on the trade.
- Stay on additions with one trade only (units column) while the rest of the class meets the two-trade examples; pupils work these at the teacher table.

### DEVELOPING

- After 437 + 295 in the copy, swap the addends to a pair with two trades in a row and ask pupils to predict where each carry lands before they add.
- Pose a missing-digit version: 2_5 + 187 = 422 — what units digit makes the trade work?

### PROFICIENT

- During the Class Challenge, narrate one harder variant at the board — three three-digit numbers stacked — and ask whether a column could ever need a carry of 2, and why.
- Set the open question: invent a 3-digit addition where every column needs a trade. Pupils try it in their copy and explain how they chose the digits.

↗ **Cross-curricular:** Tie to the sponsored-walk context — pupils add two leg distances in metres (318 m + 296 m) and discuss the club's total for a real GAA fundraiser.

## ANSWER KEY

**a)** Each digit sits in its own column; line them up on the right.

**b)** A digit's value = the digit × its column.

**c)** Largest: biggest digit on the left; smallest: smallest non-zero digit on the left.

**Q1:** 1662

**Q2:** 819

**Q3:** 11914

**Q4:** 1, 2, 3, 4, 6, 8, 12, 16, 24, 48