TEACHER RESOURCE BOOK · MATHS · 3RD CLASS

Lesson 15 NUMBER

Written addition of 2-digit numbers with renaming

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

Open with 27 + 18 on the board and let pupils wonder where the extra ten goes — no method yet. Before any columns, physically swap ten ones cubes for one ten-stick beside the place-value columns: that ten is too big for the units, so it moves left. Work four worked sums units-first, then pupils set out two sums in their copy ringing the carry. Class Challenge consolidates; Student Activity Book practice follows.

TEACHING MOVES

1. **Getting Started.** Display 27 + 18 and read it aloud, stressing 'there's only one box for the units answer, and 15 won't fit.' Give five seconds of silent think-time, then take three hands-up answers — not call-outs. Don't reveal the carry yet; the wondering is the point.
2. **Watch and Notice.** Lead with the bundle, not the column. Hold up ten ones cubes and physically swap them for one ten-stick beside the place-value columns, saying 'a ten is too big to stay with the units — it has to move over.' Then work the four sums units-first; on 47 + 35 ask the class to predict the carry before you reveal it, and on every sum stress the carried 1 is worth one ten.
3. **Try It Together.** Run the column-addition interactive in explore mode through the four sums in rising order. Bring a different pupil to the board for each to set the units answer and decide whether a ten carries; the watching class agrees or corrects aloud. Watch for the pupil writing the full units total (12) in the box instead of writing 2 and carrying 1 — that's the slip to catch here.
4. **Set Out the Sums in Your Copy.** Pupils set out 38 + 26 and 57 + 29 in neat tens-and-units columns, ringing the carried ten. Walk the room glancing for straight column alignment and the ring — this is practice, not marking. Pull aside any pupil whose digits drift out of column.
5. **Class Challenge.** Run the interactive in challenge mode through the four sums; pupils take turns at the board and check each answer before moving on. Keep it brisk. The opener 23 + 14 has no carry on purpose — watch for pupils carrying out of habit, and use the 'did the units overflow — do we carry?' callout every time.
6. **What Did We Notice?.** Pose the two-pupil disagreement: does the carried ten sit above the units or the tens? Point back to the ten-stick from the start — ten ones became one whole ten, and a whole ten lives with the tens. Revoice a strong answer and give several pupils time to put the reasoning in their own words.

COMMON MISCONCEPTIONS

⚠ Pupils write the whole units total in the units box — for 38 + 27 they put '15' under the units instead of writing 5 and carrying 1.

Stop and rebuild the units with base-ten ones cubes: count fifteen ones, then ring ten of them and swap for one ten-stick. Five ones are left for the units box; the ten-stick moves to the tens. The box only holds one digit.

⚠ Pupils park the carried 1 above the units column, saying 'that's where the big total came from.'

Hold up the ten-stick from the opening bundle: it is one whole ten, not one unit. Ask 'where do tens live?' and slide it above the tens column. Settle the maths-talk disagreement by counting the stick as ten, not one.

⚠ On the no-carry opener 23 + 14, pupils carry a 1 out of habit because every other sum carried.

Pause and ask the unison question first: 'did the units overflow?' 3 and 4 make 7 — under ten, so nothing to swap. Only ten or more triggers a carry; show there's no group of ten to bundle.

DIFFERENTIATION

EMERGING

- Stay at the base-ten blocks for longer — build each sum with cubes and sticks first, then write it, so the carry is something pupils physically do before they record it.
- Pre-draw the tens-and-units column frame in the copybook so pupils only place digits and don't have to set out straight columns themselves.

DEVELOPING

- After the copybook sums, give a missing-addend variant: 4_ + 28 = 73, what's the hidden units digit? Pupils reason backwards through the carry.
- Swap one sum for two that make the same total (e.g. 38 + 27 and 45 + 20) and ask which one carries and why.

PROFICIENT

- At the board, narrate a harder variant where both columns push past ten (e.g. 67 + 58) and ask: what happens to the tens when they also overflow? Let them predict before you reveal — this previews three-digit carrying.
- Ask them to explain to the teacher, as if to a younger pupil, why the carried 1 can never sit above the units column — using the ten-stick to prove it.

↗ **Cross-curricular:** Tie to money — pupils add two prices in cent (e.g. 47c + 38c) and rename ten ones the way they'd swap coins, seeing the carry as a real trade.

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: 272

Q3: 11914

Q4: 5142

EXTENSION SHEET · STRETCH ANSWERS

S1: 321

S2: 819