

Turnarounds: $2 + 9$ is $9 + 2$

CURRICULUM ALIGNMENT

NUM.OPS.2

select, make use of and represent a range of addition and subtraction strategies.

INTERACTIVES **Number Line Jumps** · challenge, display, explore

WHAT THIS LESSON TEACHES

A turnaround is the same addition fact with the two numbers swapped. The total stays the same.

→ $2 + 9$ and $9 + 2$ both land on 11.

→ For $2 + 9$, stand on 9 and make two jumps to 11.

MODEL THIS ON THE BOARD

TURN AROUND $2 + 9$

- 1 Write the sum $2 + 9$.
- 2 Swap the addends to get $9 + 2$.
- 3 Stand on the bigger number **9** and count on **2**.
- 4 Both sums land on **11**.

LESSON ARC

Open with two cube towers held up side by side — 2 red joined to 9 blue, and the same tower flipped end over end — and ask whether the height changed. Move to the number-line interactive: nine jumps from 2 versus two jumps from 9, both landing on 11. Pupils take turns at the board turning sums around by standing on the bigger number. Copybook: write a model turnaround pair, then invent one. Class Challenge runs four more turnarounds briskly on the line.

TEACHING MOVES

1. **Getting Started.** Hold the two pre-built cube towers side by side under the visualiser (or draw both as columns of 11). Take three hands-up answers to 'did the tower get any taller?', then leave the question open: the height stays the same.
2. **Watch and Notice.** Run $2 + 9$ the long way first — nine little jumps from 2 — and ask how that felt. Then stand on 9 and make two jumps to 11. Repeat with $13 + 4$ and $4 + 13$. Cue the close once both pairs are on screen: same total, fewer jumps from the bigger number.
3. **Try It Together.** Before the pupil plots, ask the class 'which number is bigger?' Start with $3 + 9$ standing on 9, then $2 + 11$ standing on 11. Rotate about four pupils. Watch for anyone still counting on from the smaller number and re-voice the stand-on-bigger move.
4. **Write the turnaround pair.** Walk the row glancing at both model sentences and matching totals, then at each pupil's own pair. This is whole-class copybook practice, not marking — check the two sentences sit one under the other and both land on the same total.
5. **Class Challenge.** Before each board turn ask 'which number is bigger?'; only then stand the line on that number and count on the smaller one in jumps of one. Keep it brisk. On $2 + 16$ linger so the class feels how much shorter the turnaround is. Do not model two big jumps from zero.
6. **What Did We Notice?.** Leave the $2 + 9 / 9 + 2$ pair (or the cube towers) visible so pupils can point at the same numbers swapped. Listen for 'same pair, just swapped, so the total cannot change'. Re-voice:

turning the numbers around keeps the total the same, and starting from the bigger number means fewer jumps.

COMMON MISCONCEPTIONS

⚠ Pupils still count on from the smaller number — for $2 + 9$ they stand on 2 and make nine jumps, even after seeing the short way.

Freeze the board turn. Point back at the two cube towers or the long-way versus short-way lines from Watch and Notice. Ask ‘which number is bigger?’ out loud before any jumps, then restart standing on that number.

⚠ Pupils think a different order must mean a different answer — ‘ $9 + 2$ can’t be 11 because we already used $2 + 9$ ’.

Hold the flipped cube tower beside the original. Same cubes, same height, just turned around. Re-voice: the numbers are the same pair swapped, so the total cannot change.

⚠ On the number line, pupils make one big jump of the smaller number instead of counting on in ones, and lose track of the landing.

Reset the line and model little jumps of one only — ‘one, two’ from 9 to 11. The Class Challenge notes already bar big jumps from zero; keep every count-on as single steps.

DIFFERENTIATION

EMERGING

- Stay with totals under 10 on the number line ($1 + 7$, $2 + 8$) and pre-name the bigger number before the pupil stands on it.
- During the copybook pair, give the two numbers already chosen so the pupil only writes both orders and the shared total.

DEVELOPING

- After the model copybook pair, ask them to write a third turnaround where the bigger number is teen (e.g. $4 + 15$) and still stand on the bigger one.
- On a Class Challenge sum already solved, cover the total and ask: if we swap again, where must it land — and why, without jumping.

PROFICIENT

- Pose: find two different turnaround pairs that both land on 14. Write both pairs in copybook and say which way is fewer jumps for each.
- Ask: does a turnaround still keep the total when three numbers are added (e.g. $2 + 5 + 9$)? Try one order change on the line and notice what stays true.

✂ **Cross-curricular:** Tie to PE lining-up — two groups swap places in the row; the total count of pupils stays the same.

ANSWER KEY

Your turn · Draw the jumps. Write where you land. A) 11 B) 13 C) 15 D) 17

Is it right? · It lands on 15. **tick** · It lands on 14. **cross**

Star challenge · Draw the jumps. Write where you land. 19

EXTENSION SHEET · STRETCH ANSWERS

S1: $14 + 3$

S3: 14 and 14, yes

S2: 19

S4: 6