

Mental subtraction strategies within 100

CURRICULUM ALIGNMENT

NUM.OPS.3

understand and apply flexibly the four operations; and the relationships between operations.

INTERACTIVES

Number Line Jumps · challenge, display, explore

LESSON ARC

Open with the hurling-scoreboard subtraction $53 - 48$ on the IWB and take hands-up on which route pupils would pick — don't resolve it yet. Walk four worked examples on the number-line-jumps interactive, pivoting on the key move in $52 - 47$: the answer is the length of the gap, not the landing number. Pupils mark their route choice and reason in copybook. The Class Challenge bank then runs from far-apart to close pairs so pupils spot when counting up wins.

TEACHING MOVES

- Getting Started.** Display $53 - 48$ and give five seconds of silent think-time before any hands go up. Take two or three answers but don't say which route is better — you want pupils to notice for themselves that jumping back forty-eight times is a lot of work when the numbers are this close.
- Watch and Notice.** Run all four on the number-line-jumps interactive, slowing right down on $52 - 47$. Before revealing the count-up jump, ask 'why would counting back forty-seven be silly here?' Then land the key line: 'the answer is hiding in how far we jumped' — five, not the landing number 52.
- Try It Together.** Run only $46 - 4$ on the board interactive; call the other three ($80 - 20$, $63 - 58$, $71 - 67$) aloud as a class, sketching with the IWB pen if you want a visual. Before each, ask 'far apart or close together?' and revoice a good choice. Watch for pupils reading the landing number instead of the gap — catch it with 'how far did we jump?'
- Mark Your Choice in Your Copy.** Pupils write $52 - 47$, $60 - 30$ and $84 - 79$ down their copy and note route plus a one-word reason beside each. Walk the room glancing for pupils naming 'close together' or 'small gap' as their reason for counting up — that reasoning is the lesson's real target.
- Class Challenge.** Pupils take turns at the board through $38 - 6$, $70 - 30$, $61 - 58$, $95 - 88$; the class confirms each with the Check button before moving on. Keep it brisk. For each close pair ask 'is the gap small enough to count up?' before the pupil starts — don't re-explain the strategy.
- What Did We Notice?.** Pose the claim that counting up can't really be subtracting because you're adding jumps. Steer pupils to where the answer hides: revoice that the three steps from 58 up to 61 ARE the answer to $61 - 58$, not the landing number.

COMMON MISCONCEPTIONS

⚠ On a count-up subtraction, pupils read the landing number as the answer — for $61 - 58$ they say 'sixty-one' instead of the gap of 3.

Stop and ask 'how far did we jump?' and re-trace just the forward hops on the number-line-jumps interactive, counting them aloud: one, two, three. The jumps you counted ARE the answer; the number you landed on is not.

⚠ Pupils default to counting back for everything, so for $95 - 88$ they start eighty-eight tiny back-hops instead of spotting the small gap.

Pause before the pupil starts and ask 'far apart or close together?' Show on the number line how few jumps the count-up route needs versus the long crawl of counting back eighty-eight. Let the contrast in jump-count make the case.

DIFFERENTIATION

EMERGING

- Stay with the far-apart, small-take-away type ($47 - 5$, $38 - 6$) where counting back always works, so the route decision is removed for now. Pupils mirror the back-jumps in copybook.
- Pre-mark the start number on the number-line-jumps interactive so the pupil only counts and reads the jumps, not sets up the line.

DEVELOPING

- After the copybook moment, give a pair where the gap is borderline (e.g. $72 - 64$) and ask: count back or count up here, and how do you know it's worth it?
- Pose a missing-number form: $61 - ? = 3$ — work it on the number line and explain which strategy you used.

PROFICIENT

- While the Class Challenge runs, narrate a harder variant aloud to fast finishers — $103 - 97$ crossing the hundred — and ask whether the count-up rule still holds across a hundreds boundary.
- Ask them to write a rule a younger pupil could follow for deciding count back versus count up, then test it on two of the lesson's subtractions.

➤ **Cross-curricular:** Tie to PE or GAA — pupils find the points gap between two hurling or camogie scoreboard totals by counting up the difference.

ANSWER KEY

- a) Line the cross up with the correct tick. **Q1:** 1662
- b) Each jump is the same size — keep them even. **Q2:** 272
- c) **Q3:** 5142
- Round to the ten you are closer to; halfway rounds up. **Q4:** 11914

EXTENSION SHEET · STRETCH ANSWERS

- S1:** 321 **S2:** 819