TEACHER RESOURCE BOOK · MATHS · 3RD CLASS

Lesson 13 NUMBER

Mental addition 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

LESSON ARC

Open with 32 + 9 on the empty-number-line interactive and take two hands-up routes — counting on versus 'add ten, take one back'. Demo 46 + 7, 35 + 20, 28 + 27, 24 + 25, each pivoting on 'the numbers tell you which route is fastest'. The class works four more at the board, then jots two strategies in their copy. The Class Challenge scoreboard sums consolidate route-choosing at the board.

TEACHING MOVES

1. **Getting Started.** Pose 32 + 9 and take just two or three hands-up routes, not open call-outs. Listen for 'count on nine' versus 'add ten, take one back' — revoice both as valid, and land the point that smart adders choose a route rather than always counting in ones.
2. **Watch and Notice.** Narrate each example on the number-line interactive one at a time, pointing at the arcs. On 46 + 7 count the seven ones aloud so pupils feel how costly counting-on is; on 24 + 25 ask 'what double is hiding here?' before revealing the +1. Pause and have the class predict each landing number.
3. **Try It Together.** Before each addition ask which route the class would pick and why; one pupil draws their chosen jumps while the rest predict the landing number. On 42 + 30 reward the pupil who resists counting in tens three times; on 23 + 24 surface the near-double of 23.
4. **Show Your Strategy in Your Copy.** Walk the room glancing at the jottings — is the route sensible for the numbers? Watch for pupils still counting 26 + 27 in ones when partitioning the 27 is sitting right there. This is practice, not marking.
5. **Class Challenge.** Keep the board work brisk — pupils take turns, check each answer, class confirms, move on. As each one is solved ask 'which short cut saves the most steps here?' Don't re-explain each route; the 43 + 6 quick win suits a less confident pupil.
6. **What Did We Notice?.** Listen for pupils naming the size of the second number as the clue. Revoice a strong answer: 'so the numbers themselves tell you which route is fastest.' Head off the idea that counting on is always wrong — it's perfectly smart for 43 + 6.

COMMON MISCONCEPTIONS

⚠ Pupils partition 28 + 27 but add the units first — 8 and 7 makes 15 — then lose track of the tens and stall.

Stop and redraw the jumps on the number-line interactive jumping the 20 first to reach 48, then the 7. Say it aloud: 'tens first keeps the running total tidy.' Have the pupil re-draw 26 + 27 the same way.

⚠ Pupils treat 42 + 30 as 'count on in tens' and draw three separate ten-jumps, defeating the point of the tidy number.

Ask the pupil at the board how many jumps that took, then redraw it as one arc of thirty. 'A whole thirty is one jump, not three.' Contrast side by side on the interactive so the saving is visible.

⚠ Pupils reach for a near-double on numbers that aren't actually close — e.g. trying to force 38 + 20 into a doubles route.

During What Did We Notice?, ask 'how far apart are these two numbers?' Draw out that near-doubles only pay off when the numbers are within one or two — 38 and 20 want a single tidy jump instead.

DIFFERENTIATION

EMERGING

- Stay on counting-on examples like 43 + 6 and 33 + 8 in copybook while the class moves to partitioning — keep the jumps small and concrete on the number line first.
- Pre-draw the number-line scale with the tens marked so the pupil only places the jumps, not the structure.

DEVELOPING

- After the copybook jottings, ask pupils to solve 26 + 27 a second way and decide which route was fewer steps.
- Pose a missing-number twist: 24 + ? = 49 using the near-double they just met.

PROFICIENT

- At the board after 49 + 49, hand a fast finisher 47 + 49 and ask them to narrate the double-then-adjust aloud — which double, and which way does the adjustment go?
- Pull them ahead into the Student Activity Book page and ask them to write, in one line, the clue in any pair of numbers that tells them to choose a near-double.

↗ **Cross-curricular:** Tie to PE — pupils keep running scores in a class rounders or basketball game and add each team's tallies using whichever mental route is fastest.

ANSWER KEY

a) Line the cross up with the correct tick.

b) Each jump is the same size — keep them even.

c) Round to the ten you are closer to; halfway rounds up.

Q1: 321

Q2: 819

Q3: 11914

Q4: 5142

EXTENSION SHEET · STRETCH ANSWERS

S1: 1662

S2: 272