

Zero to ten on the number line

CURRICULUM ALIGNMENT

NUM.NCT.2

demonstrate proficiency in using and applying different counting strategies.

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

WHAT THIS LESSON TEACHES

A straight number line from 0 to 10 has each number sitting in its own place. Every step along the line is exactly one more.

→ On a 0–10 line, 3 sits three steps from 0, and 7 sits two steps past the landmark 5.

→ One more than 5 is 6. One less than 9 is 8.

MODEL THIS ON THE BOARD

FINDING 7 FROM LANDMARK 5

- 1 Find the landmark **5** on the 0–10 number line.
- 2 Take one step on to reach **6**.
- 3 Take one more step on to reach **7**.
- 4 So 7 sits two steps past 5.

LESSON ARC

Open with ten pupils holding digit cards 1–10 in a human line; hold the 0 card yourself and settle where it belongs at the start. On the IWB number line, model counting three steps from 0 to place 3, then standing at landmark 5 to reach 7 in two steps, with hands-up predictions for one more and one less. Pupils take turns dragging 4, 8, 1 and 10 while the class agrees. Everyone marks 3, 7, 10 plus one-more/one-less on the Number lines sheet, then a brisk Class Challenge round.

TEACHING MOVES

1. **Getting Started.** Hand cards 1–10 as ten pupils form the line quickly. Hold 0 yourself and ask where you stand — take two or three answers, then plant 0 at the start. Push for ‘the line begins here’ rather than ‘zero is nothing’.
2. **Watch and Notice.** Point each marker in turn. Count three steps from 0 with the class to land on 3. Name landmark 5 first, then step 6, then 7 together. Before revealing one more than 5 and one less than 9, hold for hands-up predictions. Keep each beat to two short sentences.
3. **Try It Together.** Call 4, then 8, then 1, then 10. Rotate four pupils at the board; place, class agrees out loud, next. For 8, nudge anyone stuck back to landmark 5 rather than restarting at 0.
4. **Mark the numbers on your sheet.** Hand one Number lines 0–10 printable per pupil — the line is already drawn, so they only place marks. Walk the rows glancing at 3, 7 and 10 first, then the one-more-than-6 and one-less-than-9 marks. Whole-class sheet practice, not marking.
5. **Class Challenge.** Keep board turns brisk: place, class confirms, move on. Watch for pupils counting from 0 every time on 6 — revoice a start at landmark 5. For one more than 7 and one less than 10, hold the class to say 8 and 9 before the marker moves.

6. What Did We Notice?. Ask how the line shows 7 is one more than 6. Listen for ‘just after’ or ‘one step further’. Revoice: each step on the line is exactly one more. If a pupil only says ‘7 is bigger’, push gently for the step idea.

COMMON MISCONCEPTIONS

⚠ Pupils count from 0 every time — even for 6, 7 or 8 — and never use the landmark.

Freeze the marker at 5 on the IWB. ‘We already know five. How many steps on to reach six?’ Rebuild 7 as 5, then 6, then 7 so the shortcut is visible.

⚠ Pupils place 0 in the middle of the line, or treat it as ‘nothing so it doesn’t need a place’.

Return to the human line. Walk from the 0 end counting each step aloud so the class sees every number, including 0, owns its own spot at the start.

⚠ When asked one less than 9, pupils say 10 — they mix up ‘one more’ with ‘one less’ or jump the wrong way along the line.

Point at 9, then take one clear step backwards toward 0 while the class watches. ‘One less is the number just before — toward zero, not further on.’

DIFFERENTIATION

EMERGING

- On the sheet, pre-mark 5 as a filled landmark so pupils only place 3, 7 and 10 relative to it.
- During board turns, give the number and the starting point aloud: ‘start at five, take one step’ before they drag.

DEVELOPING

- After the sheet marks, ask: ‘what number sits halfway between 0 and 10 — how do you know from the line?’
- On the last Class Challenge item, add ‘one less than one less than 10’ and have the class say both steps before the marker moves.

PROFICIENT

- Stretch on the IWB: ‘place a number that is one more than 5 and also one less than 7 — explain how both paths land on the same spot.’
- After the sheet, ask them to mark the number that is two steps past the landmark and say the path without counting from 0.

✂ **Cross-curricular:** Link to PE lining-up — pupils order themselves 0–10 by card and take one-more / one-less steps along the yard.

ANSWER KEY

Your turn · Write the missing numbers. A) 4 B) 2, 8 C) 1, 6, 9

Your turn · Write the missing numbers. A) 7 B) 0, 3

Is it right? · That is 5. tick · That is 9. cross

Star challenge · Write the missing numbers. 0, 2, 7, 10

EXTENSION SHEET · STRETCH ANSWERS

S1: 7

S3: 6

S2: 9

S4: 20