

Bonds of 8 and 9

CURRICULUM ALIGNMENT

NUM.OPS.2

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

ALG.EXP.2

interpret the meaning of symbols or pictures in number sentences.

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

WHAT THIS LESSON TEACHES

A bond is two parts that join to make a whole. Bonds of 8 join to make 8 and bonds of 9 join to make 9.

$$\rightarrow 5 + 3 = 8$$

$$\rightarrow 5 + 4 = 9$$

MODEL THIS ON THE BOARD

WINDY WASHING LINE

- ① Eight socks hang on the line. The wind hides some behind a sheet.
- ② Five socks are still pegged, so one part is 5.
- ③ The whole is 8, so the hiding part is $8 - 5 = 3$.
- ④ Check the bond: $5 + 3 = 8$.

LESSON ARC

Open with the washing-line socks: eight on the line, five still pegged — five seconds of quiet think-time before anyone names the hiding three. Move to the number-bonds interactive and walk four snapshots (4+4, 5+3, 6+2 on 8, then 5+4 on 9), pausing each time so pupils name the parts before the sentence. Pupils build four bonds at the board in Try It Together, write two in copybook, then find missing parts in the Class Challenge. Close on the parts-trade talk: when one part grows, the other shrinks because the whole holds still.

TEACHING MOVES

1. **Getting Started.** Show the washing-line picture and hold five seconds of silent think-time before hands. Take three answers and listen for anyone who says '8 is 5 and 3' rather than counting up from one — revoice that bond language to the class.
2. **Watch and Notice.** Work the four bond snapshots in order on the interactive. For each, ask 'what are the two parts?' before you name the sentence. At 5 and 3, pause and ask what changed from 4 and 4; revoice any pupil who says when one goes up, the other goes down. On the jump to 9, ask whether the same trade still holds.
3. **Try It Together.** Set the whole first — 8, then 9. One pupil at the board drags the two parts; the class says the parts aloud before the bond settles. Rotate four pupils, one bond each. Watch for anyone who moves both parts at once and loses the whole — freeze the board and reset the whole before they try again.
4. **Write two bonds in your copy.** Pupils copy $5 + 3 = 8$, then invent one bond of 8 or 9 of their own. Walk the row glancing at + and = signs and checking the second line really sums to 8 or 9 — this is whole-class copybook practice, not marking.

5. **Class Challenge.** Keep the board work brisk: whole 8 with part 6, whole 8 with part 3, whole 9 with part 5. After each Check, ask 'which part is hiding, and how do you know?' — do not re-teach the bond, just confirm and move on.
6. **What Did We Notice?.** Take two or three answers on 'when one part gets bigger, what happens to the other?' before opening the why. Point at a visible whole of 8 on the board. Revoice: 'so the whole holds still, and the parts trade.' If a pupil only says it gets smaller, push gently for why the whole forces that.

COMMON MISCONCEPTIONS

⚠ Pupils change both parts at once on the bond diagram and the whole drifts — e.g. they drag 5 and 3 toward 6 and 4 and no longer have 8.

Freeze the interactive. Reset the whole to 8 first, then move only one part and ask what the other part must become. 'The whole is locked; only the parts trade.'

⚠ Pupils count up from one every time instead of using a known bond — for 'whole 8, one part 6' they tally 1, 2, 3... rather than saying '2 is hiding'.

Cover the counters briefly and ask 'what sits with 6 to make 8?' Point back at the 6-and-2 snapshot from Watch and Notice so they retrieve the bond rather than recount.

⚠ Pupils treat the parts-trade as a one-way rule — they can grow the left part and shrink the right, but freeze when asked to grow the smaller part instead.

On a bond of 8 showing 3 and 5, ask them to make the 3 grow to 4. 'What must happen to the 5?' Rebuild with counters on the bond circles so both directions of the trade are visible.

DIFFERENTIATION

EMERGING

- Stay on bonds of 8 only during Try It Together; introduce 9 once 5+3 and 6+2 are clean.
- On the copybook line, offer a choice board of three finished bonds of 8 to pick from rather than inventing a new pair.

DEVELOPING

- After the three Class Challenge cards, ask: whole 9, one part 7 — which part is hiding, and which earlier bond helped you?
- On the invented copybook bond, ask them to write the parts swapped as well (3+5 and 5+3) and say whether the whole changed.

PROFICIENT

- After Class Challenge, pose: 'find every bond of 9 where one part is greater than 5' — they list on copybook and check each against the whole.
- Ask them to start at 1+7 and step the parts-trade all the way to 7+1, saying the sentence at each step without touching the interactive.

✂ **Cross-curricular:** Link to the home washing-line: eight pegs on the line, some socks taken in — how many still out?

ANSWER KEY

Your turn · Write the missing part. A) 1 B) 3 C) 7

Is it right? · 3 and 5 make 8. **tick** · 3 and 5 make 9. **cross**

Star challenge · Write the missing part. 2

EXTENSION SHEET · STRETCH ANSWERS

S1: 4

S3: 2

S2: 5

S4: 1 + 8, 2 + 7, 3 + 6, 4 + 5