

Longer, shorter, the same: comparing lengths fairly

CURRICULUM ALIGNMENT

MEA.MSR.2

compare, approximate and measure length, weight, capacity and area using appropriate instruments and record using appropriate units of measurement.

INTERACTIVES Drag Sort · challenge, display, explore

WHAT THIS LESSON TEACHES

To compare lengths fairly, put the starting ends of both things on the same line or mark first. Then the far ends show which is longer, shorter, or the same.

- Two pencils side by side with the rubbers level: the tips tell you which pencil is longer.
- Two matching craft sticks that meet at both ends are the same length.

MODEL THIS ON THE BOARD

FAIR CRAFT-STICK CHECK

- 1 Place both craft sticks so their left ends sit on the same desk edge.
- 2 Keep the starting ends level and look at the right-hand tips.
- 3 The stick that sticks out further is longer; if the tips match they are the same.
- 4 Tick the longer stick only after the starts are lined up.

LESSON ARC

Open with two pencils poking from a case so one looks longer — take three guesses, then hold quiet think-time; do not name the rule yet. Prove it with real ribbons: push the short start forward, then slide both starts onto the desk edge so the far ends tell the truth. Pupils line paper strips on the front edge and order longest to shortest, then mirror the sort on the board. Copybook: draw one long and one short line and tick the longer. Class Challenge banks stay brisk. Close by revoicing starts-first, far-ends-decide.

TEACHING MOVES

1. **Getting Started.** Show the pencil-case picture and take three hands-up answers only. Hold five seconds of quiet think-time before anyone blurts a fix. Do not name the fair-line-up rule yet — leave the sneakiness hanging for Watch and Notice.
2. **Watch and Notice.** Before any board sort, hold two real ribbons. Push the short start forward and ask which looks longer; then slide both starts onto the same desk-edge mark and ask which is really longer. Revoice: starts together first, far ends tell the truth. Work the three board snapshots live after that proof — scarves longest-middle-shortest, then the matching pair. Finish with a crumpled strip you straighten on the desk: straighten first, then compare.
3. **Try It Together.** Hands-on first: each table gets three or four clearly different paper strips. Whole class places every starting end on the front desk edge; one pupil at a time names longest, next, shortest while you revoice starts-on-the-edge. Then open the board sort — four pupils drag in turn; class agrees or corrects out loud before the next card. Wrong card goes straight back with the start-edge rule restated.
4. **Draw two lines in your copy.** Pupils draw one long and one short line and tick the longer. Walk the rows for a quick glance only — whole-class copybook practice, not marking. Check the tick really sits on the longer line.

5. **Class Challenge.** Keep the board work brisk: three live banks only (three ribbons, four pencils, same-length set). Pupils take turns, check each answer, class confirms, move on. On the last bank listen for the same, not a forced longer. Between banks you can flash a real pencil-case pair with starts not level and ask which only looks longer — no card for that one.
6. **What Did We Notice?.** Ask why starting ends must line up, and what goes wrong if they do not. Listen for the far-end trick in pupil voice: the short one can look longer if its start is pushed forward. Revoice starts-first, far-ends-decide. If a pupil only says to be fair, nudge them to point at the starts.

COMMON MISCONCEPTIONS

⚠ Pupils pick the pencil that sticks further out of the case and call it longer — they judge by the far end only and never check the hidden starts.

Freeze the hands-up. Bring two real pencils to the desk, starts deliberately staggered, then slide both rubbers onto the same edge mark. Ask again which is longer once the starts match.

⚠ Pupils call a crumpled or bent strip shorter without straightening it first.

Hold the crumpled strip beside a straight one, then smooth it flat on the desk and re-line the starts. Say straighten first, then compare — and keep that move off the board sort.

⚠ On a same-length pair, pupils force one bar to be longer instead of naming them the same.

Have the class point at both far ends together. If the tips match with starts level, revoice the same length — matching tips, not a winner.

DIFFERENTIATION

EMERGING

- Give only two strips of clearly different lengths and pre-place both starts on the desk edge so the pupil only names longer and shorter.
- Stay with the real strips on the carpet; skip the board drag until the start-edge chant is secure.

DEVELOPING

- After the three-strip order, add a fourth strip and ask where it slots — longest, middle, or shortest — with starts still on the edge.
- Between Class Challenge banks, flash the staggered pencil-case pair and ask which only looks longer before returning to the board.

PROFICIENT

- Pose a bent-strip challenge on the desk: straighten, line starts, then say longer, shorter, or the same — justify by pointing at starts and far ends.
- After the board banks, ask them to build two strips that look unfair until the starts are lined up, then prove they are really the same.

✂ **Cross-curricular:** In PE, line skipping ropes against the hall skirting so the class orders them longest to shortest before the game.

ANSWER KEY

Q1: 17 cm

Q2: Yes

Q3: 4 cm

Q4: 19 cm, 16 cm, 3 cm

Q5: Yes

Q6: 18 cm

a) **Always** : Matching starts is the rule for a fair length comparison.

b) **Always** : Shifting the start makes a short strip stick out further and look longer.

c) **Never** : Without matched starts the comparison is not fair.

d) **Never** : Far ends only work after the starts have been lined up.

EXTENSION SHEET · STRETCH ANSWERS

S1: a pencil

S2: a metre stick

S3: the school yard

S4: the school yard