Lesson 53 MEASURES

Perimeter — the distance all the way around

CURRICULUM ALIGNMENT

SHA.SHP.3b represent shapes with drawings and models, and calculate dimensions of shapes.

MEA.MSR.3a compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately.

INTERACTIVES Shape Measurer · 2d

LESSON ARC

Open by tracing a finger around a page on the IWB, ending back at the start corner, and pose the ant's-journey question. On the Watch and Notice interactive, touch each side of the triangle, square and rectangle in turn, saying the running total aloud. Pupils copy the triangle and square from the printed Shapes to Copy sheet and write the addition sentences. The Class Challenge is hands-on — pupils lay string around real cards and read the perimeter against a ruler.

TEACHING MOVES

1. **Getting Started.** Trace your finger right around a rectangular page on the IWB and land back on the starting corner before you speak. Take two or three hands-up answers only — listen for 'add up the sides' or 'measure all the way round', then move on without over-explaining.
2. **Watch and Notice.** Touch each side in turn and say the running total out loud — '3... 7... 12 cm'. The make-or-break line: every side is added exactly once, none missed, none counted twice. On the square, name it as four lots of 4 cm but keep it as addition — don't formalise multiplication yet.
3. **Try It Together.** Call a pupil to the board to touch each side while the rest of the class reads the lengths and totals aloud. This round is for talking it through, not marking — when someone skips or double-counts a side, revoice 'did we touch every side exactly once?' Rotate three or four pupils across a rectangle, then a square, then an L-shape.
4. **Sketch the shapes in your copy.** Hand out the Shapes to Copy sheet so pupils have the labelled triangle and square in front of them — you can drop the board shapes now. Walk the room glancing for a length on every side and a clear addition sentence underneath. Catch the blank side before they add.
5. **Class Challenge.** Hand out cards, string, rulers and the Perimeter Measuring Record sheet, then keep the pass-on rhythm brisk. Watch that pupils follow the corners with the string but don't stretch it tight. For the final compare task, hold the first card's string around the second card's edge to predict before measuring. Class confirms each reading aloud.
6. **What Did We Notice?.** Ask why every side must be added and why each is counted only once. Push pupils to say what goes wrong: a missed side makes the total too small, a double-counted side makes it too big. Revoice a strong answer — 'so the perimeter is every side added together, each used exactly once.'

COMMON MISCONCEPTIONS

⚠ On the rectangle, a pupil adds only the two labelled sides — the long one and the short one — and stops, because 'those are the two numbers given'.

Go back to the IWB and physically touch all four sides while the class counts. 'A rectangle has four edges — the ant has to walk all four to get home.' Have the pupil re-touch each side aloud before re-adding.

⚠ Measuring with string, a pupil pulls the string straight across the card from corner to corner instead of bending it around each edge, so the total comes out short.

Lay your own string slowly around one card at the front, pressing it into each corner so it follows the whole edge. 'The ant can't cut across the middle — it walks the edge.' Then have the pupil re-lay their string and re-read.

⚠ A pupil double-counts a corner side or skips one when touching around an L-shape, so the running total is wrong on the trickier shape.

Slow the touch right down on the L-shape and have the class chant each side as it's touched. Mark a small tick on each side as it's counted so no edge is touched twice or missed.

DIFFERENTIATION

EMERGING

- Stay with the triangle and square only in the copybook — both have all sides equal or clearly labelled — and leave the rectangle as a class-supported shape.
- Pre-mark a start dot on the card so the pupil knows exactly where the string begins and ends, making the 'all the way round and back' clear.

DEVELOPING

- After the copybook page, give a four-sided shape with only three side-lengths labelled and ask the pupil to reason what the missing side must be before adding.
- Ask the pupil to find a card with a perimeter of exactly 20 cm by measuring and choosing — turning the rule into a search.

PROFICIENT

- Pose at the board: 'two different shapes both have a perimeter of 16 cm — draw two that look completely different and prove both totals.' Let them sketch in their copy and justify, leading naturally into next lesson's rectangle equal-pairs idea.

↗ **Cross-curricular:** Tie to Geography — pupils estimate then measure the perimeter of the classroom or yard with a metre wheel, reading the distance all the way round.

ANSWER KEY

a) Perimeter = distance all the way around.

b) Add all four sides for a rectangle.

c) Area = number of unit squares covered (rows × columns).

Q1: 77 m

Q2: 106 m

Q3: 44 m

Q4: 36 cm

EXTENSION SHEET · STRETCH ANSWERS

S1: 76 m

S2: 84 m