

Big modelling project – how big is our school yard, really?

WHAT THIS LESSON TEACHES

When a place is too big to measure with metre sticks, we estimate its area by pacing the sides or by splitting it into simple rectangles, then multiplying. Two sensible methods that land close together give a safe figure we can trust.

→ 20 paces of about 0.7 m each give a side of roughly $20 \times 0.7 = 14$ m.

→ An L-shaped yard split into $14 \text{ m} \times 8 \text{ m}$ and $6 \text{ m} \times 4 \text{ m}$ has area $112 \text{ m}^2 + 24 \text{ m}^2 = 136 \text{ m}^2$.

MODEL THIS ON THE BOARD

YARD AREA TWO WAYS

- ① Pace the long side: 20 paces $\times$ 0.7 m = **14** m.
- ② Pace the short side: 12 paces $\times$ 0.7 m = **8.4** m.
- ③ Way 1 area: $14 \times 8.4 = \mathbf{117.6}$ m² (about 118 m²).
- ④ Way 2: split into $14 \text{ m} \times 8 \text{ m}$ rectangle (**112** m²) plus a $6 \text{ m} \times 4 \text{ m}$ piece (**24** m²).
- ⑤ Total $112 + 24 = \mathbf{136}$ m². The two estimates agree near 120-140 m².

ANSWER KEY

a) 15 m

b) 10.8 m

c) 126 m²

Q1: 17.6 m

Q2: 10.4 m

Q3: 105 m²

Q4: 118 m² and 136 m²

a) **Never** — Pacing only gives a rough estimate, not an exact figure.

b) **Always** — That is a standard reliable method for composite shapes.

c) **Sometimes** — Good methods often agree closely, but the gap can be larger if pacing is uneven.

d) **Always** — Estimates are best shown as a sensible range when methods nearly agree.