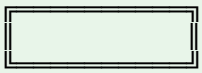
Helping Your Child with Area & Perimeter

Measurement · Foundation to Year 6 · Australian Curriculum Mathematics

Perimeter and **area** are two ways of measuring shapes — and they are easy to mix up! A simple way to remember: **perimeter is the distance around the outside** (like a fence around a yard), and **area is the space inside** (like the grass you need to mow). Your child builds from comparing sizes of shapes all the way to using formulas in Year 6.

Year level	What your child learns	What this looks like
Foundation –Year 2	**Prior knowledge — comparing size and length** *Children do not yet measure area or perimeter formally, but they build the foundations. They directly compare the size of objects:* **"Which book covers more of the table?" "Which path is longer?"** *They cover surfaces with tiles or blocks and count to find which surface is bigger. In Year 2 they use uniform informal units to measure length. These comparisons prepare them for formal area and perimeter in Year 3.*	Place two books side by side. *"Which one takes up more space on the table?"* Lay a piece of string around a plate. *"How long is the string that goes all the way around?"* Cover a shape with sticky notes — count to compare.
Year 3	**Estimating and measuring perimeter and area informally** Your child measures perimeter and area using informal units. **perimeter** — the total distance around the outside of a shape **Measure by counting steps or placing tiles end-to-end around the edge** **area** — the total space inside a shape **Measure by counting how many square tiles fit inside** **square unit** — one tile used as the unit of area (e.g. 1 square centimetre) They estimate before measuring: 'I think about 12 tiles will fit.'	Draw a rectangle on grid paper. Count the squares inside to find the area. Count the squares around the outside to find the perimeter. **"Are they the same number? Do they measure the same thing?"**
Year 4	**Measuring perimeter and area with formal metric units** Your child uses formal metric units: **centimetre (cm)** — for shorter lengths **metre (m)** — for longer lengths **square centimetre (cm^2)** — for small areas **square metre (m^2)** — for larger areas (e.g. a room) Perimeter example: Rectangle 6 cm × 4 cm **Add all sides: 6 + 4 + 6 + 4 = 20 cm** Area example: Count grid squares, or multiply: **6 × 4 = 24 cm^2**	Measure the perimeter of a book or table. Add all four sides together. Count squares on grid paper to find area. **"Which room in our house has the biggest area?"**
Year 5	**Perimeter and area of regular and irregular shapes** Your child works with **irregular shapes** — shapes that are not simple rectangles. Perimeter of irregular shapes: measure and add each side. **e.g. an L-shaped room: add all 6 sides together** Area of irregular shapes: break into rectangles, find each area, add them together. **L-shape = rectangle A + rectangle B** **Area A + Area B = total area** They choose appropriate units and check reasonableness: **A book cover: cm^2 • A football field: m^2 • A farm: hectares**	Find the perimeter of an L-shaped room: measure all 6 sides and add them. Split the L-shape into 2 rectangles. **"What is the area of each part?** **What is the total area?"**
Year 6	**Area formula for rectangles** Your child uses the **formula** for area: **Area = length × width** **A = l × w** Example: A room 8 m long and 5 m wide: **A = 8 × 5 = 40 m^2** They also work backwards: **Area = 48 cm^2, width = 6 cm → length = 48 ÷ 6 = 8 cm** They use decimals: A garden 3.5 m × 4 m: **A = 3.5 × 4 = 14 m^2**	Measure your bedroom (length × width). **'What is the area? Could it fit a 3 m × 4 m rug?'** A room has area 56 m^2. Width is 7 m. **"What is the length?" (56 ÷ 7)**

★ Perimeter vs Area — the key difference (rectangle 6 cm × 4 cm)

PERIMETER — go around the OUTSIDE	AREA — count the INSIDE
Think of walking around the outside of the shape. 6 cm  4 cm 6 cm Add all the sides: 6 + 4 + 6 + 4 = 20 cm Perimeter = 20 cm (measured in cm or m)	Think of covering the inside with square tiles. □□□□□□ □□□□□□ □□□□□□ □□□□□□ 6 columns × 4 rows = 24 squares Area = 24 cm^2 (measured in cm^2 or m^2)

Memory trick: *Perimeter = **P**ath around the outside. Area = the sp**A**ce inside. Both use the same shape but measure completely different things!*

Helping at Home — Area & Perimeter

Worked examples and questions to ask · Foundation to Year 6

How it works — worked examples

Year 4 — Perimeter and area of a rectangle

A garden bed is 8 cm long and 5 cm wide.

Perimeter	**Add all 4 sides:** **8 + 5 + 8 + 5 = 26 cm** **(or: 2 × (8 + 5) = 2 × 13 = 26 cm)**
Area	**Count rows and columns of squares:** **8 columns × 5 rows = 40 squares** **→ Area = 40 cm²**
Check	Perimeter tells how long a fence would need to be. Area tells how many cm² of soil to cover.

Year 5 — Area of an L-shaped room

Find the area of this L-shaped room:

Sketch	Total width: 10 m Total height: 8 m Cut-out: 4 m wide × 5 m tall (top right)
Method	Split into Rectangle A and Rectangle B
Calculate	Rectangle A: 10 × 3 = 30 m² (bottom section, 10 m × 3 m) Rectangle B: 6 × 5 = 30 m² (left section, 6 m × 5 m)
Total	**Area = 30 + 30 = 60 m²**

Year 6 — Using the formula and working backwards

A = l × w (Area = length × width)

Length	Width	→ Area (or find missing side)
9 m	6 m	**A = 9 × 6 = 54 m² (find the area)**
? m	7 m	**A = 63 m² → l = 63 ÷ 7 = 9 m (find the length)**
3.5 m	4 m	**A = 3.5 × 4 = 14 m² (decimal side length)**

Questions to ask your child

You do not need to know the answer. Ask and let your child explain!

F–2 Foundation–Y2

→ Which of these two books covers more space on the table?
→ Walk the outside edge of our lounge room — how long is it?
→ Cover this piece of paper with sticky notes. How many fit?

3 Year 3

→ Draw a shape on grid paper. Count the squares inside — that's the area.
→ Now count the squares around the edge — that's the perimeter.
→ Can two shapes have the same area but different perimeters?

4 Year 4

→ Find the perimeter of your bedroom door (measure all 4 sides and add).
→ Measure length and width of a table. Calculate the area.
→ What unit would you use — cm or m? Why?

5 Year 5

→ Find the area of an L-shaped room by splitting it into two rectangles.
→ A paddock is 12 m × 8 m. What is its perimeter? Its area?
→ Could two different rectangles have the same area? Try to find two.

6 Year 6

→ Use A = l × w to find the area of our backyard.
→ If area = 72 m² and width = 8 m, what is the length?
→ A 3.5 m × 6 m room — what is the area? Round to 1 decimal place.

🏠 Things to try at home

Any age: Walk the perimeter of a room — count your steps. Then estimate the area by counting tiles or floor boards.	**Year 3:** Use grid paper to draw 3 different rectangles all with a perimeter of 12 cm. Do they all have the same area?
Year 4: Measure the kitchen bench (length × width). How many cm^2 is it? Could a 30 cm × 40 cm chopping board fit?	**Year 5:** Sketch the floor plan of your home. Estimate the area of each room. Which room is biggest?
Year 6: Find the area of your yard using A = l × w. How many square metres of grass would you need to buy?	**Any age:** Build a fence puzzle: 'You have 24 m of fencing. What rectangle gives the biggest area?' Try different lengths!

💬 Key words to learn together

perimeter: the total distance around the outside of a shape — add all the side lengths	**area:** the total space inside a shape — measured in square units
square unit: the unit used to measure area: cm^2 (square centimetre), m^2 (square metre)	**length:** how long something is from one end to the other
width: how wide something is from side to side (also called breadth)	**formula:** a rule written with symbols: Area = l × w
square centimetre (cm^2): the area of a square 1 cm × 1 cm — used for small areas like books	**square metre (m^2):** the area of a square 1 m × 1 m — used for rooms, gardens, etc.
irregular shape: a shape where not all sides are equal or all angles the same — e.g. an L-shape	**composite shape:** a shape made from two or more simple shapes joined together
estimate: a careful guess at the answer before measuring or calculating	**grid paper:** paper with equally spaced squares — useful for counting area