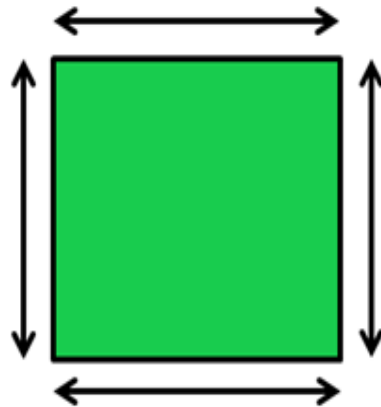**Year 5 Maths**
Steppingstone activity

Summer week 4 Lesson 5 – 15.05.20
LO: To find the perimeter and area of polygons
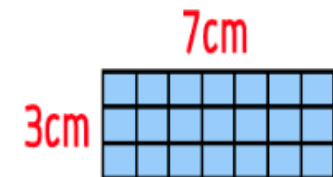
Model

What is Perimeter?

The perimeter is the distance all the way around the outside of a 2D shape.

Finding the Area (rectangle)

To work out the area of a rectangle, multiply its length (the longer side) by its width (the shorter side):
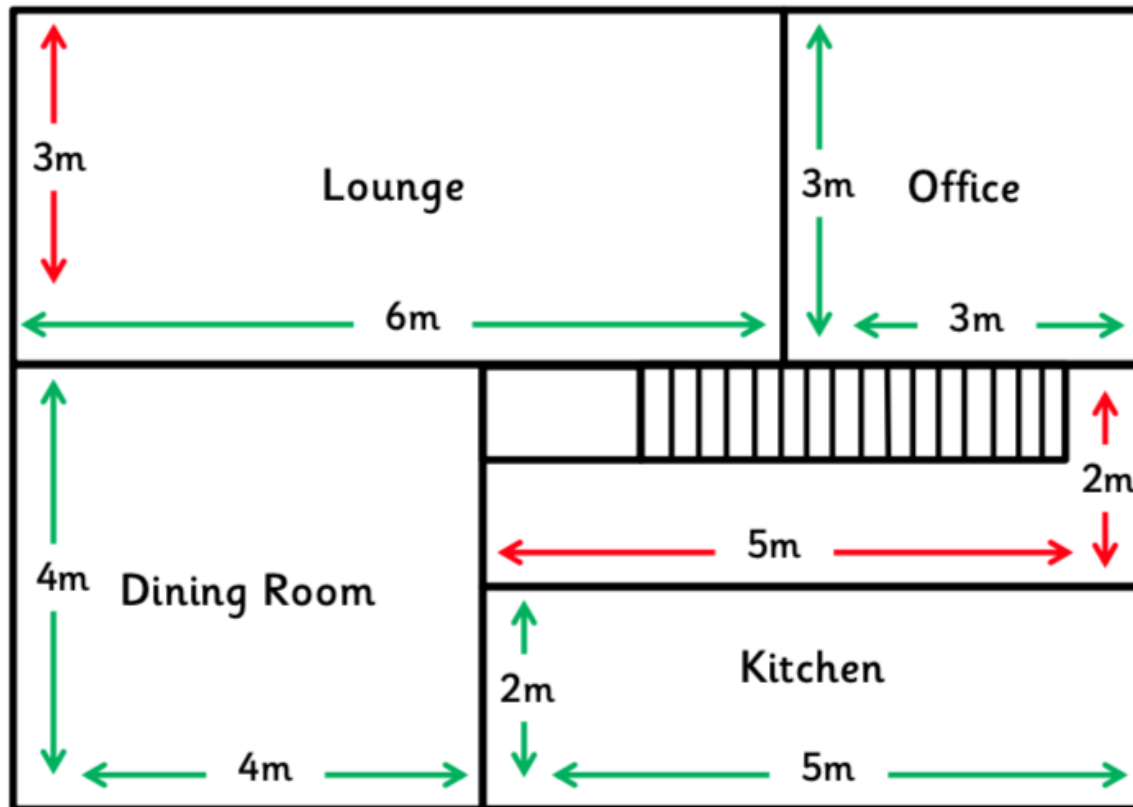
length × width = area

7cm

3cm

The area of this rectangle is

7cm x 3cm = 21 cm²

Mild

Floor Plan Area and Perimeter

3m

Lounge

6m

3m Office

3m

4m Dining Room

2m

5m

5m

4m

2m

Kitchen

1. George is selling his house. He needs to know the length of the house and the width of the house. Calculate the length and width. **Length: 7m Width: 9m or vice versa**

2. What is the perimeter of the house? **32m**

3. George has agreed to put a new carpet in the lounge before the new buyers move in. How much carpet will he need? **18m²**
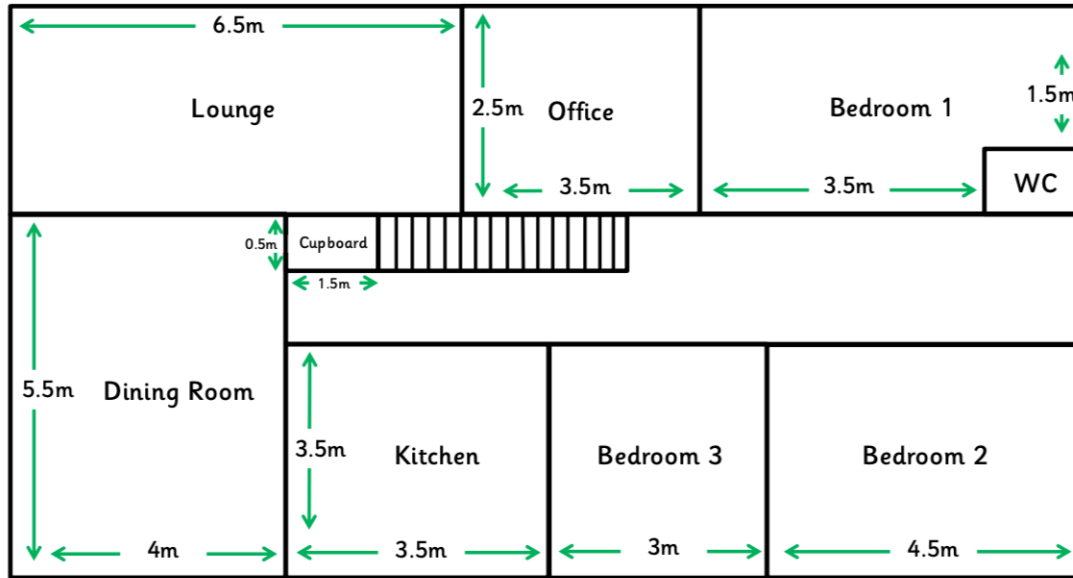
4. Jenny would like George to put a new wallpaper border in the dining room. How much will he need? **16m**

5. Jenny measures the width of the hallway, including the stairs. What does it measure? **2m**

6. George wants to teach his son Jamie about floor plans. Add the missing measurements to the lounge and hallway so that it is easier for Jamie to understand.

Spicy

Floor Plan Area and Perimeter

- 6.5m — Lounge
- 2.5m Office, 3.5m
- Bedroom 1, 1.5m, 3.5m, WC
- 0.5m Cupboard, 1.5m
- 5.5m Dining Room, 4m
- 3.5m Kitchen, 3.5m
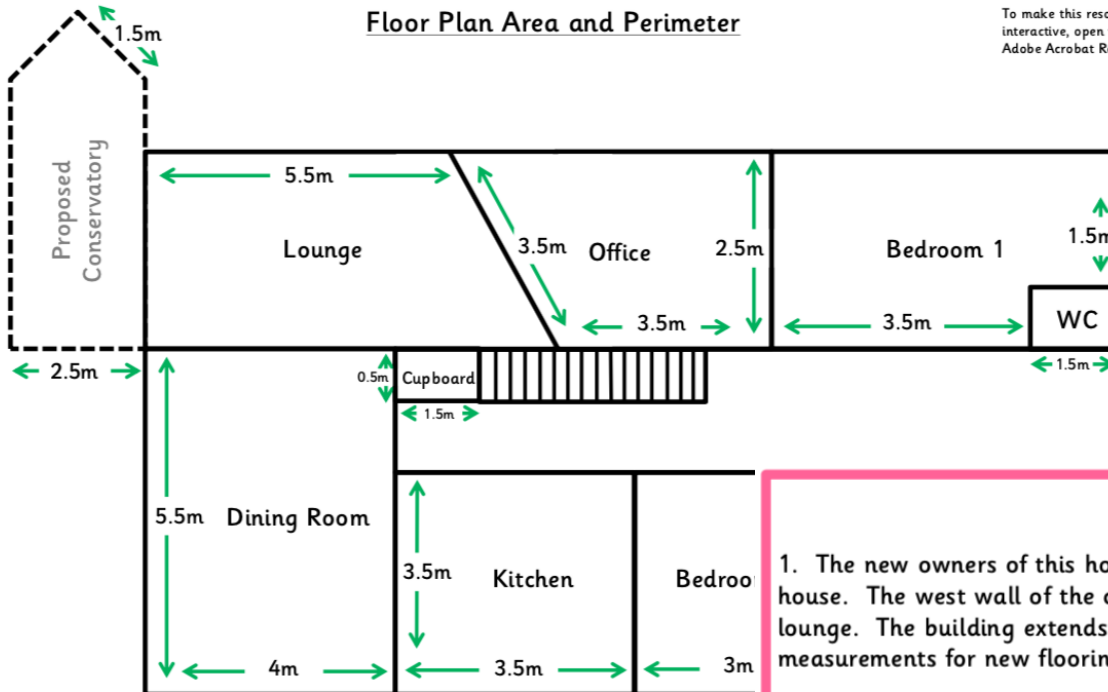- Bedroom 3, 3m
- Bedroom 2, 4.5m

Floor Plan Area and Perimeter

1. Fiona and Steve have just moved into this new five bedroom dormer bungalow. For decorating purposes, they need to know the perimeter and area of the downstairs bathroom. What were their calculations? p = 5m a = 1.5m²

2. Fiona hates the green carpet in the lounge. She wants to expose the floorboards and varnish them. Calculate the size of the room is so she can work out how much varnish to buy. 16.25m²

3. Whilst shopping, Fiona picks up a rug for the hallway that measures 1m x 10.5m. Will it fit in the hallway? Yes

4. Steve knocks through the kitchen/dining room wall to make a kitchen/diner. What is the new perimeter and area of the room? a = 34.25m², p = 26m

5. How much bigger is bedroom 2 than bedroom 3? 5.25m²

6. Calculate the total length of the walls in bedroom 1.   15m

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Red Hot

Floor Plan Area and Perimeter

To make this resource interactive, open with Adobe Acrobat Reader.

Proposed Conservatory

1.5m

← 5.5m →

Lounge

3.5m Office 2.5m

← 3.5m →

2.5m

1.5m

Bedroom 1

← 3.5m → WC

← 1.5m →

0.5m Cupboard

← 1.5m →

5.5m Dining Room

3.5m Kitchen Bedroo

← 4m → ← 3.5m → ← 3m

Floor Plan Area and Perimeter

1. The new owners of this house have proposed for a conservatory to be erected on the west side of the house. The west wall of the conservatory would be 1 metre longer than the parallel outside wall of the lounge. The building extends 2 metres from the outside wall of the house. Provide the owners with measurements for new flooring for the conservatory. **10m²**

2. Before moving in, the new owners will be having the dining room and lounge knocked through, like the house they have been living at. Calculate the new area and perimeter of the room. **a = 37m², p = 29m**

3. The new buyers would also like to install an en-suite bathroom into Bedroom 2 which will measure 1.5m x 1.5m. Calculate the floor space of the bedroom once the en-suite has been installed. **13.5m²**

4. Once this has been installed, the new owners decide that they would also like an en-suite bathroom installing in the master bedroom.   The bathroom would measure 2m x 1.5m. What will be the new available floor space? **8m²**

5. Which of these two bedrooms would be best served as the main bedroom? **Bedroom 2 should become the new master as it would be bigger.**