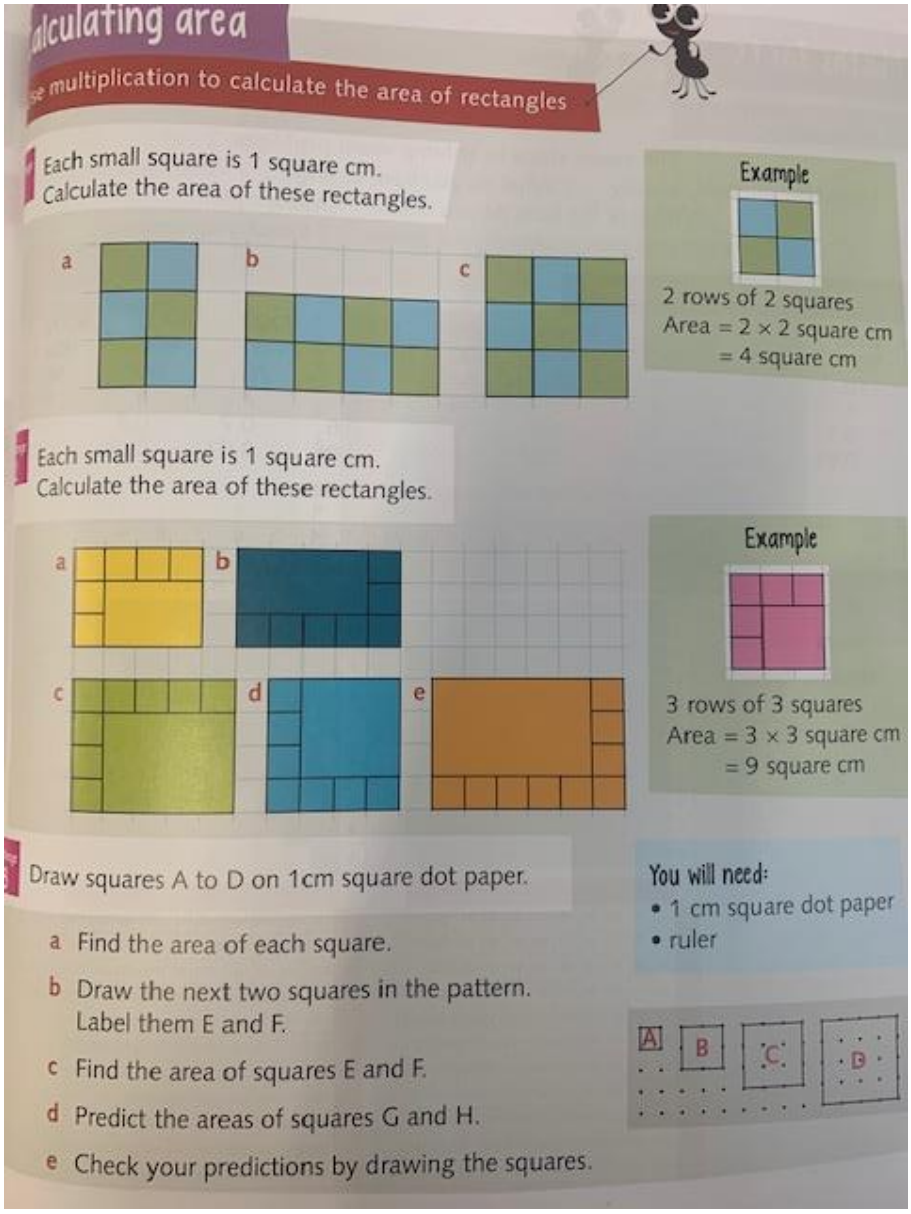
Maths A

Can I use multiplication to calculate the area of rectangles?



Day 2

AREA & PERIMETER
WORDED PROBLEMS

Answer the questions below, giving the **area** **and** the **perimeter**. Use your whiteboards to make jottings.

1. A rectangular field measures 10ft by 3ft. What is the area? What is the perimeter?

Area _____ **Perimeter** _____

2. A Square shaped room measures 8m on one side.
What is the area? What is the perimeter?

Area _____ **Perimeter** _____

3. Mary wants new carpet for her dining room. The room is a rectangle and measures 12ft by 6ft. What is the area? What is the perimeter?

Area _____ **Perimeter** _____

4. Larry needs new curtains. His window is a rectangle, and measures 2m by 1.5m.
What is the area? What is the perimeter?

Area _____ **Perimeter** _____

5. If the area of a square is 100cm^2, what is the length of each side? What is the perimeter?

Length of each side _____ **Perimeter** _____

6. If a rectangular football pitch has sides measuring 20m and 18m, what is the area? What is the perimeter?

Area _____ **Perimeter** _____

NOW

On your whiteboard, write three worded problems for your partner. Remember to include area and perimeter.

Day 3:

Next up — some more practice finding the perimeter and area of shapes.

Example

Jim uses some centimetre squares to make the shape on the right.

Work out the area and perimeter of his shape.

Each row has seven squares and each column has three squares.

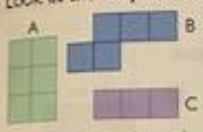
Each square has a width of 1 cm, so the shape is 7 cm long and 3 cm wide.

So the area is $7 \times 3 = \mathbf{21\ cm^2}$

and the perimeter is $2 \times (7 + 3) = 2 \times 10 = \mathbf{20\ cm}$

Set A

Look at the shapes below.



List the shapes in order of:

1. smallest to largest area.
2. smallest to largest perimeter.

Devin makes the shape below out of 2 rows of 8 squares. Each square has a width of 1 cm.

3. Find the area of his shape.
4. Find the perimeter of his shape.
5. Devin adds another 2 rows of 8 squares to his shape. What is the new perimeter?

6. Copy the table below and fill in the missing values for squares of different widths.

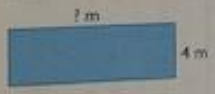
Width	Perimeter	Area
1 cm	4 cm	1 cm²
3 cm		
5 cm		
	28 cm	

Set B

1. Copy the table below and fill in the missing values for squares of different widths.

Width	Perimeter	Area
4 cm		
6 cm		
8 cm		
	36 cm	

The length of the swimming pool below is three times the size of its width.



Calculate the:

2. perimeter of the pool.
3. area of the pool.

Leila uses squares of card to make the shape below. Each square has a width of 2 cm.

What is the shape's:

4. perimeter?
5. area?
6. Leila adds another row of 3 squares to her shape. What is the new perimeter?

Day 4:

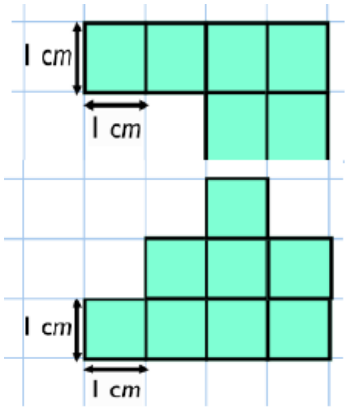
Challenge 1

Varied Fluency

1. Work out the area of these shapes and write your measurements in cm2.

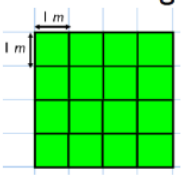
a.

b.

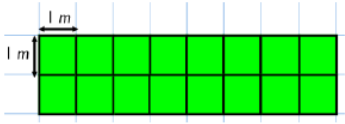


2. Farmer Greg and Farmer Brian are measuring their fields in square metres. Whose is bigger?

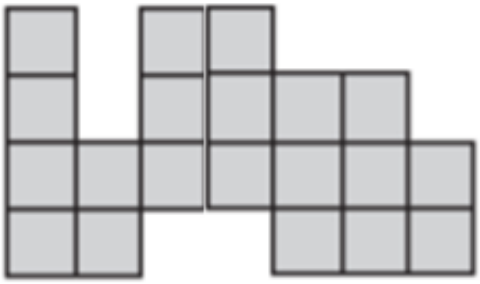
Farmer Greg



Farmer Brian



3. What is the area of this playground in square metres? Each square shown is worth 1m2.



Challenge 2

Reasoning and Problem Solving

A bite has been taken out of this chocolate bar. The bar was a rectangle.

Can you find the area of the bar before the bite was taken?

Challenge 3

Reasoning and Problem Solving

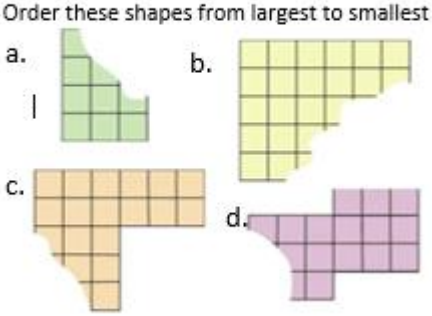
Always, sometimes or never?

If you draw a square on a square piece of paper, it will have an even area.

Challenge 2

Reasoning and Problem Solving

Order these shapes from largest to smallest



Challenge 1

Varied Fluency

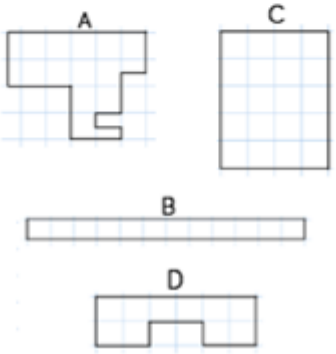
1. Find the area of these shapes in cm2 and write these in your book.

Write < or > between the images and your measurements.

a.

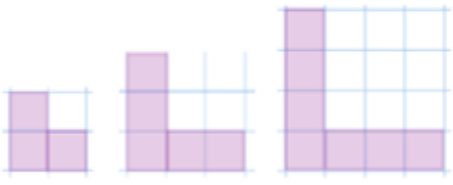
b.

2. Put these shapes in order from largest to smallest area.



Challenge 3

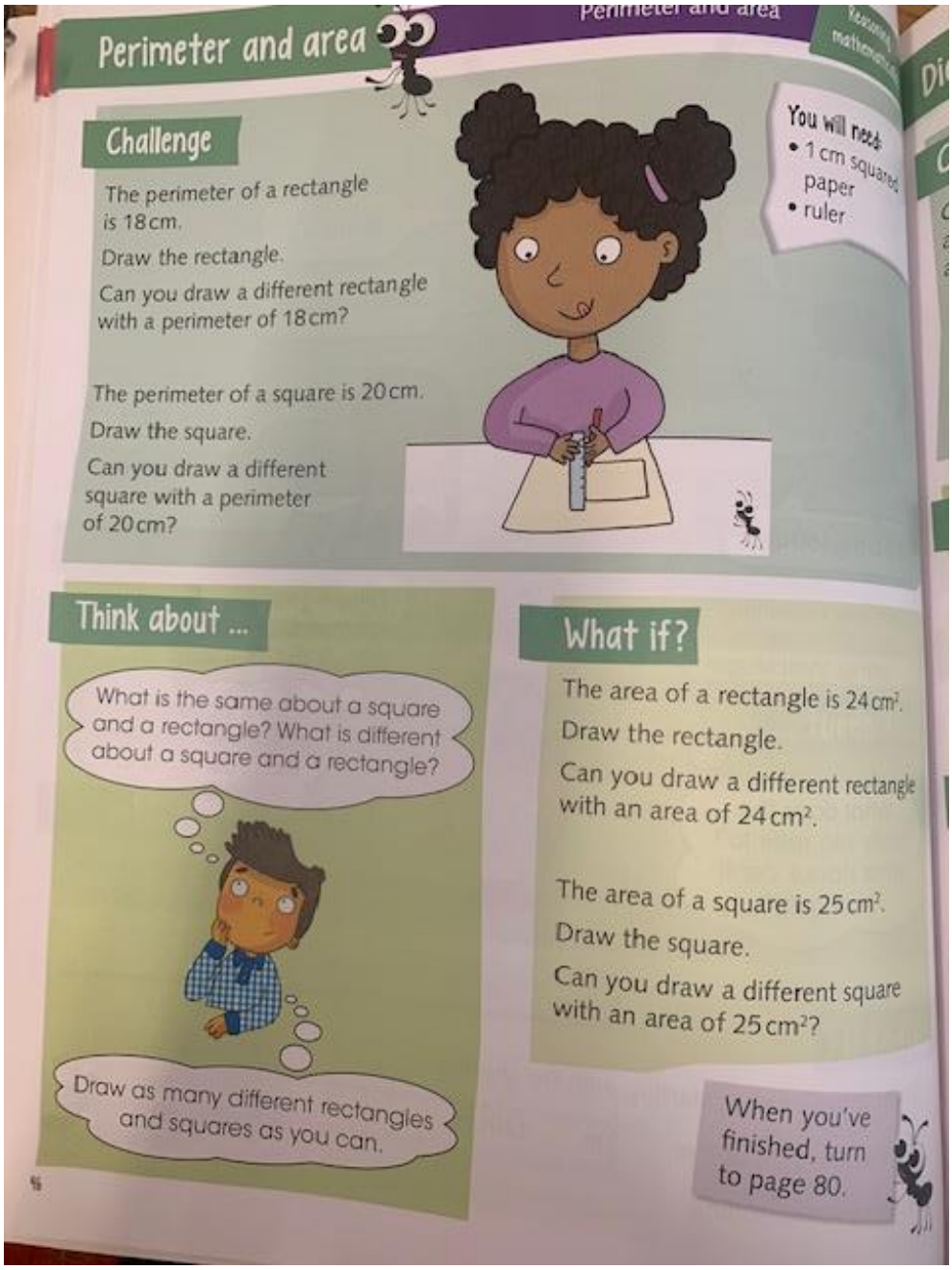
Reasoning and Problem Solving



Look at the shapes. Can you spot the pattern and explain how the area is changing each time?

Can you predict what the area of the 6th shape in this sequence would be?

Day 5:



Perimeter and area

Challenge

The perimeter of a rectangle is 18 cm.

Draw the rectangle.

Can you draw a different rectangle with a perimeter of 18 cm?

The perimeter of a square is 20 cm.

Draw the square.

Can you draw a different square with a perimeter of 20 cm?

You will need:
- 1 cm squared paper
- ruler

Think about ...

What is the same about a square and a rectangle? What is different about a square and a rectangle?

Draw as many different rectangles and squares as you can.

What if?

The area of a rectangle is 24 cm².

Draw the rectangle.

Can you draw a different rectangle with an area of 24 cm².

The area of a square is 25 cm².

Draw the square.

Can you draw a different square with an area of 25 cm²?

When you've finished, turn to page 80.