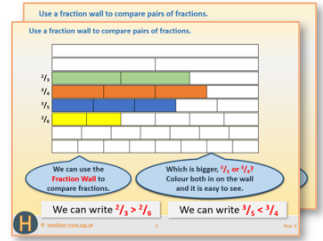


Week 11, Day 3

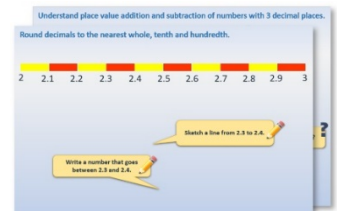
Find the perimeter of rectangles

Each day covers one maths topic. It should take you about 1 hour or just a little more.

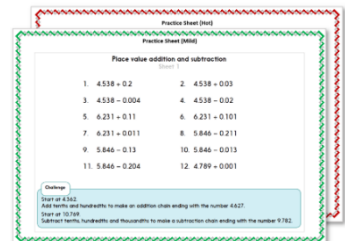
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



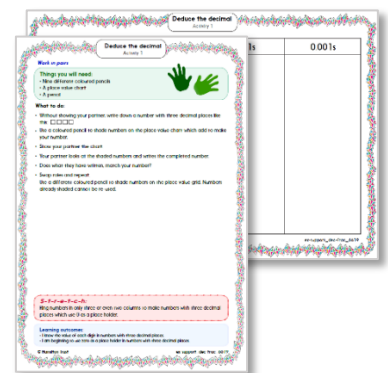
OR start by carefully reading through the **Learning Reminders**.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



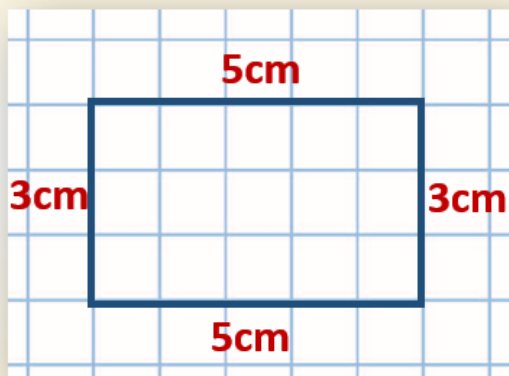
3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation**...

Learning Reminders

Find the perimeter of rectangles.



We call the distance round the outside of a shape its **perimeter**.

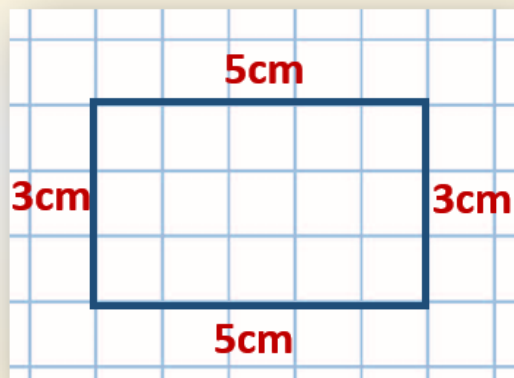
This rectangle is 3cm wide and 5cm long.

We know opposite sides of the rectangle are the same length.

If we found $5 + 3 + 5 + 3$ it would give us the perimeter of the rectangle but there is a quicker way...

Learning Reminders

Find the perimeter of rectangles.



We can **double the width** and then **double the length** and **add the two** together to find the perimeter, *or* **add the width and the length** and then **double the total**.

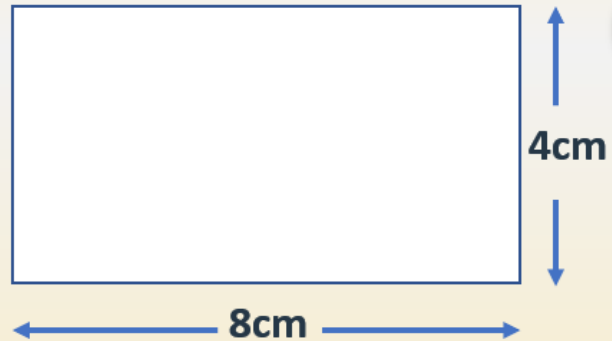
$$(5\text{cm} \times 2) + (3\text{cm} \times 2) = 16\text{cm}$$

or

$$(5\text{cm} + 3\text{cm}) \times 2 = 16\text{cm}$$

Learning Reminders

Find the perimeter of rectangles.



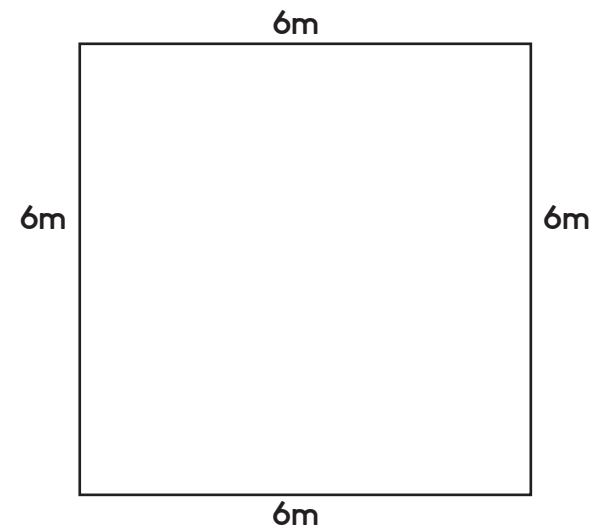
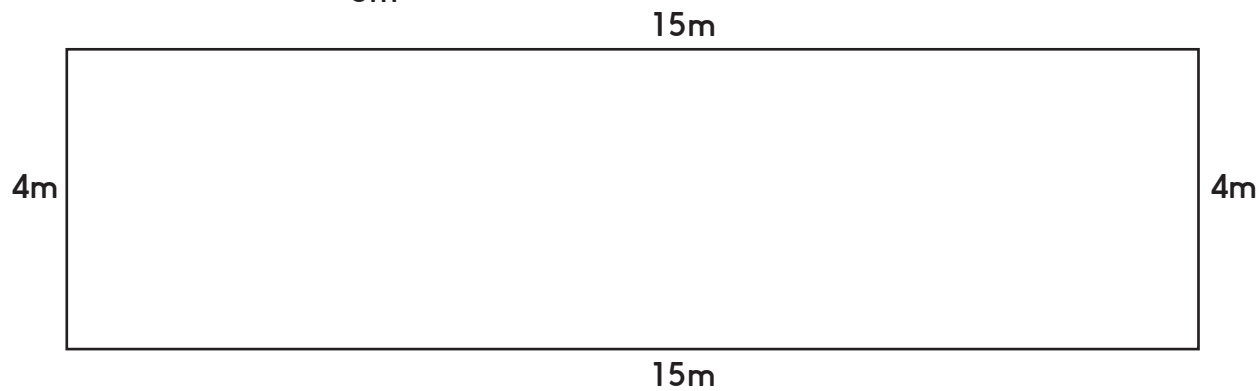
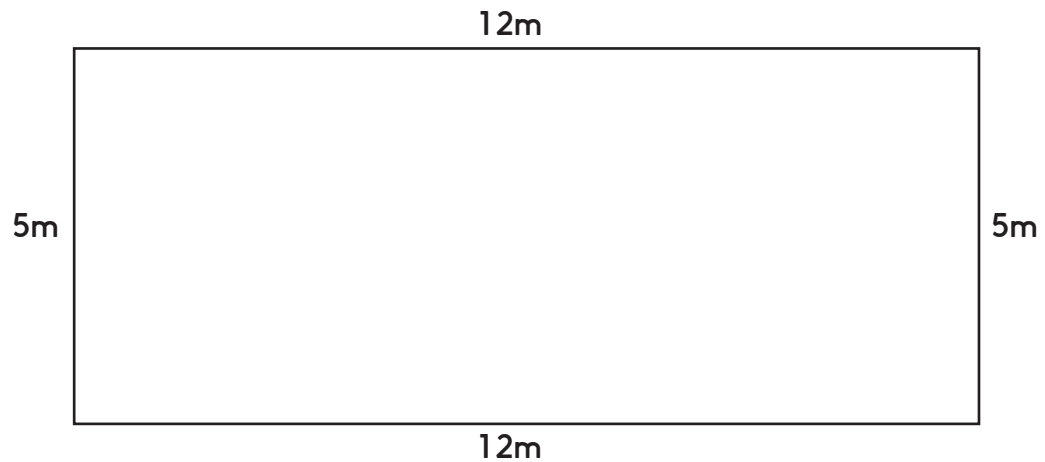
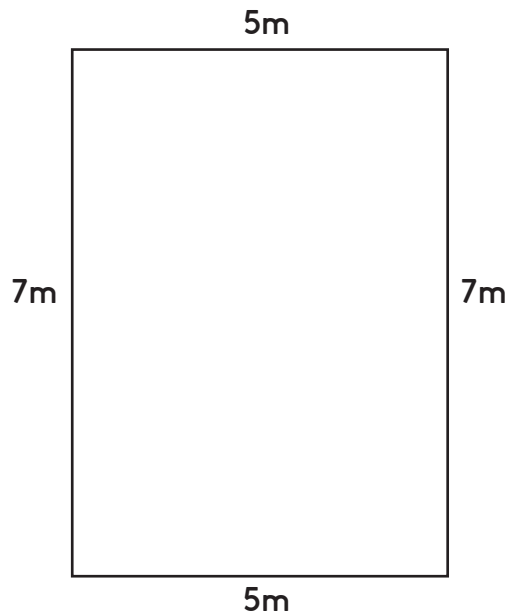
Try both strategies to find the perimeter of this rectangle. Either add 4 and 8 then double or double each number then add.

Check that the answer is 24cm.

Practice Sheet Mild

Perimeter of rectangles

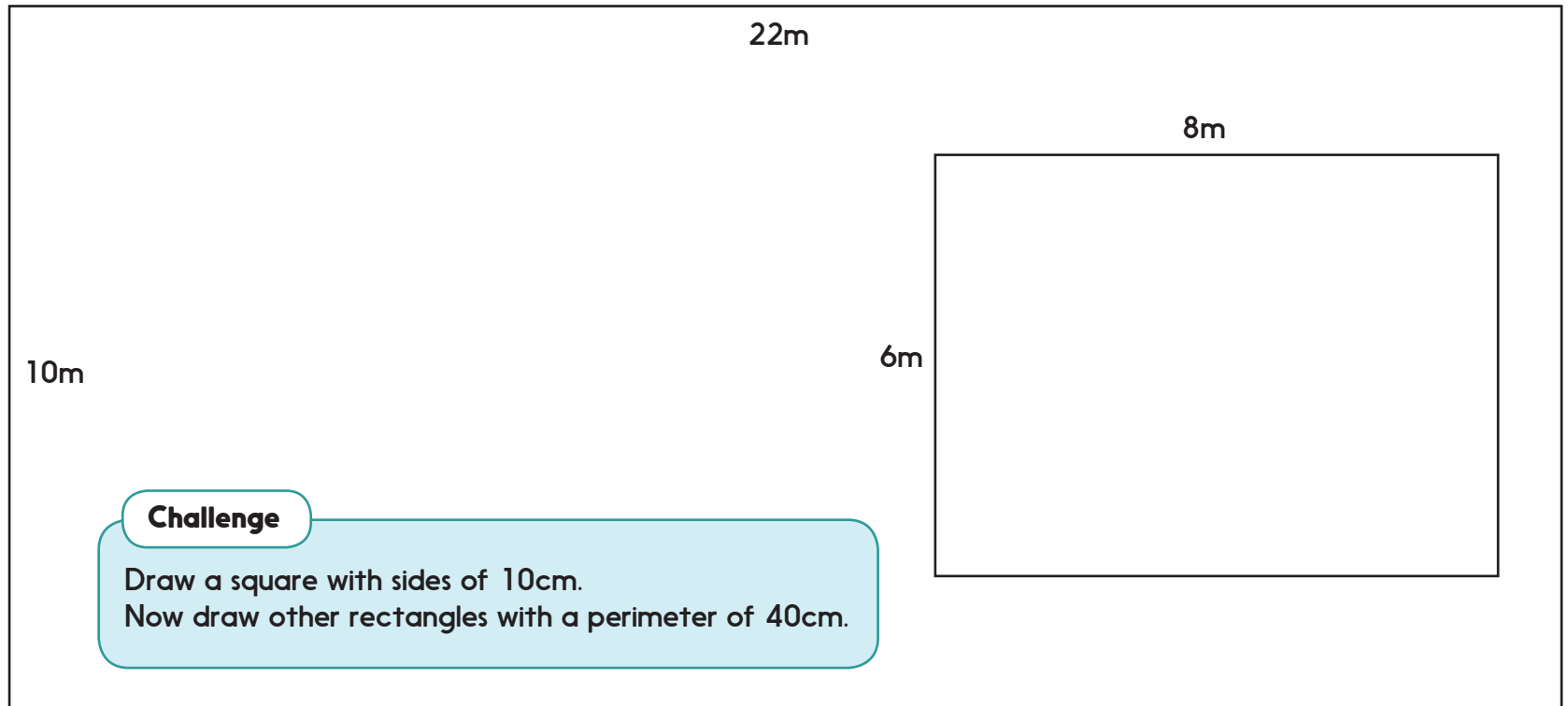
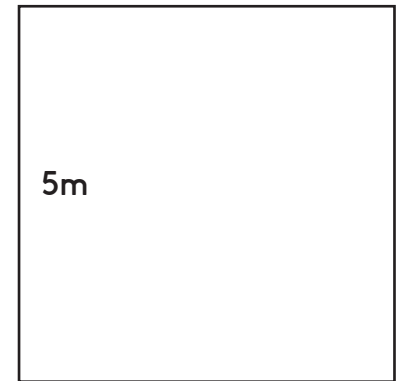
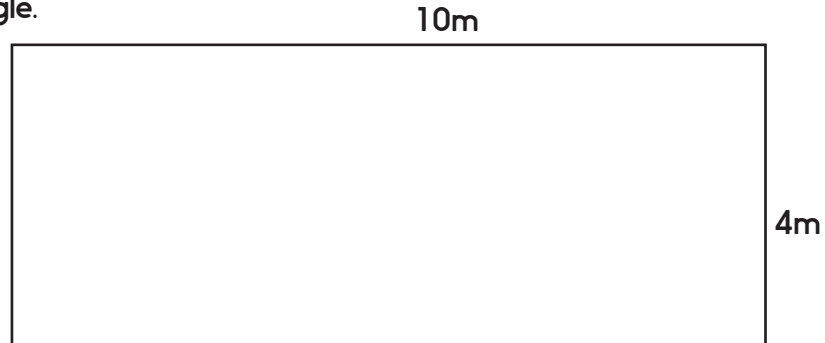
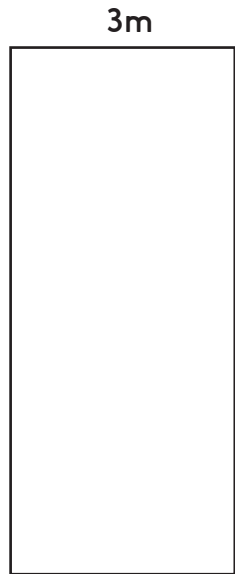
Calculate the perimeter of each rectangle.



Practice Sheet Hot

Perimeter of rectangles

Calculate the perimeter of each rectangle.



Challenge

Draw a square with sides of 10cm.
Now draw other rectangles with a perimeter of 40cm.

Practice Sheets Answers

Perimeter of rectangles (mild)

$$7\text{m} + 5\text{m} + 7\text{m} + 5\text{m} = 24\text{m}$$

$$12\text{m} + 5\text{m} + 12\text{m} + 5\text{m} = 34\text{m}$$

$$15\text{m} + 4\text{m} + 15\text{m} + 4\text{m} = 38\text{m}$$

$$6\text{m} + 6\text{m} + 6\text{m} + 6\text{m} = 24\text{m}$$

Perimeter of rectangles (hot)

$$7\text{m} + 3\text{m} + 7\text{m} + 3\text{m} = 20\text{m}$$

$$10\text{m} + 4\text{m} + 10\text{m} + 4\text{m} = 28\text{m}$$

$$5\text{m} + 5\text{m} + 5\text{m} + 5\text{m} = 20\text{m}$$

$$22\text{m} + 10\text{m} + 22\text{m} + 10\text{m} = 64\text{m}$$

$$8\text{m} + 6\text{m} + 8\text{m} + 6\text{m} = 28\text{m}$$

Challenge

Rectangles with a perimeter of 40cm will have a longer and shorter side that add to 20cm (so doubling to 40cm).

Whole number answers include all the pairs to 20, i.e. 19cm + 1cm, 18 + 2, 17 + 3 etc.

Children may also give one of many solutions that do not use whole numbers. As long as the pair adds to 20, these are correct, e.g. 10.5cm + 9.5cm, 15.1 + 4.9, 13.75 + 6.25 etc.

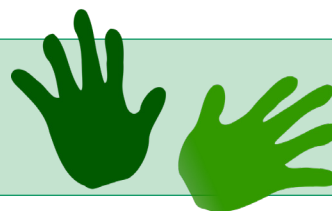
A Bit Stuck?

Maths on the edge

Work in pairs

Things you will need:

- A pencil
- Lots of cm^2 paper



What to do:

- Take it in turns to draw a rectangle on squared paper, making sure that each side is a whole number of centimetres. At least one side must be longer than 10cm.
- Find the lengths of two different sides.
- One person adds these two sides, then doubles the answer to find the perimeter.
- The other person adds the four sides together to find the perimeter.
- Check that you both get the same answer.
- Once agreed, write the perimeter by the rectangle.
- Swap roles and repeat.

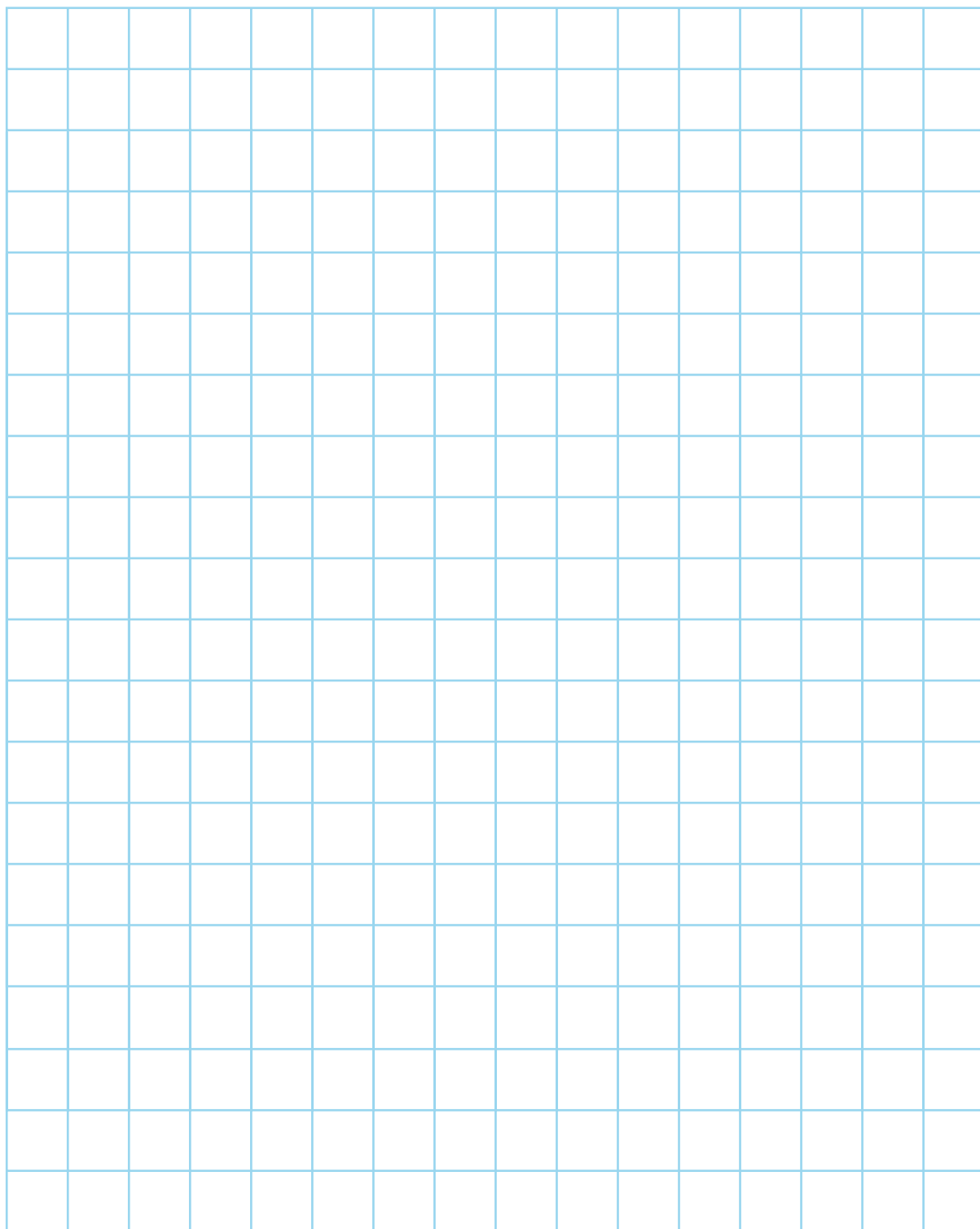
S-t-r-e-t-c-h:

Try and draw a rectangle with a perimeter of 14cm.

Learning outcomes:

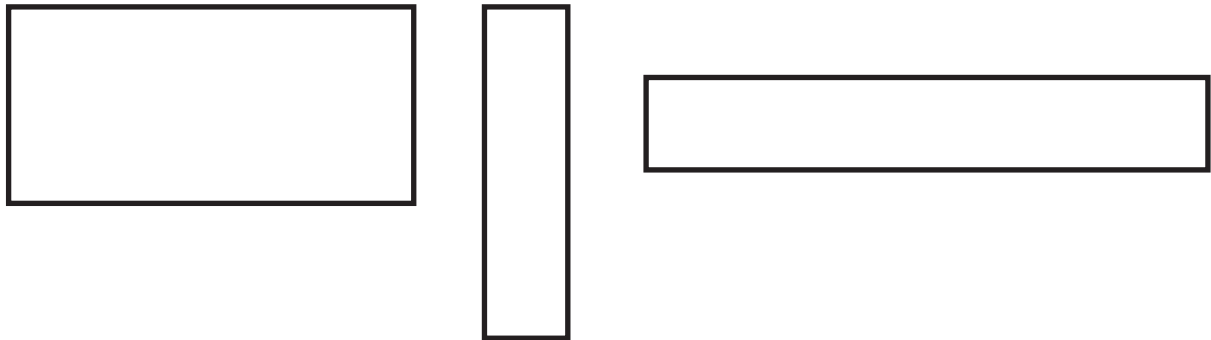
- I can find the perimeter of a rectangle by finding the total of all four sides.
- I can add and double 2-digit numbers.
- I am beginning to find the perimeter by doubling the total of two adjacent sides.

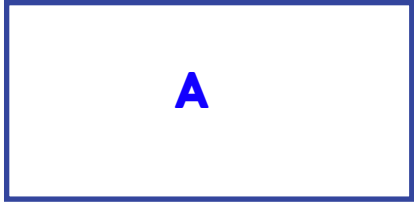
A Bit Stuck?
Maths on the edge



Investigation

Rectangle perimeters



- Draw at least 6 rectangles on cm^2 paper, with each side **a whole number of centimetres**.
- Label each rectangle with a letter.

- Estimate which rectangle might have the shortest perimeter and which might have the longest, recording their letters in order.
e.g. **B C A F D E**
- Now find the perimeter of each and write it inside each rectangle.
- Which doubling strategy did you use to find the perimeter?
- Were your estimates for the shortest and longest perimeters correct?
- Choose one of your rectangles.
Now try to draw another that has a **different** length and width but the **same perimeter**.

Challenge

Draw as many rectangles as you can with a perimeter of 24cm, each side a whole number of centimetres.

Investigation

Rectangle perimeters

