

Maths on the edge

Activity 1

Focus of activity: Working out perimeters.

Working together: conceptual understanding

- Choose a book with sides measuring a whole number of centimetres (or as near as possible). Remind children that the perimeter is the distance round the edge. Carefully lay a piece of string all the way round the edge and cut it so that it is the same length as the perimeter.
- Next help a child to place a piece of string along two adjacent sides. Ask another child to do the same along the other two adjacent sides. Put the two strings side by side. What do they notice? Now lay the two pieces of string end to end alongside the string used to go around the whole perimeter. What do they notice? (This may not be exactly accurate, but should be close enough for children to see that the length of two adjacent sides of a rectangle is half the perimeter).
- Measure two different sides. Draw a diagram on the flipchart and label these two sides. Say that we don't need to measure all four sides as opposite sides of a rectangle are the same length, but children can check if they want to!



- Explain that we can add two adjacent (neighbouring) sides, and then double to find the whole perimeter. Ask one half of the group to add the two lengths, and then double. Ask the rest of the group to add all four sides together. Do they get the same answer?
- Draw a 19cm by 17cm rectangle on cm^2 paper. Ask children to find the lengths of two different sides. They add these together and then double to find the perimeter. As a group check that this is the same as adding all four sides together.

Up for a challenge?

How do you think we might find the perimeter of a square?

Now it's the children's turn:

- Give each pair cm^2 paper. They draw a rectangle, making sure that each side is a whole number of centimetres and one side is longer than 10cm. They find the lengths of two different sides. One child adds two sides, then doubles the answer to find the perimeter. The other adds the four sides together. They check that they get the same answer. Once agreed, they write the perimeter by the rectangle. Swap roles and repeat.
- Go round the group and mark their perimeters as they find them.

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

If children cope well, challenge them to draw a rectangle with a perimeter of 14cm.

Things to remember

What is the perimeter of a shape? Ask children to describe two ways of finding the perimeter of a rectangle. Which way did they prefer?

You may want to add something that has emerged from the activity. This may refer to misconceptions or mistakes made.

Resources	Outcomes
<ul style="list-style-type: none">• A book with sides measuring a whole number of centimetres (or as near as possible)• String• Scissors• Rulers• cm² paper	<ol style="list-style-type: none">1. Children can find the perimeter of a rectangle by finding the total of all four sides.2. Children can add and double 2-digit numbers.3. Children begin to find the perimeter by doubling the total of two adjacent sides.

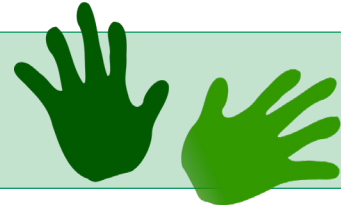
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Activity 1

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.