Ali Ant's long walk
Activity 1

Focus of activity: Finding perimeters.

Working together: conceptual understanding
- Show three books with different proportions, but not very different perimeters. In advance use string to measure the perimeter of each book cover, cutting the string to the length of each perimeter. Show children the three stretched out pieces of string in random order and explain that each piece of string fits exactly round the outside edge of one of the book covers. Remind them that the distance around the edge of a shape is called its <u>perimeter</u>.
- Ask children to guess which piece of string went with each book cover. If they disagree, take a vote! *Which book cover do you think has the greatest perimeter? And the least?* Test out children's ideas by asking one of them to put one piece of string around the outside edge of one of the book covers. Do they want to change their ideas about which of the other pieces of string matches the perimeters of the other book covers?
- Through discussion, trial and improvement match each piece of string to the correct book cover.
- Ask children to each draw any straight-sided shape on their whiteboards. They measure each side to the nearest whole centimetre and write the measurement by each side. (Remind children to start measuring by aligning 0 at the end of each side, rather than the end of the ruler if the ruler has a sacrificial strip before zero.) They then add up the lengths of each side to give the perimeter.
- Share their shapes and perimeters with the whole group.

Up for a challenge?
Try to draw a square with a perimeter of 20cm. Who was closest? How did they go about drawing the square?

Now it's the children's turn:
- Give each pair a sheet of 2D shapes for Ali Ant to walk around. Children discuss which shape they think has the greatest perimeter and which has the least perimeter for Ali Ant to walk around. They then measure the length of each side and find the perimeter of each shape to test out their guesses.
- Go round the group and check that they understand what a perimeter is and are measuring perimeters correctly.

S-t-r-e-t-c-h:
If children cope well, ask them to draw three squares, one with each side measuring 3cm, one with sides measuring 4cm and one with sides measuring 5cm. They work out the perimeter of each. Can they see a quick way to find the perimeter of a square?

Things to remember

Remember that perimeter is the distance all the way around the outside of a shape. Ask children to say which shapes had the greatest and least perimeters. Were these the shapes they thought or were they surprised?

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

| Resources	Outcomes
• Three books of different proportions and three pieces string cut to the length of the books' perimeters • Rulers • Mini-whiteboard and pens	1. Children understand what a perimeter is. 2. Children can measure perimeters of straight-sided shapes. 3. Children begin to calculate perimeters of squares.

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Activity 1

*Work in pairs, but record your work on your own sheet.*

Things you will need:
• A sheet of 2D shapes
• A ruler
• A pencil
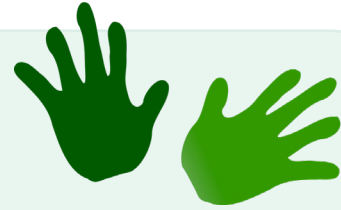
What to do:

• Look at the sheet of shapes.
  Ali Ant is going to walk round the edges of each shape.
  Which shape do you think has the greatest perimeter for Ali Ant to walk?
  Which shape has the least perimeter for Ali Ant to walk around?

• Measure the length of each side of a shape to the nearest centimetre.
  Add the lengths of the sides together to find the perimeter.

• Repeat for each shape.

• Were your guesses right or were you surprised?
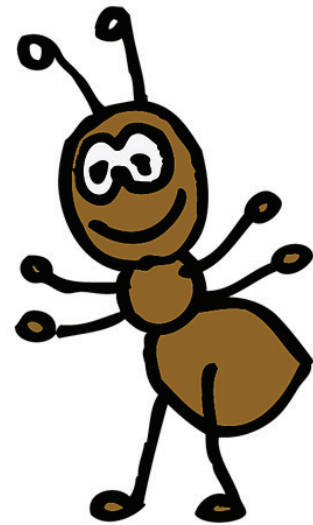
S-t-r-e-t-c-h:
Draw a square with each side 3cm long. Find the perimeter.
Draw a square with each side 4cm long. Find the perimeter.
Draw a square with each side 5cm long. Find the perimeter.
Can you see a quick way to work out the perimeter of a square?

Learning outcomes:
• I understand what a perimeter is.
• I can measure perimeters of straight-sided shapes.
• I am beginning to calculate perimeters of squares.

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