Length and Perimeter

Strand: Measures
Strand unit: Length

Curriculum Objectives

456 Understand estimate and measure the perimeter of regular 2D shapes.

Looking back: What the 3rd class programme covered

1. Addition and subtraction of units of length.

Maths skills used in this topic

1. **Integrating and connecting:** Make mathematical connections within mathematics itself, throughout other subjects, and in applications of mathematics in practical everyday contexts.
2. **Understanding and recalling:** Understand and recall terminology, facts and definitions.

Concrete materials

A trundle wheel

Vocabulary

Perimeter, formula

Teaching points

1. Children often confuse area with perimeter. Emphasise that perimeter is a measure of length and is always measured in cm, m or km. Perimeter and area are in 2 separate units in this book.
2. Physical activities involving perimeter might be carried out: walking around the perimeter of the hall, running the perimeter of the playing field, measuring the perimeter of the classroom, estimating the perimeter of a desktop, etc.

Oral and mental activities

Loop game (see Folens Planet Maths Resources):
Doubles and halves. Perimeter of a rectangle = $(L + B) \times 2$.
Give simple examples, e.g. $(4 + 2) \times 2$, $(3 + 7) \times 2$

Target board 4

1. Express each metre measurement as cm.
2. Express each centimetre measurement as metres.
3. What must I do to each to reach 1 metre? (Do I add or subtract?)

Topic suggestions

Allow the children to discover that the perimeter of a rectangle is double the sum of the length and the width.

Activity A

1. Which coast of the island has the greater perimeter: the west coast or the east coast?
2. Discuss how the inlets of the shore increase the perimeter. Ask children to think of shapes of similar areas with very different perimeters (picture, circle, V, star).
3. If the perimeter of the west coast is 3 times that of the east coast (120 metres), what's the perimeter of the west coast?
4. Farmer Brown walks around his field every morning.
   (a) Which sides of the field are the same lengths?
   (b) At which point is Farmer Brown halfway around the field?
   (c) If the length of the field is 20m and the width is 10m, how far has he walked when he is halfway round and all the way round? Change the numbers for more questions.

Differentiation

Lower attainers:

See separate activity page.

Higher attainers:

More able children should be able to work out the width of a rectangle if given the perimeter and the length. Allow them to explore this task.

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Linkage

Shape and space: 2D shapes

Integration

PE: Athletics

Maths at home/parental involvement

Explore perimeter at home:
Which room in your house has the greatest perimeter? What is often found all along the bottom of the walls in a room, except where there are doors? (skirting boards). Does the floor of a room have the same perimeter as the ceiling of the same room? If there are gardens outside your house, which one (front or back) has the greater perimeter? What do neighbours often build or erect along the perimeter of their gardens? (Boundary wall, fence, hedge.)