National Curriculum Links

Links to the National Curriculum in England

# Chapter 22: Perimeter, area and volume

Pupils should be taught to:

## Year 3

* measure the perimeter of simple 2-D shapes

## Year 4

* measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
* find the area of rectilinear shapes by counting squares

## Year 5

* measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
* calculate and compare the area rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2), and estimate the area of irregular shapes
* estimate volume [e.g., using 1 cm3 blocks to build cuboids (including cubes)]

## Year 6

* recognize that shapes with the same areas can have different perimeters and vice versa
* recognize when it is possible to use formulae for area and volume of shapes
* calculate the area of parallelograms and triangles
* calculate, estimate and compare volume of cubes and (*other*) cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [e.g., mm3 and km3]
* illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

Links to Curriculum for Excellence in Numeracy and Mathematics in Scotland

# Chapter 22: Perimeter, area and volume

## First

***Experiences and outcomes:*** *I can estimate the area of a shape by counting squares or other methods.* ***MNU 1-11b***

***Benchmark:***

* uses square grids to estimate then measure the areas of a variety of simple 2D shapes to the nearest half square
* creates shapes with a given area to the nearest half square using square tiles or grids
* recognizes that different shapes can have the same area (conservation of area)

## Second

***Experiences and outcomes:*** *I can explain how different methods can be used to find the perimeter and area of a simple 2D shape or volume of a simple 3D object.* ***MNU 2-11c***

***Benchmark:***

* draws squares and rectangles accurately with a given perimeter or area
* calculates the perimeter of simple straight sided 2D shapes in millimetres (mm), centimetres (cm) and metres (m)
* calculates the area of squares, rectangles and right-angled triangles in square millimetres (mm2), square centimetres (cm2) and square metres (m2)
* calculates the volume of cubes and cuboids in cubic centimetres (cm3) and cubic metres (m3)

Links to Curriculum for Wales: Programme of Study for Mathematics, Key Stages 2–4

# Chapter 22: Perimeter, area and volume

Learners should be taught to:

## Year 3

* recognize that perimeter is the distance around a shape
* find areas by counting squares

## Year 4

* measure and calculate the perimeter of squares and rectangles
* recognize volume in practical contexts

## Year 5

* measure and calculate perimeters
* calculate, estimate and compare the area of squares and rectangles using standard units
* find volumes by counting and other practical methods

## Year 6

* calculate the area of squares and (other) rectangles

Australian Curriculum for Mathematics

This maps entries in the **Australian Mathematics Curriculum (from Foundation Stage to Year 7)** to the content of chapters of Haylock, *Mathematics Explained for Primary Teachers*, 6th edition.

# Chapter 22: Perimeter, area and volume

## Year 4

* Compare the areas of regular and irregular shapes by informal means
* Compare objects using familiar metric units of area and volume

## Year 5

* Choose appropriate units of measurement for … area (and) volume
* Calculate the perimeter and area of rectangles using familiar metric units

## Year 6

* Solve problems involving the comparison of … areas using appropriate units
* Connect volume and capacity and their units of measurement

## Year 7

* Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving
* Calculate volumes of rectangular prisms