

Geometric Reasoning 5.14	Length of unit: 2 weeks	Week beg:	Year:5	Teacher:
<p>Success criteria</p> <p>Pupils can explain how to find the perimeter and area of different shapes, using this knowledge and understanding to solve problems.</p>	<p>Prior Learning:</p> <p>Check that children can already</p> <ul style="list-style-type: none"> • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left / right and up / down • plot specified points and draw sides to complete a given polygon • complete a simple symmetric figure with respect to a specific line of symmetry • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares 		<p>Resources</p> <p>Maths vocabulary book</p> <p>Using and Applying in every maths lesson</p> <p>Assessment through guided maths</p> <p>Think Maths!</p> <p>Pitch and Expectations Y5 and Y6</p> <p>Mind the Gap (L3 to L4)</p> <p>Overcoming Barriers to Learning – L3 to 4 and L4 to 5 (available on M drive)</p> <p>Securing Level 4 and Securing Level 5 documents (available on M drive))</p> <p>Errors and Misconceptions in Maths at KS2</p>	
<p>Guidance</p> <p>Pupils calculate the perimeter of rectangles and related composite shapes, including using the relations of perimeter or area to find unknown lengths. Missing measures questions such as these can be expressed algebraically for example, $4 + 2b = 20$ for a rectangle of sides 2 cm and b cm and perimeter of 20 cm.</p> <p>Pupils calculate the area of scale drawings using given measurements.</p>				

Learning objectives

Pupils should be taught to:

Geometry: properties of shapes

- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles

Geometry: position and direction

- identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

Measurement

- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes
- estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].

Pupil outcomes:

I can explain which lengths I do not need to measure on a scale drawing of an L shaped garden but am still able to calculate the perimeter.

I can explain and represent how rectangles with an area of 36cm^2 can have different perimeters and explain how I know which one has the longest perimeter.