

# Geometric Reasoning 5.4

Length of unit:  
**2 weeks**

Week beg:

Year:5

Teacher:

## Success criteria

Pupils can explain angle as a measure of turn, draw and measure angles and use their understanding of angle to describe the properties of different shapes.

## Prior Learning:

Check that children can already

- 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

## Resources

Maths vocabulary book

Using and Applying in every maths lesson

Assessment through guided maths

Think Maths!

Pitch and Expectations Y5 and Y6

Mind the Gap (L3 to L4)

Overcoming Barriers to Learning – L3 to 4 and L4 to 5 (available on M drive)

Securing Level 4 and Securing Level 5 documents (available on M drive))

Errors and Misconceptions in Maths at KS2

## Guidance

Pupils become accurate in drawing lines with a ruler to the nearest millimeter, and measuring with a protractor. They use conventional marking for parallel lines and right angles.

Pupils use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals, for example using dynamic geometry ICT tools.

Pupils should use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems.

## Learning objectives

Pupils should be taught to:

Geometry: properties of shapes

- identify 3D shapes including cubes and other cuboids from 2D representations
- know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.
- draw given angles and measure them in degrees ( $^{\circ}$ )
- identify
  - angles at a point and one whole turn (total  $360^{\circ}$ )
  - angles at a point on a straight line and  $\frac{1}{2}$  a turn (total  $180^{\circ}$ )
  - other multiples of  $90^{\circ}$
- 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

## Pupil outcomes:

*I can draw scalene, equilateral, isosceles and right angled triangles. I can decide when I need to measure an angle in any triangle and when I can work out the size of an angle from the information I already have, explaining my thinking.*