Geometry

Selected National Curriculum Programme of Study Statements

Pupils should be taught to:

- 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
- complete a simple symmetric figure with respect to a specific line of symmetry

The Big Ideas

During this year, pupils increase the range of 2-D and 3-D shapes that they are familiar with. They know the correct names for these shapes, but, more importantly, they are able to say why certain shapes are what they are by referring to their properties, including lengths of sides, size of angles and number of lines of symmetry.

The naming of shapes sometimes focuses on angle properties (e.g. a rectangle is right-angled), and sometimes on properties of sides (e.g. an equilateral triangle is an equal sided triangle).

Shapes can belong to more than one classification. For example, a square is a rectangle, a parallelogram, a rhombus and a quadrilateral.

Mastery Check

Please note that the following columns provide indicative examples of the sorts of tasks and questions that provide evidence for mastery and mastery with greater depth of the selected programme of study statements. Pupils may be able to carry out certain procedures and answer questions like the ones outlined, but the teacher will need to check that pupils really understand the idea by asking questions such as 'Why?', 'What happens if …?', and checking that pupils can use the procedures or skills to solve a variety of problems.

Mastery	Mastery with Greater Depth
Below are five quadrilaterals: a rectangle, a rhombus, a square, a parallelogram and an unnamed quadrilateral. Write the names of each of the quadrilaterals. Draw lines from each shape to match the properties described in the boxes below. All sides equal Has an acute angle Opposite sides are of equal length All 4 angles are equal Has an obtuse angle	Captain Conjecture says that a rectangle is a regular shape because it has four right angles. Do you agree? Explain your reasoning. Captain Conjecture says that a quadrilateral can sometimes only have three right angles. Do you agree? Explain your reasoning.

Mastery	Mastery with Greater Depth
Draw some 2-D shapes that have: ■ no lines of symmetry ■ 1 line of symmetry ■ 2 lines of symmetry.	Tom says, 'In each of these shapes the red line is a line of symmetry.' Do you agree? Explain your reasoning.