

Investigating Shapes: Maths : Year 5 : Spring Term

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Children will identify common and distinctive properties of a variety of quadrilaterals and use conventional markings to show pairs of parallel lines. They will then use this information to find missing lengths and angles of rectangles and composite rectilinear shapes.	<ul style="list-style-type: none"> Do children know the properties of quadrilaterals, rectangles, squares and oblongs? Can children identify pairs of parallel lines and use their conventional markings? Can children find missing lengths and angles of rectangles? 	<ul style="list-style-type: none"> Slides Worksheets 1A/1B/1C Protractors Rectangles Challenge Rules (FSD? activity only)
Lesson 2	To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Children will look closely at a range of regular and irregular polygons, identifying differences between them. They will then practise measuring angles inside polygons and drawing them accurately. Some children may calculate the inside angles of regular polygons using a formula.	<ul style="list-style-type: none"> Do children know all the properties of regular polygons? Can children use rulers and protractors to measure and check if polygons are regular? Can children make a variety of different regular polygons accurately? 	<ul style="list-style-type: none"> Slides Worksheets 2A/2B/2C Protractors Make A Tangram (FSD? activity only)
Lesson 3	To identify, measure and draw diagonal lines.	Children will identify perpendicular and diagonal lines around and inside shapes, then either draw, measure and label shapes or investigate how the angles of certain shapes affect how they may be tessellated.	<ul style="list-style-type: none"> Can children explain what perpendicular and diagonal lines are? Can children measure and draw diagonal lines? Can children make conjectures about lines formed between sides? 	<ul style="list-style-type: none"> Slides Worksheets 3A/3B/3C Pairs of compasses and protractors Diagonal Lines Challenge (FSD? activity only)
Lesson 4	To identify 3-D shapes and explore their properties, including those of their 2-D plane surfaces.	Children will identify the plane surfaces of a range of polyhedrons, then identify, draw or make sets of 2-D shapes which, when put together may form a polyhedron.	<ul style="list-style-type: none"> Can children identify 3-D shapes, including cubes and cuboids, from 2-D representations? Can children explain the differences between cubes and cuboids? Can children visualise and design 3-D shapes? 	<ul style="list-style-type: none"> Slides Worksheets 4A/4B/4C Constructing 3-D Shapes (FSD? activity only) 3-D construction toys such as K'NEX, Meccano or Polydron (FSD? activity only) Regular Polyhedrons (FSD? activity only)
Lesson 5	To identify, visualise and design 3-D shapes.	Children will identify the properties of a range of 3-D shapes with curved surfaces. They will then explore how they may be constructed using nets, and how they may be combined to create composite 3-D models.	<ul style="list-style-type: none"> Can children describe the properties of shapes with curved surfaces? Can children compare shapes with curved surfaces to polyhedrons? Can children combine simple 3-D shapes to make more complex shapes? 	<ul style="list-style-type: none"> Slides Worksheets 5A/5B/5C Cardboard boxes, wooden/plastic 3-D shapes, 3-D construction toys etc. (FSD? activity only)