


Subject	Year	Month	
Mathematics	10	May	
Topic:			
Constructions, loci and bearings			4 lessons
Content (Intent)			
Prior Learning Year 9 Constructions and loci October Year 10 Angles January		Future Learning Year 11 Circle theorems November	
Objectives			
<ul style="list-style-type: none"> • Draw 3D shapes using isometric grids; Should this be put into Y7 3D shapes/Y8 enlargement and bearings? • Understand and draw front and side elevations and plans of shapes made from simple solids; • Given the front and side elevations and the plan of a solid, draw a sketch of the 3D solid; • Use and interpret maps and scale drawings, using a variety of scales and units; • Read and construct scale drawings, drawing lines and shapes to scale; • Estimate lengths using a scale diagram; • Understand, draw and measure bearings; • Calculate bearings and solve bearings problems, including on scaled maps, and find/mark and measure bearings • Use the standard ruler and compass constructions: <ul style="list-style-type: none"> • an equilateral triangle; • bisect a given angle; • construct a perpendicular to a given line from/at a given point; • construct angles of 60°, 90°, 30°, 45°; • construct a regular hexagon inside a circle, and other polygons; • perpendicular bisector of a line segment; • Construct: <ul style="list-style-type: none"> • a region bounded by a circle and an intersecting line; • a given distance from a point and a given distance from a line; • equal distances from two points or two line segments; • regions which may be defined by 'nearer to' or 'greater than'; • Find and describe regions satisfying a combination of loci, including in 3D; • Use constructions to solve loci problems including with bearings; • Know that the perpendicular distance from a point to a line is the shortest distance to the line. 			
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)	
Drawings should be done in pencil. Relate loci problems to real-life scenarios, including mobile phone masts and coverage. Construction lines should not be erased.		End of half term no End of Year Mocks in November yr11	
		How can parents help at home?	
		MathsWatch clips (Qualification KS4)	
Further reading/discussion			
Reading / Enrichment	Literacy	Numeracy Links	Careers Links Architect Designer Sailor/Fisherman