

Curriculum Map – GCSE Foundation Mathematics

Learning Phase 1 – Year 10		
Knowledge	Skills	Rationale
ALL students cover:	Through the mathematics content, pupils are taught to:	The order in which topics are taught are as recommended by the Route Map provided by AQA, the exam board which we use. However, faculty time and INSET time were used to check/amend hours needed for each unit of work.
Unit Topic	Develop fluency	Differentiated schemes of work were then written – one for the higher groups sitting the Foundation GCSE tier and one for the lower groups sitting the Foundation GCSE tier eg Unit 13 Perimeter and area was allocated 8 hours for the lower groups and 7 hours for the higher groups.
1 Angles	● consolidate their numerical and mathematical capability from key stage 3 and extend their understanding of the number system to include powers and roots	
2 Scale diagrams and bearings	● select and use appropriate calculation strategies to solve increasingly complex problems, including use of standard form and application and interpretation of limits of accuracy	
3 Basic number	● consolidate their algebraic capability from key stage 3 and extend their understanding of algebraic simplification	
4 Factors and multiples	● extend fluency with expressions and equations from key stage 3	
5 Basic algebra	● move freely between different numerical, algebraic, graphical and diagrammatic representations, including of linear functions	
6 Basic fractions	● use mathematical language and properties precisely	
7 Coordinates and linear graphs		
8 Basic decimals		
9 Rounding		
10 Collecting and representing data		
11 Sequences		
12 Basic percentages		
13 Perimeter and area		
14 Circumference and area		
15 Real life graphs		
16 Ratio and proportion		
17 Properties of polygons		
18 Equations		
19 Indices		
20 Standard form		
21 Basic probability		
22 Transformations		
23 Congruence and similarity		
24 2D representation of 3D shapes		
25 Calculating with percentages		
26 Measures		
27 Statistical measures		
28 Construction and loci		
	Reason mathematically	The order of topics is determined generally by the knowledge and skills which are pre-requisites for future topics.
	● extend and formalise their knowledge of ratio and proportion in working with measures and geometry	
	● extend their ability to identify variables and express relations between variables algebraically and graphically	
	● make and test conjectures about the generalisations that underlie patterns and relationships; look for proofs or counter-examples; begin to use algebra to support and construct arguments	
	● reason deductively in geometry, number and algebra, including using geometrical constructions	The subject content matches that set out in the Department for Education’s Mathematics GCSE subject content and assessment objectives document, and is common to all exam boards.

- interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning
- explore what can and cannot be inferred in statistical and probabilistic settings
- assess the validity of an argument and the accuracy of a given way of presenting information

Solve problems

- develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems
- develop their use of formal mathematical knowledge to interpret and solve problems, including in financial contexts
- make and use connections between different parts of mathematics to solve problems
- model situations mathematically and express the results using a range of formal mathematical representations, reflecting on how their solutions may have been affected by any modelling assumptions
- select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems; interpret their solution in the context of the given problem

Assessment 1 (NOV): One 1-hour paper covering Units 1-6.

Assessment 2 (MARCH): One 1-hour paper covering Sequences, Percentages & Perimeter and Area.

Assessment 3 (JUNE): Two 90 minute papers (Paper 1: Non-calculator, Paper 2: Calculator) covering Units 1-18.