Maths Year 11 Higher Learning Journey 2024-2025

Week	Date	Key constructs	Component Knowledge	Assessment
1 (Thurs)	05.09.24	**Graphs** **Trigonometry** **Place value and rounding**	• Understand and use upper and lower bounds in calculations involving trigonometry • Understand how to find the sine of any angle • Know the graph of the sine function and use it to solve equations • Understand how to find the cosine of any angle • Know the graph of the cosine function and use it to solve equations • Understand how to find the tangent of any angle • Know the graph of the tangent function and use it to solve equations • Find the area of a triangle and a segment of a circle • Use the sine rule to solve 2D problems • Use the cosine rule to solve 2D problems • Solve bearings problems use trigonometry • Use Pythagoras' theorem in 3D • Use trigonometry in 3D • Recognise how changes in a function affect trigonometric graphs	**Unit 13 – More trigonometry**
2	09.09.24			
3	16.09.24			
4	23.09.24	**Data: analysing and representation** **Data: collecting and organising**	• Understand how to take a simple random sample • Understand how to take a stratified sample • Draw and interpret cumulative frequency tables and diagrams • Work out the median, quartiles and interquartile range from a cumulative frequency diagram • Find the quartiles and the interquartile range from stem and leaf diagrams • Draw and interpret box plots • Understand frequency density • Draw histograms • Interpret histograms • Compare two sets of data	**Unit 14 – Further Statistics**
5	30.09.24			
6	07.10.24			
7	14.10.24	**Equations and inequalities** **Graphs**	• Solve simultaneous equations graphically • Represent inequalities on graphs • Interpret graphs of inequalities • Recognise and draw quadratic functions • Find approximate solutions to quadratic equations graphically • Solve quadratic equations using an iterative process • Find the roots of cubic functions • Sketch graphs of cubic functions • Solve cubic equations using an iterative process	**Unit 15 – Equations and graphs**
8	21.10.24			
Half Term				
9	04.11.24		**Mock Prep**	**GCSE Mock Paper**
10	11.11.24		**Mock Prep**	
11	18.11.24		**Mocks**	
12	25.11.24		**Mocks**	
13	02.12.24		**Mocks**	
14	09.12.24		**RAP/ addressing misconceptions**	
15	16.12.24		**RAP/ addressing misconceptions**	
Christmas				

16	06.01.25	**Angles** **Geometric proof**	• Solve problems involving angles, triangles and circles • Understand and use facts about chords and their distance from the centre of a circle • Solve problems involving chords and radii • Understand and use facts about tangents at a point and from a point • Give reasons for angle and length calculations involving tangents • Understand, prove and use facts about the angle subtended at the centre and the circumference of circles • Understand, prove and use facts about the angle in a semicircle being a right angle • Find missing angles using these theorems and give reasons for answers • Understand, prove and use facts about angles subtended at the circumference of a circle • Understand, prove and use facts about cyclic quadrilaterals • Prove the alternate segment theorem • Solve angle problems using circle theorems • Give reasons for angle sizes using mathematical language • Find the equation of the tangent to a circle at a given point	**GCSE Past Paper**
17	13.01.25			
18	20.01.25			
19	27.01.25	**Substitution, Formula and Equations** **Types of number** **Functions**	• Change the subject of a formula where the power of the subject appears • Change the subject of a formula where the subject appears twice • Add and subtract algebraic fractions • Multiply and divide algebraic fractions • Change the subject of a formula involving fractions here all the variables are in the denominators • Simplify algebraic fractions • Add and subtract more complex algebraic fractions • Multiply and divide more complex algebraic fractions • Simplify expressions involving surds • Expand expressions involving surds • Rationalise the denominator of a fraction • Solve equations that involve algebraic fractions • Use function notation • Find composite functions • Find inverse functions • Prove a result using algebra	**GCSE Past Paper**
20	03.01.25			
21	10.02.25			
Half Term				
22	24.02.25	**Geometric proof** **Algebraic manipulation**	• Understand and use vector notation • Work out the magnitude of a vector • Calculate using vectors and represent the solutions graphically • Calculate the resultant of two vectors • Solve problems using vectors • Use the resultant of two vectors to solve vector problems • Express points as position vectors • Prove lines are parallel • Prove lines are collinear • Solve geometric problems in two dimensions using vector methods • Apply vector methods for simple geometric proofs	**GCSE Past Paper**
23	03.03.25			
24	10.03.25			
25	17.03.25	**Proportional reasoning**	• Write and use equations to solve problems involving direct proportion • Write and use equations to solve problems involving direct proportion • Solve problems involving square and cubic proportionality • Write and use equations to solve problems involving inverse proportion • Use and recognise graphs showing inverse proportion • Recognise graphs of exponential functions • Sketch graphs of exponential functions	**GCSE Past Paper**
26	24.03.25			

27	31.03.25		• Calculate the gradient of a tangent at a point • Estimate the area under a non-linear graph • Understand the relationship between translating a graph and the change in its function notation • Understand the effect stretching a curve parallel to one of the axes has on its function form • Understand the effect reflecting a curve in one of the axes has on its function form	
Easter
28(BH)	21.04.25		**GCSE EXAM PREP**	
29	28.04.25		**GCSE EXAM PREP**	
30(BH)	06.05.25		**Exams**	
31	12.05.25		**Exams**	
32	19.05.25		**Exams**	
Half Term
33	02.06.25		**Exams**	
34	09.06.25		**Exams**	
35	16.06.25		**Exams**	
36	23.06.25			
37	30.06.25			
38	07.07.25			
39	14.07.25			

Name:			SummerY10	Autumn	Spring	Summer
Subject Target:		Flightpath				
Annual Exam Grade:		BFL				

Date	Assessment	Flight-path Grade	Action (s) to make progress
	Unit 13 – More Trigonometry		
	Unit 14 – Further Statistics		
	Unit 15 – Equations and Graphs		
	GCSE Mocks		
	GCSE Past Paper		
	GCSE Past Paper		
	GCSE Past Paper		
	GCSE Past Paper		
	GCSE Past Paper		