

Maths Year 10 Foundation Learning Journey 2024-2025

Week	Date	Key Constructs	Component Knowledge	Assessment
1 (Thurs)	05.09.24	Written Methods Types of number Place value and rounding Indices	<ul style="list-style-type: none"> • Apply systematic listing strategies • Use priority of operations with positive and negative numbers • Simplify calculations by cancelling • Use inverse operations • Round to a given number of decimal places • Multiply and divide decimal numbers • Use pictures to help you solve problems • Convert metric measures • Write decimal numbers of millions • Round to a given number of significant figures • Estimate answers to calculations • Use one calculation to find the answer to another • Recognise 2-digit prime numbers • Find factors and multiples of numbers • Find common factors and common multiples of two numbers • Find the HCF and LCM of two numbers by listing • Find square roots and cube roots • Recognise powers of 2, 3, 4 and 5 • Understand surd notation on a calculator • Use index notation for powers of 10 • Use index notation in calculations • Use the laws of indices • Write a number as the product of its prime factors • Use prime factor decomposition and Venn diagrams to find HCF and LCM 	Unit 1 - Number
2	09.09.24			
3	16.09.24			
4	23.09.24			
5	30.09.24	Equations and inequalities Sequences and formula	<ul style="list-style-type: none"> • Understand and use inverse operations • Solve simple linear equations • Solve two-step equations • Solve linear equations with brackets • Solve equations with unknowns on both sides • Use correct notation to show inclusive and exclusive inequalities • Show inequalities on a number line • Write down whole numbers which satisfy an inequality • Solve simple linear inequalities • Solve two-sided inequalities • Substitute values into formulae and solve equations • Change the subject of a formula • Know the difference between an expression, an equation and a formula • Recognise and extend sequences • Use the nth term to generate terms of a sequence • Find the nth term of an arithmetic sequence 	Unit 5 – Equations, inequalities and sequences
6	07.10.24			
7	14.10.24			
8	21.10.24			
Half term				
9	04.11.24	Fractions Percentages Place value and rounding Types of number	<ul style="list-style-type: none"> • Compare fractions • Add and subtract fractions • Use fractions to solve problems • Find a fraction of a quantity or measurement • Use bar models to help you solve problems • Multiply whole numbers, fractions and mixed numbers • Simplify calculations by cancelling • Divide a whole number by a fraction • Divide a fraction by a whole number or a fraction • Convert fractions to decimals and vice versa • Use decimals to find quantities • Work out divisions with decimal answers • Write one number as a fraction of another • Convert percentages to fractions and vice versa • Write one number as a percentage of another • Convert percentages to decimals and vice versa • Find percentage of a quantity • Use percentages to solve problems • Calculate simple interest • Calculate percentage increase and decrease • Use percentages in real-life situations • Calculate VAT (value added tax) 	Unit 1 – 5 assessment
10	11.11.24			
11	18.11.24			
12	25.11.24	Revise, Test and Rap Unit 1 – 5 Assessment		

13	02.12.24	Angles and geometric proof	<ul style="list-style-type: none"> Solve geometric problems using side and angle properties of quadrilaterals Identify congruent shapes Understand and use the angle properties of parallel lines Find missing angles using corresponding and alternate angles Solve angle problems in triangles Understand angle proofs about triangles Calculate the interior and exterior angles of regular polygons Calculate the interior and exterior angles of polygons Explain why some polygons fit together and others do not Solve angle problems using equations Solve geometrical problems showing reasoning Use x for the unknown to help you to solve problems 	Unit 6 – Angles
14	09.12.24			
15	16.12.24			
CHRISTMAS				
16	06.01.25	Data collecting and organising	<ul style="list-style-type: none"> Calculate the mean from a list and from a frequency table Compare sets of data using the mean and range Find the mode, median and range from a stem and leaf diagram Identify outliers Estimate the range from a grouped frequency table Recognise the advantages and disadvantages of each type of average Find the mode, modal class and median from a frequency table Estimate the mean of grouped data Understand the need for sampling Understand how to avoid bias 	Unit 7 – Averages and range
17	13.01.25			
18	20.01.25			
19	27.01.25	Polygons and polyhedral Perimeter, area and volume	<ul style="list-style-type: none"> Calculate the perimeter and area of rectangles, parallelograms and triangles Calculate a missing length, given the area Calculate the area and perimeter of trapezia Find the height of a trapezium given its area Convert between area measures Calculate the perimeter and area of shapes made from triangles and rectangles Calculate areas in hectares, and convert between ha and m^2 Calculate the surface area of a cuboid Calculate the surface area of a prism Calculate the volume of a cuboid Calculate the volume of a prism Use a flow diagram to help solve problems Convert between measures of volume Solve problems involving surface area and volume 	Unit 1 – 8 assessment
20	03.01.25			
21	10.02.25			
Half term				
22	24.02.25		Revise, Test and RAP Unit 1- 8 Assessment	Unit 1- 8 Assessment
23	03.03.25	Graphs	<ul style="list-style-type: none"> Find the midpoint of a line segment Recognise, name and plot straight-line graphs parallel to the axes Recognise, name and plot the graphs of $y=x$ and $y=-x$ Generate and plot coordinates from a rule Plot straight-line graphs from tables of values Draw graphs to represent relationships Find the gradient of a line Identify and interpret the gradient from an equation Understand that parallel lines have the same gradient Understand what m and c represent in $y=mx+c$ Find the equations of straight-line graphs Sketch graphs given the values of m and c Draw and interpret graphs from real data Use distance-time graphs to solve problems Draw distance-time graphs Interpret rate of change on graphs Draw and interpret a range of graphs Understand when predictions are reliable 	Unit 9 – Graphs
24	10.03.25			
25	17.03.25			

26	24.03.25	Coordinates and transformations	<ul style="list-style-type: none"> • Translate a shape on a coordinate grid • Use a column vector to describe a translation • Draw a reflection of a shape in a mirror line • Draw reflections on a coordinate grid • Describe reflections on a coordinate grid • Rotate a shape on a coordinate grid • Describe a rotation • Enlarge a shape by a scale factor • Enlarge a shape using a centre of enlargement • Identify the scale factor of an enlargement • Find the centre of enlargement • Describe an enlargement • Transform shapes using more than one transformation • Describe combined transformations of shapes on a grid 	Unit 10 – Transformations
27	31.03.25			
EASTER				
28(BH)	21.04.25	Ratio Proportional reasoning	<ul style="list-style-type: none"> • Use ratio notation • Write a ratio in its simplest form • Solve simple problems involving ratios • Use ratios involving decimals • Write and use ratios for shapes and their enlargements • Use ratios to convert between units • Divide a quantity into 2 parts in a given ratio • Divide a quantity into 3 parts in a given ratio • Use bar models to help solve ratio problems • Compare ratios • Write ratios in the form 1:n or n:1 • Use the unitary method to solve proportion problems • Solve proportion problems in words • Work out which product is better value for money • Recognise and use direct proportion on a graph • Understand the link between the unit ratio and the gradient • Recognise different types of proportion • Solve worded problems involving direct and inverse proportion 	Unit 11 – Ratio and proportion
29	28.04.25			
30(BH)	06.05.25			
31	12.05.25	Pythagoras Trigonometry	<ul style="list-style-type: none"> • Understand Pythagoras' theorem • Calculate the length of the hypotenuse in a right-angled triangle • Solve problems using Pythagoras' theorem • Calculate the length of a line segment AB • Calculate the length of a shorter side in a right-angled triangle • Understand and recall the sine ratio in right-angled triangles • Use the sine ratio to calculate the length of a side in a right-angled triangle • Use the sine ratio to calculate an angle in a right-angled triangle • Understand and recall the cosine ratio in right-angled triangles • Use the cosine ratio to calculate the length of a side in a right-angled triangle • Use the cosine ratio to calculate an angle in a right-angled triangle • Understand and recall the tangent ratio in a right-angled triangle • Use the tangent ratio to calculate the length of a side in a right-angled triangle • Use the tangent ratio to calculate an angle in a right-angled triangle • Solve problems using an angle of elevation or angle of depression • Know the exact values of the sine, cosine and tangent of some angles 	Unit 12 – Right-angled triangles
32	19.05.25			
Half term				
33	02.06.25		Exam Prep	
34	09.06.25		Exam Prep	
35	16.06.25		Annual Exams	
36	23.06.25		Annual Exams	
37	30.06.25		RAP / addressing misconceptions	
38	07.07.25		RAP / addressing misconceptions	
39	14.07.25		Activities week	

Name:		Summer Yr 9	Autumn	Spring	Summer
Subject Target:		Flightpath			
Annual Exam Grade:		BFL			

Date	Assessment	Flight-path Grade	Action (s) to make progress
	Unit 1 – Number		
	Unit 5 – Equations. Inequalities and sequences		
	Unit 1 – 5 Assessment		
	Unit 6 – Angles		
	Unit 7 – Averages and range		
	Unit 1 – 8 Assessment		
	Unit 9 – Graphs		
	Unit 10 – Transformations		
	Unit 11 – Ratio and proportion		
	Unit 12 – Right-angled triangles		
	Annual Exam		

