



# Maths Long Term Plan Year 11 Foundation

## Temperance Term

<b>W/C</b>	1	2	3	4	5	6	7	<b>HALF TERM</b>
Area of Study	<b>Ratio and Proportion</b>			<b>Geometry 2</b>				
Core learning	<b>Ratio</b> To use ratio notation to write ratios for diagrams and word statements and to simplify ratios. To divide a quantity into two or more part given a specified ratio and to write the division of quantities into parts as a ratio. To use a unitary method to solve ratio and proportion problems and relate ratios to fractions and linear functions in order to solve problems, including real-life ones such as conversion and scaling.	<b>Proportion</b> To use direct proportion to solve problems. To use the unitary method to solve proportion problems. To solve direct proportion questions graphically. To solve direct proportion questions using algebraic manipulation. To solve inverse proportion questions, based on $y = 1/x$ .	<b>Growth and Decay</b> To calculate with simple growth, such as simple interest rates. To calculate with compound growth, such as compound interest rates. To solve word problems using simple and/or compound growth. To calculate with simple decay. To solve inverse proportion questions, based on depreciation. To solve word problems using simple and/or compound decay.	<b>3D Objects</b> To apply what you already know about the properties of 3D objects. To work with 2D representations of 3D objects. To construct and interpret plans and elevations of 3D objects.	<b>Units and Measure</b> To convert metric units for capacity, mass and length. To convert metric units of area and volume. To understand units of time are not metric. To convert units of time and solve related problems. To convert currencies using scale factors. To convert compound measurements. To use formulae: $s = d/t$ , $d = m/v$ and $p = f/a$ , to find any one of the variables given values for the other two. To read and use scales on maps including both line/bar scales and ratio scales. To form scales to construct scale drawings to fit a given dimension. To read and use bearings in scale drawings.	<b>Volume and Surface Area</b> To calculate the volume of prisms (including cylinders). To calculate the surface area of prisms (including cylinders). To calculate the volume and surface area of a cone. To calculate the volume and surface area of a sphere. To calculate the volume and surface area of composite 3D shapes. To find the volume and surface area of a pyramid.		
Opportunities for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.								
Assessment		Mocks?			Progress check			
<b>W/C</b>	8	9	10	11	12	13		
Area of study	<b>Algebra 3</b>				<b>Revision for mocks</b>			
Core learning	<b>Graphs of Linear Functions</b> To use a table of values to plot graphs of linear functions. To identify the main features of straight-line graphs and use them to sketch graphs. To sketch graphs from linear equations in the form of $y=mx+c$ . To find the equation of a straight-line using gradient and points on the line. To identify lines that are parallel by considering their equations. To find the equation of a line parallel to a given line (perhaps passing through a known point). To solve problems involving straight-line graphs.	<b>Interpreting Graphs</b> To construct and interpret graphs in real-world contexts. To interpret the gradient of a straight-line graph as a rate of change.	<b>Graphs of Other Functions and Equations</b> To work fluently with equations of straight-line graphs. To identify and plot graphs of quadratic functions i.e. parabolas. To find roots of quadratic equations from the x-intercept of the parabola of the quadratic equations that defines the graph. To know the features of graphs of quadratic equations. To sketch parabolas. To work fluently with cubic polynomials and their graphs. To sketch cubic graphs. To work fluently to calculate reciprocals of numbers and plot functions involving reciprocals. To identify hyperbolas and match them to their equations. To plot and sketch graphs from given functions. To recognise linear, quadratic and reciprocal graphs.					
Opportunity for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.								
Assessment		Progress check		Progress check		Mocks		
<b>CHRISTMAS</b>								

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## Justice Term

<b>W/C</b>	14	15	16	17	18	19	<b>HALF TERM</b>
Area of study							
Core learning							
Opportunity for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment							
<b>W/C</b>	21	22	23	24	25	26	<b>EASTER</b>
Area of study							
Core learning							
Opportunity for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment							

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## Courage Term

<b>W/C</b>	27	28	29	30	31	31	<b>HALF TERM</b>	
Area of study								
Core learning								
Opportunity for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.								
Assessment								
<b>W/C</b>	32	33	34	35	36	37		
Area of study							<b>SUMMER</b>	
Core learning								
Opportunity for Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.								
Assessment								