

# Year 8 Key Stage 3 Curriculum Progress Map: Maths

HALF TERM 1 – SEPTEMBER TO OCTOBER						HALF TERM 2 – NOVEMBER TO DECEMBER				
TOPIC TITLES	PYTHAGORAS	SURFACE AREA	PARALLEL LINES	SIMULTANEOUS EQUATIONS	FACTORS MULTIPLES & PRIMES	CHARTS & GRAPHS	PLOTTING GRAPHS	SOLVING EQUATIONS	FORMING EQUATIONS	
ASSESSMENT CRITERIA	<b>STAGE 4 (GCSE 7-9)</b>	<ul style="list-style-type: none"> <li>I can use Pythagoras in 3D.</li> <li>I can use Pythagoras multiple times.</li> <li>I can use Pythagoras to solve more complex problems.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the surface area of a cylinder.</li> <li>I can calculate the surface area of a cone.</li> <li>I can calculate the surface area of a sphere.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate multi-step angle problems.</li> <li>I can calculate co-interior angles.</li> <li>I can calculate alternate angles.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a quadratic simultaneous equation.</li> <li>I can solve a simultaneous equation with negative solutions.</li> <li>I can solve a more complex simultaneous equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a LCM/HCF problem.</li> <li>I can calculate the LCM or HCF of a number pair.</li> <li>I can solve a HCF problem.</li> </ul>	<ul style="list-style-type: none"> <li>I can finish an incomplete histogram and frequency table.</li> <li>I can calculate frequency density and draw a histogram.</li> <li>I can interpret a pie chart.</li> </ul>	<ul style="list-style-type: none"> <li>I can plot a reciprocal graph.</li> <li>I can plot an exponential graph.</li> <li>I can plot a cubic graph.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve equations with variables as denominators.</li> <li>I can solve equations with fractions and variables on both sides.</li> <li>I can solve more difficult equations with fractions.</li> </ul>	<ul style="list-style-type: none"> <li>I can form and solve equations from two rectangles.</li> <li>I can form and solve equations from the properties of parallelograms.</li> <li>I can form and solve an equation from the angles of a triangle.</li> </ul>
	<b>STAGE 3 (GCSE 5-6)</b>	<ul style="list-style-type: none"> <li>I can use Pythagoras to calculate the distance between two points.</li> <li>I can use Pythagoras to solve functional problems without diagrams</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the surface area of a triangular prism.</li> <li>I can calculate the surface area of a cuboid.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate corresponding angles.</li> <li>I can calculate vertically opposite angles.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a simultaneous equation.</li> <li>I can solve a simultaneous equation problem.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a LCM problem.</li> <li>I can calculate the product of prime factors.</li> </ul>	<ul style="list-style-type: none"> <li>I can draw a pie chart.</li> <li>I can calculate the angles in a pie chart.</li> </ul>	<ul style="list-style-type: none"> <li>I can plot a more complex quadratic graph.</li> <li>I can plot a quadratic graph.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve equations with fractions.</li> <li>I can solve equations with brackets.</li> </ul>	<ul style="list-style-type: none"> <li>I can form and solve an equation from the perimeter of a rectangle.</li> <li>I can form and solve an equation from a sentence.</li> </ul>
	<b>STAGE 2 (GCSE 3-4)</b>	<ul style="list-style-type: none"> <li>I can use Pythagoras to solve functional problems with diagrams.</li> <li>I can use Pythagoras to calculate the longer side.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the surface area of a circle.</li> <li>I can calculate the surface area of a trapezium.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate missing angles in an isosceles triangle.</li> <li>I can calculate missing angles in a triangle.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a graphical simultaneous equation.</li> <li>I can solve a menu based simultaneous equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can identify the HCF.</li> <li>I can identify the LCM.</li> </ul>	<ul style="list-style-type: none"> <li>I can draw a frequency polygon.</li> <li>I can interpret a dual bar chart.</li> </ul>	<ul style="list-style-type: none"> <li>I can plot a more complex linear graph.</li> <li>I can plot a linear graph.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve an equation with variables on both sides.</li> <li>I can solve a two-step equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can form a formulae from a sentence.</li> <li>I can form an expression from the area of a rectangle.</li> </ul>
	<b>STAGE 1 (GCSE 1-2)</b>	<ul style="list-style-type: none"> <li>I can use Pythagoras to calculate the shorter side.</li> <li>I can calculate with more complex powers and roots.</li> <li>I can calculate with powers and roots.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the surface area of a parallelogram.</li> <li>I can calculate the surface area of a triangle.</li> <li>I can calculate the surface area of a rectangle.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate missing angles around a point.</li> <li>I can give a reason for angles on a straight line.</li> <li>I can calculate missing angles on a straight line.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a pictorial simultaneous equation.</li> <li>I can solve a one-step equation.</li> <li>I can substitute into an equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can list factors.</li> <li>I can list multiples.</li> <li>I can identify a prime number.</li> </ul>	<ul style="list-style-type: none"> <li>I can draw a bar chart.</li> <li>I can complete a tally chart.</li> <li>I can interpret a bar chart.</li> </ul>	<ul style="list-style-type: none"> <li>I can plot co-ordinates from a table.</li> <li>I can complete a table for a more complex linear.</li> <li>I can complete a table for a linear equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a one-step equation.</li> <li>I can use function machines backwards.</li> <li>I can use function machines.</li> </ul>	<ul style="list-style-type: none"> <li>I can form an expression from the perimeter of an isosceles triangle.</li> <li>I can form an expression from the perimeter of a rectangle.</li> <li>I can form an expression from a sentence.</li> </ul>

HALF TERM 3 – JANUARY TO FEBRUARY					HALF TERM 4 – MARCH TO APRIL			
TOPIC TITLES	SIMILARITY	TRIGONOMETRY	TWO WAY TABLES	VOLUME	TRANSFORMATIONS	CONSTRUCTION	COMPOUND MEASURES	
ASSESSMENT CRITERIA	<b>STAGE 4 (GCSE 7-9)</b>	<ul style="list-style-type: none"> <li>I can use similarity to solve combined area and volume problems.</li> <li>I can use similarity to solve volume problem.</li> <li>I can use similarity to solve area problems.</li> </ul>	<ul style="list-style-type: none"> <li>I can use trigonometry in 3D.</li> <li>I can use repeated trigonometry to calculate lengths and angles.</li> <li>I can use repeated trigonometry to calculate angles.</li> </ul>	<ul style="list-style-type: none"> <li>I can construct a triple Venn diagram.</li> <li>I can use set notation to calculate a probability.</li> <li>I can construct a Venn diagram using set notation.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a more complex volume problem.</li> <li>I can solve a volume problem.</li> <li>I can calculate the volume of a cone.</li> </ul>	<ul style="list-style-type: none"> <li>I can enlarge shapes by a negative scale factor.</li> <li>I can describe a combination of transformations.</li> <li>I can describe an enlargement.</li> </ul>	<ul style="list-style-type: none"> <li>I can construct an angle using a compass.</li> <li>I can bisect a line from a point.</li> <li>I can bisect a line through a point.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a rate of change problem.</li> <li>I can solve a more complex SDT problem.</li> <li>I can solve a currency exchange problem.</li> </ul>
	<b>STAGE 3 (GCSE 5-6)</b>	<ul style="list-style-type: none"> <li>I can use similarity with more complex double triangles.</li> <li>I can use similarity with inverse triangles.</li> </ul>	<ul style="list-style-type: none"> <li>I can use repeated trigonometry to calculate lengths.</li> <li>I can calculate angles using trigonometry.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate probability from a Venn diagram.</li> <li>I can construct a Venn diagram from information.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the volume of a sphere.</li> <li>I can calculate the volume of a cylinder.</li> </ul>	<ul style="list-style-type: none"> <li>I can describe a rotation.</li> <li>I can describe a reflection.</li> </ul>	<ul style="list-style-type: none"> <li>I can bisect a line.</li> <li>I can bisect an angle.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a PFA problem.</li> <li>I can solve a DMV problem.</li> </ul>
	<b>STAGE 2 (GCSE 3-4)</b>	<ul style="list-style-type: none"> <li>I can use similarity with double triangles.</li> <li>I can divide by a scale factor.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate complex lengths using trigonometry.</li> <li>I can calculate lengths using trigonometry.</li> </ul>	<ul style="list-style-type: none"> <li>I can use information to construct a two-way table.</li> <li>I can calculate a probability using a two way table.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the volume of a compound prism.</li> <li>I can calculate the volume of a triangular prism.</li> </ul>	<ul style="list-style-type: none"> <li>I can describe a translation.</li> <li>I can enlarge a shape.</li> </ul>	<ul style="list-style-type: none"> <li>I can accurately draw a triangle given three sides.</li> <li>I can accurately draw a triangle given two sides and an angle.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve an SDT problem.</li> <li>I can use a currency conversion.</li> </ul>
	<b>STAGE 1 (GCSE 1-2)</b>	<ul style="list-style-type: none"> <li>I can multiply by a scale factor.</li> <li>I can identify similar shapes.</li> <li>I can calculate a scale factor.</li> </ul>	<ul style="list-style-type: none"> <li>I can label a triangle ready to use trigonometry.</li> <li>I can do calculations with exact trigonometrical values.</li> <li>I can calculate exact trigonometrical values.</li> </ul>	<ul style="list-style-type: none"> <li>I can use calculations to complete a two-way table.</li> <li>I can calculate the totals in two way tables.</li> <li>I can use information to complete a two way table.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the volume of a cuboid.</li> <li>I can label using properties of a 3D solid.</li> <li>I can name a 3D solid.</li> </ul>	<ul style="list-style-type: none"> <li>I can rotate a shape.</li> <li>I can reflect a shape.</li> <li>I can translate a shape.</li> </ul>	<ul style="list-style-type: none"> <li>I can accurately draw a triangle given two angles and a side.</li> <li>I can draw an accurate angle.</li> <li>I can draw an accurate line.</li> </ul>	<ul style="list-style-type: none"> <li>I can use the PFA triangle.</li> <li>I can use the DMV triangle.</li> <li>I can use the SDT triangle.</li> </ul>

HALF TERM 5 – APRIL TO MAY					HALF TERM 6 – JUNE TO JULY		
TOPIC TITLES		AVERAGES	PLANS AND ELEVATIONS	PROPORTION	ANGLE SUM	EQUATION OF A STRAIGHT LINE	SCATTER GRAPHS
<b>ASSESSMENT CRITERIA</b>	<b>STAGE 4 (GCSE 7-9)</b>	<ul style="list-style-type: none"> <li>I can solve a reverse mean problem.</li> <li>I can state the median class.</li> <li>I can estimate the mean.</li> </ul>	<ul style="list-style-type: none"> <li>Ratio and 3D co-ordinates.</li> <li>3D co-ordinates.</li> <li>Sketch a 3D shape from plans and elevations.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve complex inverse proportion problems.</li> <li>I can solve best value problems with multiple units.</li> <li>I can solve more complex best value problems.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve complex interior angle sum problems.</li> <li>I can solve exterior angle problems.</li> <li>I can solve interior angle sum problems.</li> </ul>	<ul style="list-style-type: none"> <li>I can find the equation of a perpendicular line.</li> <li>I can prove two lines are parallel.</li> <li>I can write the equation of a parallel line.</li> </ul>	<ul style="list-style-type: none"> <li>I can find the equation of line of best fit.</li> <li>Extrapolation.</li> <li>I can identify outliers and their cause.</li> </ul>
	<b>STAGE 3 (GCSE 5-6)</b>	<ul style="list-style-type: none"> <li>I can state the modal class.</li> <li>I can calculate the IQR.</li> </ul>	<ul style="list-style-type: none"> <li>Plan view.</li> <li>Midpoint of a line.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve more complex recipe problems.</li> <li>I can solve recipe problems.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the exterior angle of a regular polygon.</li> <li>I can calculate the interior angle of a regular polygon.</li> </ul>	<ul style="list-style-type: none"> <li>I can write the equation of a line (from graph).</li> <li>I can calculate the gradient of a line.</li> </ul>	<ul style="list-style-type: none"> <li>I can use the line of best fit to estimate.</li> <li>I can describe correlation in words.</li> </ul>
	<b>STAGE 2 (GCSE 3-4)</b>	<ul style="list-style-type: none"> <li>I can calculate the mean.</li> <li>I can calculate the median when there are two numbers in the middle.</li> </ul>	<ul style="list-style-type: none"> <li>Drawing net of a 3D shape.</li> <li>Sketch 3D shape from the net.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve a best value problem.</li> <li>I can use inverse proportion to calculate the time for any workers.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate the sum of interior angles for a polygon.</li> <li>I can calculate missing exterior angles.</li> </ul>	<ul style="list-style-type: none"> <li>I can identify gradient and y-intercept.</li> <li>I can generate co-ordinates and plot a graph.</li> </ul>	<ul style="list-style-type: none"> <li>I can draw the line of best fit.</li> <li>Correlation.</li> </ul>
	<b>STAGE 1 (GCSE 1-2)</b>	<ul style="list-style-type: none"> <li>I can calculate the median.</li> <li>I can calculate the mode.</li> <li>I can calculate the range.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying co-ordinates (4 quadrants).</li> <li>Plotting a co-ordinate (first quadrant).</li> <li>Faces, edges and vertices.</li> </ul>	<ul style="list-style-type: none"> <li>I can use inverse proportion to calculate the time for one worker.</li> <li>I can use direct proportion to calculate the cost of any items.</li> <li>I can use direct proportion to calculate the cost of one item.</li> </ul>	<ul style="list-style-type: none"> <li>I can calculate missing angles in an isosceles.</li> <li>I can calculate missing angles in a triangle.</li> <li>I can calculate missing angles in a quadrilateral.</li> </ul>	<ul style="list-style-type: none"> <li>I can plot a linear graph.</li> <li>I can complete a mapping diagram.</li> <li>I can substitute into an equation.</li> </ul>	<ul style="list-style-type: none"> <li>I can identify a linear relationship.</li> <li>I can read data from a scatter graph.</li> <li>I can plot data from a table.</li> </ul>