

Year 9 Key Stage 3 Curriculum Progress Map: Maths

TERM 1 – SEPTEMBER TO OCTOBER						TERM 1 – NOVEMBER TO DECEMBER			
TOPIC TITLES	SIMPLIFYING EXPRESSIONS	EXPANDING AND FACTORISING	SOLVING EQUATIONS	SIMULTANEOUS EQUATIONS	SEQUENCES	ROUNDING AND ESTIMATION	INDICES	FRACTIONS	
ASSESSMENT CRITERIA	STAGE 4 (GCSE 7-9)	<ul style="list-style-type: none"> I can form and solve quadratic equations. I can form inequalities to solve problems. I can form equations to solve worded problems. 	<ul style="list-style-type: none"> I can factorise quadratics (i.e. $6x^2$). I can expand triple brackets. I can factorise complex quadratics. 	<ul style="list-style-type: none"> I can form quadratic expressions from shapes and solve them. I can solve a quadratic equation by completing the square. I can solve equations involving more than one fraction. 	<ul style="list-style-type: none"> I can solve linear and quadratic equations using substitution and factorisation. I can solve simultaneous equations involving non-integer variables. I can solve simultaneous equations where the solutions are negative and/or non-integer. 	<ul style="list-style-type: none"> I can work with sequences algebraically. I can find the nth term a complex quadratic sequence. I can find the nth term a simple quadratic sequence. 	<ul style="list-style-type: none"> I can estimate the answer to complex problems. I can estimate the answer to a worded problem. I can do estimation involving a number less than 1. 	<ul style="list-style-type: none"> I can complete a problem looking at the relationship between base numbers. I can work out a value containing negative fractional indices (numerator NOT 1). I can work out a value containing fractional indices (numerator NOT 1). 	<ul style="list-style-type: none"> I can use recurring decimals to prove an outcome. I can change recurring decimals to percentages. I can order fractions, decimals, percentages.
	STAGE 3 (GCSE 5-6)	<ul style="list-style-type: none"> I can form and solve equations for perimeter and angles. I can substitute negative integers. 	<ul style="list-style-type: none"> I can factorise simple quadratics. I can expand and simplify more complicated brackets. 	<ul style="list-style-type: none"> I can solve a quadratic equation by using the quadratic formula. I can solve quadratics using factorisation. 	<ul style="list-style-type: none"> I can form simultaneous equations and solve to find solutions. I can solve simple simultaneous equations by multiplying then using elimination. 	<ul style="list-style-type: none"> I can solve a problem involving terms in two sequences. I can find the formula for a visual pattern. 	<ul style="list-style-type: none"> I can do estimation involving fractions. I can do simple estimation. 	<ul style="list-style-type: none"> I can work out a value containing fractional indices (numerator as 1). I can work out a value containing negative integer indices. 	<ul style="list-style-type: none"> I can compare fractions. I can multiply and divide fractions.
	STAGE 2 (GCSE 3-4)	<ul style="list-style-type: none"> I can substitute positive integers. I can form an expression for simple perimeter. 	<ul style="list-style-type: none"> I can expand and simplify two brackets. I can factorise complex linear expressions. 	<ul style="list-style-type: none"> I can solve equations involving a fraction. I can solve equations with unknowns on both sides and brackets. 	<ul style="list-style-type: none"> I can solve simple simultaneous equations shown in an algebraic form using elimination. I can solve problems involving 2 variables. 	<ul style="list-style-type: none"> I can prove whether a number is in a sequence. I can find the nth term for an ascending sequence. 	<ul style="list-style-type: none"> I can manipulate calculations using place value facts. I understand place value when multiplying/dividing by 10, 100 etc. 	<ul style="list-style-type: none"> I can work with brackets and indices. I can find the missing value in a indices problem. 	<ul style="list-style-type: none"> I can add and subtract fractions with a different denominator. I can find a fraction of an amount.
	STAGE 1 (GCSE 1-2)	<ul style="list-style-type: none"> I can collect complex terms with negatives. I can form expressions from a sentence. I can collect terms. 	<ul style="list-style-type: none"> I can factorise linear expressions. I can expand and simplify single brackets. I can expand single brackets. 	<ul style="list-style-type: none"> I can solve equations with unknowns on both sides. I can solve two-step equations. I can solve a one-step equation. 	<ul style="list-style-type: none"> I can solve linear simultaneous equations graphically. I can interpret and solve simultaneous equations in simple real life contexts. I can solve simple simultaneous equations visually. 	<ul style="list-style-type: none"> I can generate quadratic sequences. I can generate linear sequences. I can find the next term in a sequence. 	<ul style="list-style-type: none"> I can round numbers to significant figures. I can round numbers to decimal places. I can round numbers to the nearest integer, 10, 100. 	<ul style="list-style-type: none"> I can work out calculations with combined indices. I can divide with indices. I can multiply with indices. 	<ul style="list-style-type: none"> I can add and subtract fractions with a common denominator. I can convert between improper fractions and mixed numbers. I can simplify fractions.

TERM 1 – NOVEMBER TO DECEMBER					
TOPIC TITLES	STANDARD FORM	RATIO AND PROPORTION	SURDS (HIGHER)	NUMERACY (FOUNDATION)	
ASSESSMENT CRITERIA	STAGE 4 (GCSE 7-9)	<ul style="list-style-type: none"> I can use standard form as part of complex calculations. I can add and subtract values written in standard form. I can divide values written in standard form. 	<ul style="list-style-type: none"> I can solve a complex ratio problem. I can solve ratio problems using various methods. I can solve a ratio problems by using fractions. 	<ul style="list-style-type: none"> I can use surds when working with shapes. I can manipulate surds to find a simplified exact value. I can rationalise the denominator when working with complex surds. 	<ul style="list-style-type: none"> I can complete a functional decimal problem. I can divide where the answer is a decimal. I can add and subtract large negative numbers.
	STAGE 3 (GCSE 5-6)	<ul style="list-style-type: none"> I can multiply values written in standard form. I can order values written in standard form. 	<ul style="list-style-type: none"> I can solve a combined ratio problem. I can solve a problem involving more than one ratio. 	<ul style="list-style-type: none"> I can rationalise the denominator when working with surds. I can simplify surds by finding a square factor and collecting terms. 	<ul style="list-style-type: none"> I can multiply decimals. I can times and divide with negative.
	STAGE 2 (GCSE 3-4)	<ul style="list-style-type: none"> I can rewrite standard form correctly. I can write ordinary numbers in standard form (negative power). 	<ul style="list-style-type: none"> I can solve a problem where you are given the difference between the ratios. I can solve a problem where values have already been shared in to a ratio. 	<ul style="list-style-type: none"> I can expand surds with two brackets. I can expand surds with a single bracket. 	<ul style="list-style-type: none"> I can do long multiplication. I can divide by a single digit.
	STAGE 1 (GCSE 1-2)	<ul style="list-style-type: none"> I can write standard form as an ordinary number (negative power). I can write ordinary numbers in standard form (positive power). I can write standard form as an ordinary number (positive power). 	<ul style="list-style-type: none"> I can share a value in a ratio. I can use proportion when working with recipes. I can use direct proportion. 	<ul style="list-style-type: none"> I can simplify surds by collecting terms. I can multiply and divide surds. I can simplify surds by finding a square factor. 	<ul style="list-style-type: none"> I can divide by a single digit. I can subtract 3 digit numbers. I can add 2 digit numbers.

TERM 2 – JANUARY TO APRIL							
TOPIC TITLES	SCATTER GRAPHS, CUMULATIVE FREQUENCY AND BOX PLOTS	TWO-WAY TABLES, HISTOGRAMS AND FREQUENCY POLYGONS	COMPOUND MEASURES	PYTHAGORAS AND TRIGONOMETRY	ANGLE PROPERTIES	CONGRUENCY AND SIMILARITY	
ASSESSMENT CRITERIA	STAGE 4 (GCSE 7-9)	<ul style="list-style-type: none"> I can find values from a cumulative frequency graph. I can find the median/IQR from a cumulative frequency graph. I can draw a cumulative frequency graph. 	<ul style="list-style-type: none"> I can proportion from a histogram. I can find the median from a histogram. I can complete a table and histogram simultaneously. 	<ul style="list-style-type: none"> I can find the distance travelled by using the area under a curve. I can find acceleration from a speed time graph. I can find areas using a scale on a map. 	<ul style="list-style-type: none"> I can use Pythagoras' Theorem and trigonometry to solve problems in 3D shapes. I can use trigonometry to solve problems involving bearings. I can solve problems that require the use of Pythagoras' Theorem and Trigonometry. 	<ul style="list-style-type: none"> I can find the number of sides for an n-sided regular polygon as part of a complex problem. I can solve complex angle problems. I can find interior and exterior angles for regular polygons. 	<ul style="list-style-type: none"> I can prove similarity in circle theorems. I can prove congruency in complex problems. I can prove if 2 triangles are congruent.
	STAGE 3 (GCSE 5-6)	<ul style="list-style-type: none"> I can interpret box plots. I can compare box plots. 	<ul style="list-style-type: none"> I can draw a histogram. I can draw a frequency polygon. 	<ul style="list-style-type: none"> I can complete hard speed, distance time problems. I can complete hard density problems. 	<ul style="list-style-type: none"> I can use trigonometry to solve problems in other 2D shapes. I can use trigonometry to find a missing angle. 	<ul style="list-style-type: none"> I can solve angle problems involving parallel lines. I can solve angle problems using special triangles. 	<ul style="list-style-type: none"> I can manipulate scale factors to find missing areas or volumes for similar shapes. I can use scale factors to find missing volumes in similar shapes.
	STAGE 2 (GCSE 3-4)	<ul style="list-style-type: none"> I can draw a box plot with range/IQR given. I can draw a box plot. 	<ul style="list-style-type: none"> I can find probability from a two-way table. I can construct and complete a 2 way table. 	<ul style="list-style-type: none"> I can convert units of volume and area. I can use pressure, force and area. 	<ul style="list-style-type: none"> I can use trigonometry to find a missing side. I can use Pythagoras' Theorem to find length of line segment. 	<ul style="list-style-type: none"> I can find bearings from a diagram. I can measure and draw bearings. 	<ul style="list-style-type: none"> I can use scale factors to find missing areas for similar shapes. I can use scale factors in complex similarity.
	STAGE 1 (GCSE 1-2)	<ul style="list-style-type: none"> I understand reliability of values from scatter graphs. I can estimate a value from a scatter graph. I can describe a relationship from a scatter graph. 	<ul style="list-style-type: none"> I can complete a two-way table. I can draw a composite bar chart. I can draw a bar chart. 	<ul style="list-style-type: none"> I can use density, mass and volume. I can use speed, distance and time. I can convert currencies with an exchange rate. 	<ul style="list-style-type: none"> I can use Pythagoras' Theorem to solve 2D problems. I can use Pythagoras' Theorem to find a short side. I can use Pythagoras' Theorem to find the hypotenuse. 	<ul style="list-style-type: none"> I can find angles in quadrilaterals. I can find angles on a straight line. I can find angles around a point. 	<ul style="list-style-type: none"> I can use fractional/decimal scale factors to find missing lengths on similar shapes. I can use scale factors to find missing lengths on similar shapes. I can find scale factors between two similar shapes.

TERM 3 – APRIL TO JUNE

TOPIC TITLES		PLOTTING GRAPHS	ALGEBRAIC FRACTIONS (HIGHER)	AVERAGES (FOUNDATION)	CIRCLE THEOREMS (HIGHER)	NUMERACY (FOUNDATION)
ASSESSMENT CRITERIA	STAGE 4 (GCSE 7-9)	<ul style="list-style-type: none"> I can plot a reciprocal graph. I can plot an exponential graph. I can plot a cubic graph. 	<ul style="list-style-type: none"> I can solve algebraic fractions problems. I can solve harder equations involving fractions. I can divide algebraic fractions. 	<ul style="list-style-type: none"> I can solve reverse mean problems. I can find the median from a grouped table. I can find the mean from a grouped table. 	<ul style="list-style-type: none"> I can use proof as part of a circle theorem problem. I can solve a circle theorem problem involving algebraic terms. I can use multiple angle properties and circle theorem rules to solve a problem. 	<ul style="list-style-type: none"> I can solve a factors and multiples problem. I can order fractions with different denominators. I can solve LCM problems.
	STAGE 3 (GCSE 5-6)	<ul style="list-style-type: none"> I can plot a more complex quadratic graph. I can plot a quadratic graph. 	<ul style="list-style-type: none"> I can write 2 algebraic fractions as a single one. I can write 2 algebraic fractions as a single one. 	<ul style="list-style-type: none"> I can find the mean from a table. I can find the mode from a table. 	<ul style="list-style-type: none"> I can solve circle theorem problems using special triangles. I know angles in alternate segments are equal. 	<ul style="list-style-type: none"> I can convert between fractions, decimals and percentages. I can find equivalent fractions.
	STAGE 2 (GCSE 3-4)	<ul style="list-style-type: none"> I can plot a more complex linear graph. I can plot a linear graph. 	<ul style="list-style-type: none"> I can simplify algebraic fractions by factorising. I can solve equations involving fractions. 	<ul style="list-style-type: none"> I can find the IQR from a list. I can find the mean from a list. 	<ul style="list-style-type: none"> I know opposite angles in a cyclic quadrilateral add up to 180 degrees. I know angles in the same segment are equal. 	<ul style="list-style-type: none"> I can find factors and multiples. I can order decimals.
	STAGE 1 (GCSE 1-2)	<ul style="list-style-type: none"> I can plot co-ordinates from a table. I can complete a table for a more complex linear equation. I can complete a table for a linear equation. 	<ul style="list-style-type: none"> I can multiply simple algebraic fractions. I can simplify factorised fractions. I can simplify simple fractions with algebra. 	<ul style="list-style-type: none"> I can find the median from a list. I can find the range from a list. I can find the mode from a list. 	<ul style="list-style-type: none"> I know the angles at the centre is double the angle at the circumference. I know a radius and tangent are perpendicular. I know the angle in a semi-circle is a right angle. 	<ul style="list-style-type: none"> I can order with negative numbers. I can solve a place value problem. I understand odd and even numbers.

TERM 3 – JUNE TO JULY

TOPIC TITLES		AREA	VOLUME AND 3D SHAPES	CIRCLCS AND SECTORS	ADVANCED TRIGONOMETRY (HIGHER)	MONEY PROBLEMS (FOUNDATION)
ASSESSMENT CRITERIA	STAGE 4 (GCSE 7-9)	<ul style="list-style-type: none"> I can find the total surface area of a frustum. I can find the total surface area of a cylinder and pyramid. I can solve real life problems involving surface area. 	<ul style="list-style-type: none"> I can work with volume and algebra in complex situations. I can work with volume and algebra. I can work with volume of a frustum. 	<ul style="list-style-type: none"> I can solve an area problem involving sectors. I can find the angles in a sector. I can find the perimeter of a sector. 	<ul style="list-style-type: none"> I can use advanced trigonometry to solve problems in 3D shapes. I can solve advanced trigonometry problems involving bearings. I can solve complex problems using advanced trigonometry involving other shapes. 	<ul style="list-style-type: none"> I can find the best value. I can find the best value. I can work out a budget.
	STAGE 3 (GCSE 5-6)	<ul style="list-style-type: none"> I can find the total surface area of a cone and sphere. I can find the total surface area of triangular prisms. 	<ul style="list-style-type: none"> I can use rates of change involving prisms. I can find the volume of a cylinder. 	<ul style="list-style-type: none"> I can find the area of a sector. I can solve a compound area problem involving circles. 	<ul style="list-style-type: none"> I can use the sine and cosine rule to solve problems involving more than one triangle. I can use the cosine rule to find missing angles. 	<ul style="list-style-type: none"> I can work out change. I can complete a bill.
	STAGE 2 (GCSE 3-4)	<ul style="list-style-type: none"> I can find the total surface area of cuboids. I can find the area of a trapezium. 	<ul style="list-style-type: none"> I can find the volume of a sphere, cone and pyramid. I can find the volume of a compound prism. 	<ul style="list-style-type: none"> I can solve a compound area problem involving circles. I can find the area of a circle (diameter given). 	<ul style="list-style-type: none"> I can use the cosine rule to find a missing side. I can use the sine rule to find missing angles. 	<ul style="list-style-type: none"> I can calculate totals involving money. I can find the price of one item.
	STAGE 1 (GCSE 1-2)	<ul style="list-style-type: none"> I can find the area of a compound shape. I can find the area of a triangle. I can convert between metric units. 	<ul style="list-style-type: none"> I can work with plans and elevations. I can find the volume of a triangular prism. I can find the volume of a cuboid. 	<ul style="list-style-type: none"> I can find the circumference of a circle (radius given). I can find the circumference of a circle (diameter given). I can find the area of a circle (radius given). 	<ul style="list-style-type: none"> I can use the sine rule to find missing sides. I can manipulate the formula for area of a triangle to find a missing length or angle. I can find the area of a non-right angled triangle. 	<ul style="list-style-type: none"> I can calculate totals involving money. I can add and subtract with money. I can change between pence and pounds.