



Maths Department

Yr 9 Curriculum and Assessment Map

	Half Term 1	Half-Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 9	Sequences and Straight-Line Graphs	Rounding and Compound Measure	Expressions and Simultaneous Equations	Circles and Constructions	Transformations	Right-angled Triangles
Fundamental Knowledge	- Recognise, sketch and produce graphs of linear functions of one variable, using equations in x and y and the Cartesian plane; interpret mathematical relationships both algebraically and graphically - Reduce a given linear equation in two variables to the standard form $y = mx + c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically - Generate terms of a sequence from either a term-to-term or a position-to-term rule - Recognise arithmetic sequences and find the nth term; recognise geometric sequences and appreciate other sequences that arise	- Calculating and writing upper and lower bounds of numbers given to varying degrees of accuracy and in the form of error intervals - Understand the concept of significant figures and round integers and non-integers to a given number of places. Understand the impact of rounding - Read and write large and small numbers written in standard form - Calculating compound measures such as speed, rates of pay, density, pressure. - Convert between standard units and use ratio and proportion to covert units to and from imperial to metric - To model relationships graphically e.g., unit conversions, speed	- Use the distributive law to expand and factorise brackets including finding the product of binomials - Form and manipulate expressions and equations involving more than one variable - Rearranging the subject of simple formulae. - Forming and solving two linear simultaneous equations (including by use of elimination, substitution or graphs).	- Use the properties of a rhombus to construct angle bisectors and perpendicular bisectors - Finding the perimeters and areas of semi-circles, quarter circles and composite shapes made from circles and parts of circles. - Find the volume and surface areas of cylinders	- Recognise rotational and reflectional symmetry in shapes and use to calculate missing angles. - Recognise and perform transformations; understand the minimum information required to describe a reflection, rotation, translation and enlargement. Appreciate what changes and what is invariant. - Recognise that similar shapes have sides in proportion to each other but angle sizes are preserved; recognise that for congruent shapes both side lengths and angle sides are preserved - Use similarity to find missing side lengths in shapes.	- Be aware that there is a relationship between the lengths of the sides and the angles of a right-angled triangle. - Use and apply Pythagoras' theorem to solve problems in a range of contexts. - Applying trigonometric ratios in right-angled triangles to find missing sides and angles.
Learning Checkpoint Tasks	Learning checks will take place after each unit.	Learning checks will take place after each unit.	Learning checks will take place after each unit.	Learning checks will take place after each unit.	Learning checks will take place after each unit.	Learning checks will take place after each unit.
Common Assessment Task	TA1 Trust Assessment		N/A		TA2 Trust Assessment	
Interleaved Knowledge	<i>Progression from Y7/Y8/KS2: HT1</i> Y7 Multiples, Coordinates, Reading and writing expressions, Substitution Y8 Golden ratio, Substitution , Solving linear equations, Scatter graphs, Substitution <i>Progression from Y7/Y8/KS2: HT2</i> Y7 Place value, Power of 2, Commutative law of multiplication; order of operations, Multiplying and dividing by powers of 10, Rounding and place value, Approximations Y8 Cubing numbers, Double number line, Ratio, Equivalent ratio, Equations in the form $a=b/c$ Y9 Graphs		<i>Progression from Y7/Y8/KS2: HT1</i> Y7 $2 \times 3x = 6x$, Commutative and associative law of multiplication, Language of variable and coefficient, Area model, Laws of arithmetic, Using distributive law to simplify expressions, Zero pairs, Absolute value, Expanding brackets, Reading and writing expressions Y8 Solving equations with brackets, Expression vs equation, Maintaining equality, Substitution, Solving linear equations, Checking the solution of an equation Y9 $10^4 = 10 \times 10 \times 10 \times 10$, Equation of a SLG, Drawing graphs <i>Progression from Y7/Y8/KS2: HT2</i> Y7 perimeter, fact families, place value conversion of fractions to decimals, area of polygons, multiplication and simplification of fractions area and square rooting; Y8 HT1 fraction of a quantity; HT2 solving equations in form $a=b/c$. HT3 construction of circles and triangles; angle property of polygons and parallel lines; angle notation, angles round a point; HT4 ratio HT5 surface area HT5 volume of prisms Y9 HT2 unit conversion; HT2 standard form; HT3 rounding;		<i>Progression from Y7/Y8/KS2: HT1</i> Year 4 - Identify lines of symmetry in 2d shapes. describe movements between positions as translations of a given unit to the left/right and up/down Year 5 - describe positions on the full coordinate grid (all four quadrants) § draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. Year 6 - solve problems involving similar shapes where the scale factor is known or can be found. Year 7; HT3 - Problem solving with coordinate geometry. Squaring, 3D and cubing Year 8 - Ratio and property of proportion. Interior angles of polygons and angles on parallel lines. Angles on parallel lines; interior angles of a triangle Year 9 - Equations of straight-line graphs Describing reflections using graphs is not part of KS2. Y9 HT1 - Finding equation of a straight-line. Area of circles and volume of cylinders <i>Progression from Y7/Y8/KS2: HT2</i> Composite area Y7HT3, Squaring and square rooting a number vs square numbers Y7HT3, Order of operations Y7 HT2, Property of equality Y7HT1 and Y8HT2, Substitution Y7 HT2, Properties of triangles Y8 HT3, Solving equations Y8 HT2, Substitution Y7 HT1, Collecting Like Terms Y9 HT3, Coordinates Y7 HT3, Calculating the gradient of a straight-line graph Y9 HT1, Ratio value Y8 HT4, Fact families and the relationship between multiplication and division Y7 HT1, Similar shapes Y9 HT5, Gradient Y9 HT1, Similar shapes (within shape ratio) Y9 HT5	

