

Brook Mead Academy Maths Map of Learning

	Year 7	Year 8	Year 9
Half term 1	<ul style="list-style-type: none"> - Place value, decimals and rounding. - Addition and subtraction strategies, including decimals - Applied addition and subtraction: shape, finance and data - Division and multiplication strategies, including decimals 	<ul style="list-style-type: none"> - Place value and multiplying/dividing by powers of 10. - Percentage calculations using proportion - increasing and decreasing by percentages - Percentage multipliers - Reverse Percentages - Fraction calculations and fractions of quantities - Negative number calculations 	<ul style="list-style-type: none"> - Mean median and mode, including from tables. - Problem solving and reasoning with averages - Bars, charts and graphs – bar graphs, time series, scatter diagrams, pie charts - Percentages calculations using proportion - Percentage multipliers - Percentage change - Compound change - Rounding and error intervals
Half term 2	<ul style="list-style-type: none"> - Applied multiplication and division: powers and routes, area, related calculations - Orders of operations - Calculations with fractions and decimals - Converting and comparing fractions, decimals and percentages - Finding percentages 	<ul style="list-style-type: none"> - Positive and negative powers of ten - Multiplying by positive and negative powers of 10 - Calculations and problem solving with metric units - Financial calculations: profit, financial statements and problem solving - Rounding to significant figures - Estimation and approximation - Relative frequency - Probability of single events - Frequency trees 	<ul style="list-style-type: none"> - Calculations using standard form Probability of single and multiple events - Tree diagrams, Venn diagrams and two way tables - substitution into complex formulae - Index laws - Expanding and factorising single and double brackets - Identities - Proofs - Rearranging formulae
Half term 3	<ul style="list-style-type: none"> - Algebraic notation and substitution - Directed numbers and substituting negative numbers - Algebraic functions 	<ul style="list-style-type: none"> - Substitution - Function notation - collecting like terms - solving equations - Laws of indices 	<ul style="list-style-type: none"> - Simultaneous equations - Factorising and solving quadratics - Solving and representing inequalities - Ratio and scale - Equations of direct proportion - Proportion graphs - Inverse proportion - Equations and graphs of inverse proportion
Half term 4	<ul style="list-style-type: none"> -Collecting like terms - Solving equations - Laws of indices 	<ul style="list-style-type: none"> - Multiplying terms - Expanding brackets - Factorising into a single bracket 	<ul style="list-style-type: none"> - Area of 2d shapes, including circles and trapeziums

	<ul style="list-style-type: none"> - Multiplying algebraic terms - Expanding and factorising - Forming expressions and equations 	<ul style="list-style-type: none"> - Forming and simplifying expressions - Writing and rearranging formulae - Ratio and Proportion 	<ul style="list-style-type: none"> - Volume and surface area of prisms - Pythagoras' theorem - Angles in parallel lines and on a straight line - Similar shapes - Trigonometry in right angled triangles
Half term 5	<ul style="list-style-type: none"> - Proportion (recipes, best buys, word problems.) - Understanding ratio - Simplifying and converting ratio - Fractions of quantities - Sharing in a ratio 	<ul style="list-style-type: none"> - Term to term rules of sequences - Different types of sequences - Plotting co-ordinates - Plotting and understanding linear graphs - Identifying the gradient and y-intercept, including in contextual graphs - Calculating average and range from a list - solving problems with averages 	<ul style="list-style-type: none"> - Constructing and interpreting straight line graphs - Understanding the formula: $y = mx + c$ - Midpoints of line segments - Finding and interpreting gradients - Graphical solutions to simultaneous equations - Quadratic, cubic and reciprocal graphs.
Half term 6	<ul style="list-style-type: none"> - Perimeter and area of polygons and compound shapes - Applying algebra to geometric problems - Angle sum of polygons 	<ul style="list-style-type: none"> - Graphical representations of data - Pie charts - Scatter diagrams - Distance time graphs - Conversion graphs - Area and circumference - Constructions - Symmetry and Reflections - Rotational symmetry 	<ul style="list-style-type: none"> - Reflecting shapes in lines, including from equations - Rotations - Translations - Congruency - Scale, and Constructions of scale drawings