Brook Mead Academy Maths Map of Learning

	Year 7	Year 8	Year 9
Half term 1	- 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	- 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	- Percentages calculations using proportion - Percentage multipliers - Percentage change - Compound change - Rounding and error intervals
Half term 2	- 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	- 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	- 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	- Algebraic notation and substitution - Directed numbers and substituting negative numbers - Collecting like terms - Algebraic functions	- Substitution - Function notation - Writing and rearranging formulae - Laws of indices - Prime factorisation	- Simultaneous equations - Factorising and solving quadratics - Solving and representing inequalities - Ratio - Equations of direct proportion - Proportion graphs - Inverse proportion - Equations and graphs of inverse proportion
Half term 4	- Laws of indices - Multiplying algebraic terms - Expanding and factorising - Solving equations - Forming expressions and equations	- Simplifying algebraic expressions - Expanding brackets - Factorising into a single bracket - Forming and simplifying expressions - Solving linear equations - Ratio and Proportion	- Area of 2d shapes, including circles and trapeziums - 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	- Proportion (recipes, best buys, word problems.) - Understanding ratio - Simplifying and converting ratio - Fractions of quantities - Sharing in a ratio	- 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	- 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	- Perimeter and area of polygons and compound shapes - Applying algebra to geometric problems - Angle sum of polygons	- Graphical representations of data - Pie charts - Scatter diagrams - Distance time graphs - Conversion graphs - Area and circumference - Constructions - Symmetry and Reflections - Rotational symmetry	- Reflecting shapes in lines, including from equations - Rotations - Translations - Congruency - Scale, and Constructions of scale drawings