

Year 8 A & B	Unit	Topics Covered	Key Knowledge learnt - Covid Catch up	Cross Curricular Links	Real World Applications
Half Term 1	Number & Percentages	Prime Factorisation LCM and HCF Powers/Roots Rounding Estimation Simple interest Percentage Change Reserve percentages	<ul style="list-style-type: none"> • Recognise prime numbers • Express a composite number as a product of its prime factors • Represent the prime factorisation of a number in index notation • Find the highest common factor (HCF) and lowest common multiple (LCM) of a group of numbers by using prime factorisation • Understand the use of prime factorisation to find the square root and cube root of a number • Round numbers to a required number of decimal places and significant figures • Estimate quantities (numbers and measures) to an appropriate degree of accuracy • Calculate simple interest and percentage increase and decrease • Solve problems involving reverse percentage 	<p>Rounding numbers to a degree of accuracy in scientific experiments.</p> <p>Calculating percentage increase/decrease of a population in geography.</p>	Being able to calculate the cost of a mortgage based on the amount of interest applied.
Half Term 2	Algebra & Geometry	Creating expressions Using formula Simplifying linear exp Factorisation Proof Perimeter & Area 2D	<ul style="list-style-type: none"> • Interpret and use algebraic notation • Evaluate expressions and formulae • Simplifying linear expressions • Factorise algebraic expressions • Prove a statement algebraically • Classify special quadrilaterals based on their properties • Recognise the properties of special quadrilaterals • Recognise the properties of polygons, including symmetry properties • Area and perimeter of parallelograms, trapeziums and composite shapes 	Calculating the area and perimeter of 3D objects in design and technology.	Being able to calculate the amount of lawn needed on a plot of land.
Half Term 3	Ratio	Writing ratio Sharing ratio Scales/Maps Speed Rate	<ul style="list-style-type: none"> • Compare quantities by ratio • Describe the relationship between ratio and fraction • Divide a quantity in a given ratio • Understand and use the scale of a plan or a map • Solve problems involving rate in daily life • recognise the relationships between distance, time and speed • Recognise the concepts of constant speed and average speed • Write speed in different units and convert it from one unit to another • Solve problems involving speed 	<p>Finding the correct ratio in terms of recipes.</p> <p>Being able to convert speed in different units in physics.</p> <p>Being able to correctly use scale in maps in geography.</p>	Being able to calculate the distance from one destination to another using an A-Z map.

Half Term 4	Algebra & Geometry 3D	Linear equations Inequalities Nets of 3D Volume Surface area	<ul style="list-style-type: none"> • Understand the concepts of equations and the solution of an equation • Solve linear equations in one variable (including brackets and a fractional solutions) • Understand the concept and properties of linear inequalities • Solve simple linear inequalities • Visualise and draw sketches of three-dimensional shapes from different views • Visualise and draw the nets of prisms and cylinders • Calculate the volume and surface area of prisms and cylinders • Convert between cm^2 and m^2, and between cm^3 and m^3 • Solve problems involving volume and surface area of composite solids 	Art – creating an artwork involving geometric shapes DT- Creating plans for 3D models	Designer - Construction and measure of 2-D and 3-D models Scale drawings and plans of miniature proposals for designing
Half Term 5	Algebra	Sequences Linear graphs Functions Gradients	<ul style="list-style-type: none"> • Recognise number patterns and sequences • Find terms of a sequence using a term-to-term rule • Recognise arithmetic and geometric sequences • Find terms of a sequence using a position-to-term rule • Find the formula for the general (nth) term of a sequence • Solve problems involving number patterns and sequences • construct the Cartesian coordinate system in two dimensions and state the coordinates of points on it • Recognise the idea of functions • Plot a graph of a set of ordered pairs as a representation of a relationship between two variables • Recognise linear functions in the form of $y = mx + c$ and draw their graphs 	Being able to plot graphs from a scientific experiment. This would require an understanding of independent and dependant variables.	Using Coordinates to mark different locations on a map. line graphs, bar charts, pie charts to represent reports or results from an event
Half Term 6	Statistics Probability & Data	Line graphs Pie charts Probability of event Sample space Sets & Venn diagrams Mean, Mode, Median Range	<ul style="list-style-type: none"> • Construct, analyse and interpret line graphs • Construct, analyse and interpret pie charts • Describe the purposes and appropriateness of use of the different forms of statistical representation, including pictograms and bar charts • Explain why a given statistical diagram can lead to misinterpretation of data • Construct, analyse and interpret scatter graphs • Describe types of correlation for a scatter graph • Draw a line of best fit on a scatter graph and use it to estimate data values • Find the equation of a given line of best fit • Identify and explain outliers 	Being able to draw a pie chart in geography showing information such as, the proportion of people using different modes of transport.	Broadband and suppliers advertise their median internet speed to help customers. They use the median to describe the average internet speed customers can expect, rather than internet speeds of 'up to' a certain speed.
Assessments			<ul style="list-style-type: none"> • 2 x large exams per year (1 calc, 1 non calc) • 2 x GL assessments • 3 x End of term content tests 		