

Year 8 Pathway D	Unit	Topics	Key Knowledge learnt Covid Catch up	Cross Curricular Links	Real world applications
Half Term 1	Number	Place Value Ordering Numbers Four operations BODMAS Factors, Multiples	<ul style="list-style-type: none"> Recognise the place values of an integer Round a number to the nearest 10,100 or 1000 Add, subtract, multiply and divide two positive integers Relate addition and subtraction and multiplication and division Understand square, cube, square root and cube root of a number Understand index notation Apply the order of operations in calculations Use calculators to apply operations Identify multiples and factors of a number Apply the above concepts to solve daily life problems Recognise the use of negative numbers in the real world Represent numbers on a number line Identify integers and perform the four operations on them 	<p>Calculator skills apply in science.</p> <p>Being able to perform the necessary combination of operation in subjects requiring data analysis.</p>	<p>Negative numbers in the context of money</p> <p>Negative numbers in the context of freezing temperatures.</p>
Half Term 2	FDP	Compare fractions Equivalent fractions Convert improper/mixed Four operations Place value Rounding decimals Add, subtract, multiply	<ul style="list-style-type: none"> Understand and use fraction notation Convert between improper fractions and mixed numbers Identify equivalent fractions Compare fractions with the same numerator or denominator Calculate fractions of quantities Find the reciprocal of a number Perform four operations on fractions and mixed numbers Apply fractions in practical situations Identify fractions as rational numbers Interpret decimals and write decimals in order of size Four operations with decimals 	<p>Art and Design – being able to colour/shade/tone in different fractional amounts.</p>	<p>Being able to share fairly, for example food.</p> <p>Being able to order money in order of size.</p>
Half Term 3	FDP & Ratio	Divide decimals Percentages Reduce or decrease percentage Ratio & fractions Equivalent ratio	<ul style="list-style-type: none"> Define percentages Convert percentages to fractions or decimals Recognise percentages greater than 100% Compare to quantities using percentages Express one quantity as a percentage of another Find a percentage of quantity Reduce or increase a quantity by a percentage 	<p>Art - Perspectives and Golden ratio</p> <p>Being able to calculate the percentage temperature rise from an experiment.</p>	<p>Being able to calculate a percentage score from an exam.</p> <p>Being able to calculate profit/loss from business accounts.</p>

			<ul style="list-style-type: none"> • Write a ratio between two quantities • Relate ratios and fractions • Identify equivalent ratios 		Being able to calculate salary before tax.
Half Term 4	Algebra	Writing expressions Like terms Linear expressions Expanding Formula Equations	<ul style="list-style-type: none"> • Use letters to represent numbers • Interpret simple algebraic notations • Substitute integers into simple expressions and formulae • Write simple expressions, equations, and formulae • Simplify expressions by collecting like terms • Add and subtract linear expressions • Expand a single bracket • Solve simple equations including brackets 	Being able to use formulae and substituting values in formulae relating to physics/chemistry. For example, voltage heat transferred.	Holiday planning – breaking down full values to split between a group of people
Half Term 5	Geometry 2D	Lines/planes/points Angles Parallel lines Reflection Rotation Area & Perimeter	<ul style="list-style-type: none"> • Describe a point, a line, a line segment, a ray and a plane • Construct lines, line segments and angles • Identify different types of angles • Recognise the properties of angles and in parallel lines • Find unknown angles • Classify & construct triangles • Identify reflection symmetry and lines of symmetry • Create symmetrical figures and patterns • Identify rotation symmetry & order of rotation symmetry • Perimeter and area of simple shapes 	Art - Analysis of the position and angles between the key subjects in paintings.	Using symmetry when conducting interior design of a room. Knowing how much gravel, soil, grass to purchase to cover a certain amount of land.
Half Term 6	Statistics & Geometry 3D	Collecting data Picto /line, bar charts Grouped data Pie charts Scatter graphs Circumference Area of circle Nets of 3d shapes Surface area	<ul style="list-style-type: none"> • Collect data using different methods • Classify, organise, and tabulate data • Read, interpret and represent data in graphs and charts • Identify the advantages and disadvantages of graphs and charts • Understand and interpret grouped data • Draw a grouped frequency table and data in a bar chart • Draw, analyse and interpret scatter graphs • Describe types of correlation and draw line of best fit • Find the area and circumference of a circle and semi-circle 	Frequency of words (e.g. Shakespeare vs Bacon). Line graphs -charting emotional response	- Diagrams are a good way to display data because they let you spot patterns or features quickly.
Assessments			<ul style="list-style-type: none"> • 2 x large exams per year (1 calc, 1 non calc) • X2 GL assessments • X3 End of term content tests 		