Year 8 – Pathway C	Unit	Topics Covered	Key Knowledge - Covid Catch up	Cross Curricular Links	Real World Applications
Half Term 1	Number	Place Value Understanding Integers Ordering Numbers Four operations Rounding Powers & Roots	• Read and write positive and negative integers • Use number lines with different scales to present and compare positive and negative integers • Use the inequality symbols • Use integers in real-world applications • Use four operations with positive and negative integers • Evaluate expressions using the order of operations • Round numbers to required numbers of significant figures or to the nearest desired place value • Estimate the results of calculations • Calculate squares, cubes, and roots	History – Using and understanding timelines Science – using positive and negative numbers to read temperatures	Home economics – Negative numbers in the context of money Budgeting Estimating
Half Term 2	FDP	Equivalent Compare Four operations Convert FDP Four operations	• Convert improper fractions to mixed numbers • Convert mixed numbers to improper fractions • Represent and order fractions on a number line • Compare and order fractions using inequality symbols • Use four operations with fractions	Measurements in DT.	Recipes – fraction of quantities
Half Term 3	FDP	Combined operations decimals Percentages Percentage increase or decrease Percentage Change	• Identify the place values of digits in decimals • Convert between fractions and decimals • Round decimals to a given number of decimal places • Round decimals to a given number of significant figures • Use four operations with decimals • Express one quantity as a percentage of another • Compare two quantities by percentages • Find percentages greater than 100% • Increase or decrease a quantity by a given percentages • Find percentage increase or decrease	States of matter in chemistry Geography – analysing data by using percentages	Shopping – Sale/ reduced items via percentages Money - decimals Food – Kcal percentages on food packaging Bank Accounts - Interest
Half Term 4	Algebra	Expressions Like terms Expanding Formula Patterns & Sequences	• Represent algebraic expressions using algebra discs • Recognise like terms and unlike terms and collect like terms in an expressions • Expand an algebraic expression with brackets • Use algebraic expressions to model real-world situations • Interpret and evaluate algebraic expressions and formulae	Art – Patterns	History WW2 – Code breaking A sequence of diagrams can help in making predictions about the spread of a virus. Computers can be used to

		Equations Inequalities	• Solve problems involving number patterns and sequences • Recognise arithmetic and geometric sequences • Express the nth term of a sequences in terms of n • Prove claims abouts the values of terms in a sequence • Identify linear equations in one variable • Solve linear equations in one variable • Apply linear equations to solve problems • Identify linear inequalities in one variable		simulate the spread and impact of a virus, often in a visual form. Other applications include drought, forest fires.
Half Term 5	Geometry 2D	Angles Area & Perimeter Circumference & area Conversions of units	• Identify and apply the properties of angles on a straight line, vertically opposite angles, and angles at a point • Identify/ apply the properties of angles between parallel lines • Calculate perimeter and area of 2D shapes including circles • Calculate the perimeter and area of composite shapes • Solve problems with circumference, perimeter, and area • Convert between square units	Art – geometric shape drawing	Architecture design Computer graphics – modelling/ designing DT – measuring and using measurements for creating models
Half Term 6	Ratio & Statistics	Writing ratio Sharing ratio Maps & scales Pie charts Scatter graphs Line graphs	• Express equivalent ratios involving fractions, decimals, and different units of measure • Divide a quantity in a given ratio • Use a ratio to compare three quantities • Use map scales to find the actual distance and the distance on a map	Geography – Map skills PE – Reaction time graphs	Geography – World population, completing and interpreting graphs Home economics – value for money and comparing using simple proportion
	Geometry 3D	Volume Surface area Nets Conversion of units	• Draw the nets of prisms and cylinders • Find the surface area and volume of prisms • Find the surface area and volume of cylinders • Solve problems involving the surface area and volume of prisms and cylinders • Convert between cubic units	DT – being able to produce 3D models from a design concept. Conversion of units in scientific experiments	Computer graphics – designing 3d models Being able to calculate surface area is useful in being able to determine how much paint to buy.
Assessments			• 2 x large exams per year (1 calc, 1 non calc) • 2 x GL assessments • 3 x End of term content tests		