

Year 7 Overview

Term	Units	Key Learning Steps
Autumn 1	Unit 3: Solving Calculation Problems *Can include aspects of Unit 2 as starters or as part of your lesson.	Four operations, including formal written methods, for integers, decimals, fractions and mixed numbers; Order of operations, including brackets; Use of the symbols =, ≠, <, >, ≤, ≥; Estimate answers; Check calculations using approximation and estimation. Missing number questions (leading onto algebra). Ext: Substitute into formulae and expressions; Use standard mathematical formulae; Concepts and vocabulary of expressions, equations, formulae and terms; Use and interpret algebraic notation.
	Unit 4: Exploring Shape	Identify properties of the faces, surfaces, edges and vertices of 3D shapes. Use conventional geometrical terms and notations and standard labelling conventions for the sides and angles of triangles Angles at a point, angles at a point on a straight line, vertically opposite angles Properties of special types of quadrilaterals, triangles and other plane figures Practical: Cut-out angles in triangle form straight line. Investigation: Euler's Formula: $F - E + V = 2$
Time		
Autumn 2	Unit 2: Investigating Number Properties	Place value (with very large or very small numbers, and when calculating with decimals); Round numbers and measures as desired; order positive and negative integers, decimals and fractions.
	Unit 7: Discovering Equivalence	Define percentage as 'number of parts per hundred'; Interpret percentages and percentage changes as a fraction or a decimal, including multiplicatively; Express one quantity as a percentage of another; Compare two quantities using percentages; Solve problems involving percentage change. Interpret fractions and percentages as operators; order positive and negative integers, decimals and fractions Ext: 50% of a number is..., 20% of a number is...,
	Unit 1: Pattern Sniffing Test in WEEK 6. Wb 5 th December	Prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor and lowest common multiple; Generate a sequence from a term-to-term rule; Triangular, square and cube numbers, simple arithmetic progressions. Positive integer powers and associated roots; recognise powers of 2, 3, 4, 5 Investigations: Erastothene's Sieve, Square Number's Last Digit,

Time		
Spring 1	Unit 5: Generalising with Arithmetic	Review four operations for integers, decimals, fractions and mixed numbers; order of operations. Review algebraic notation, concepts and vocabulary of expressions, equations, formulae and terms, and use of the symbols =, ≠, <, >, ≤, ≥ Recognise and use relationships between operations, including inverse operations Simplify and manipulate algebraic expressions by collecting like terms and multiplying a single term over a bracket. <i>Ext: Expanding double brackets.</i>
	Unit 9: Solving Number Problems Unit 6: Reasoning with Measures	Focus on 'missing number' problems. Solve linear equations in one unknown algebraically Calculate perimeters of 2D shapes; Calculate area of triangles, parallelograms, trapezia; Know the formulae for circumference and area of a circle; Calculate volume of cuboids.
Spring 2	Unit 13: Proportional Change	Use ratio notation, including reduction to simplest form Divide a given quantity into two parts in a given part:part or part:whole ratio
	Unit 10: Reasoning with Fractions	Express one quantity as a fraction of another Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees; Apply ideas of randomness, fairness and equally likely events; Relate relative expected frequencies to theoretical probability; Construct sample spaces and use these to calculate theoretical probabilities
	Unit 8: Investigating Statistics	Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data. Interpret, analyse and compare the distributions of data sets through appropriate measures of central tendency (median, mean, mode and modal class) and spread (range)

Summer 1	Unit 11: Visualising Shape	<p>Draw diagrams from written description</p> <p>Measure line segments and angles in geometric figures</p> <p>Review use of conventional geometric terms, notations and labelling of sides/angles in triangles</p> <p>Identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference</p>
	Unit 12: Exploring Change	Coordinates – 4 quadrants
	Unit 14: Describing Position	<p>Solve geometrical problems on coordinate axes</p> <p>Identify, describe and construct congruent shapes by considering rotation, reflection and translation; Describe translations as 2D vectors</p>
Summer 2	Unit 15: Measuring and Estimating	<p>Use standard units of mass, length, capacity, area time, money and other measures (including standard compound measures) using decimal quantities where appropriate</p> <p>Convert between related standard units</p> <p>Convert between miles and kilometres and apply this to solve problems</p>
	<p>Revision and Assessment</p> <p>Start on next stage SoW</p>	
Total		