



7	Knowledge	Tier 2 vocabulary	Skills	Assessment
<p>Autumn 1 Numerate and able to use equipment properly.</p>	<ul style="list-style-type: none"> Types of number: factors, multiples and primes Four operations with integers and decimals Timestables to 12 x 12 Problem solving with number Place value and rounding Using a calculator Using geometric instruments 	<p>Operation Multiplication Addition Subtraction Division Instruments Sum</p>	<p>Numerically fluent with positive and negative integers, decimals and fractions. Accurately use mathematical equipment to draw diagrams.</p>	<ul style="list-style-type: none"> Year 7 Baseline Test Numeracy Fluency Assessment
<p>Autumn 2 Work with number.</p>	<ul style="list-style-type: none"> Four operations with negative numbers Four operations with fractions Decimals to fractions and fractions to decimals Problem solving 	<p>Total Product Estimate</p>		<ul style="list-style-type: none"> Problem solving assessment
<p>Spring 1 Work with ratio and proportion.</p>	<ul style="list-style-type: none"> Percentages Fractions problem solving Equivalent fractions, decimals, percentages Sharing in a ratio Unitary ratios Best buys 	<p>Evaluate Calculate Equivalent Compare Simplify Expand Solve</p>	<p>Apply knowledge to solve problems.</p>	<ul style="list-style-type: none"> Problem solving assessment
<p>Spring 2 Work with algebra</p>	<ul style="list-style-type: none"> Collecting like terms Expanding brackets Simplifying expressions Solve linear equations Solve linear inequalities 			<ul style="list-style-type: none"> Algebra Fluency Assessment
<p>Summer 1 Work with shape</p>	<ul style="list-style-type: none"> Properties of 2D shapes Angles in quadrilaterals and triangles Units of measurement Area of 2D shapes 	<p>Parallel Perpendicular Length Area Volume Frequency Average Certain Impossible Likely/unlikely</p>	<p>Apply knowledge to solve problems. Model situations using statistical methods.</p>	<ul style="list-style-type: none"> Problem Solving Assessment
<p>Summer 2 Work with statistics and data including introduction to probability.</p>	<ul style="list-style-type: none"> Types of data Collecting and displaying data Averages and measure of spread The probability scale Problems involving probability 			<ul style="list-style-type: none"> Written data project assessment



8	Knowledge	Tier 2 vocabulary	Skills	Assessment
<p>Autumn 1 Strength in Algebra</p>	<ul style="list-style-type: none"> Solving equations Working with sequences Represent sequences as coordinates Work with linear graphs and equation of a straight line Substitute into functions and plot graphs 	<p>Solve Evaluate Coordinate Axis Substitute Intercept Integer Total Solution Proportion Equivalent</p>	<p>Use algebraic notation to generalise a situation. Accurately draw and plot graphs. Work with scale of axis. Apply numerical knowledge to problem solving.</p>	<ul style="list-style-type: none"> Problem Solving Assessment
<p>Autumn 2 Numerical Problem Solving</p>	<ul style="list-style-type: none"> Solve problems with integers and decimals Solve problems with negative numbers Work with types of number: HCF and LCM Solve problems with FDP 			<ul style="list-style-type: none"> Problem Solving Assessment
<p>Spring 1 Strength in geometric problem solving including area, volume and measurements</p>	<ul style="list-style-type: none"> Area of 2D shapes Volume of 3D shapes Problems involving area Problems involving volume Working with compound measures 	<p>Area Volume Dimension Length Compound Density Mass Parallel Equal Enlarge Rotate Reflect Capacity Construct</p>	<p>Use mathematical equipment accurately. Estimate answers. Check that answers are possible, logical and reasonable through estimation.</p>	<ul style="list-style-type: none"> Problem Solving Assessment
<p>Spring 2 Strength in shape problem solving including angles, constructions and transformations</p>	<ul style="list-style-type: none"> Angles in 2D shapes Angles in parallel lines Constructions and Loci Transformations of 2D shapes 			<ul style="list-style-type: none"> Problem Solving Assessment
<p>Summer 1 Strength in problem solving with data and statistics</p>	<ul style="list-style-type: none"> Averages from tables Sampling and collecting data Presentation of data 	<p>Bias Outlier Skew Cumulative Distribution Analysis Average Sample Population Evaluate</p>	<p>Collect and record data. Present data in a variety of forms using mathematical equipment accurately.</p>	<ul style="list-style-type: none"> Problem Solving Assessment
<p>Summer 2 Strength in solving problems with ratio and proportion</p>	<ul style="list-style-type: none"> Sharing in a ratio Comparing ratios and proportions Fractions, decimals and percentages problem solving Using algebra to form equations to solve proportion problems 			<ul style="list-style-type: none"> Problem Solving Assessment



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Autumn 1 <ul style="list-style-type: none"> Number Properties 1 Approximations Shape 	<ul style="list-style-type: none"> Applying four operations Working with decimals and rounding Working with properties of shapes Area and volume 	Operation Multiplication Addition Subtraction Division Approximation Estimate	Numerically fluent with positive and negative integers, decimals and fractions. Apply knowledge to solve problems.	<ul style="list-style-type: none"> Mixed GCSE Exam Questions
Autumn 2 <ul style="list-style-type: none"> Fractions, Decimals, Percentages Number Properties 2 Algebra - Expressions 	<ul style="list-style-type: none"> Problem solving with fractions, decimals and percentages Working with standard form Factorising and expanding brackets Rearranging equations 	Parallel Proportion Numerical Solution		<ul style="list-style-type: none"> Mixed GCSE Exam Questions
Spring 1 <ul style="list-style-type: none"> Collecting and Interpreting Data Angles Transformations and Constructions 	<ul style="list-style-type: none"> Types of data Working with averages Angle properties of shapes Transformations of shapes Constructions 	Total Average Frequency Angle Sum Bisect Enlarge Reflection Probability Similar Solve Evaluate	Calculate and evaluate averages. Draw accurate diagrams using mathematical equipment.	<ul style="list-style-type: none"> Mixed GCSE Exam Questions
Spring 2 <ul style="list-style-type: none"> Ratio and Scale Probability Algebra – solving equations 	<ul style="list-style-type: none"> Similar shapes Bearings Venn diagrams and frequency trees Forming equations Solving equations 			<ul style="list-style-type: none"> Mixed GCSE Exam Questions
Summer 1 <ul style="list-style-type: none"> Sequences Graphs Interpreting Data 	<ul style="list-style-type: none"> Nth term rule General equation of a straight line Gradients of lines Scatter diagrams 	Sequence Gradient Parallel Perpendicular Vertical Horizontal Equal Linear Volume	Work with coordinates. Draw and interpret scatter diagrams. Apply knowledge to solve problems.	<ul style="list-style-type: none"> Mixed GCSE Exam Questions
Summer 2 <ul style="list-style-type: none"> Proportions Circle properties 	<ul style="list-style-type: none"> Sharing in a given ratio Using proportion in problem solving Area and circumference of a circle 3D shapes related to circles 			<ul style="list-style-type: none"> Mixed GCSE Exam Questions