



Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Number system	<p>Be able to identify the highest common factor and lowest common multiple</p> <p>Be able to identify prime numbers and understand the concept of prime factorisation</p> <p>Be able to round numbers to an appropriate degree of accuracy</p> <p>Be able to interpret standard form</p>	<p>Factor</p> <p>Multiple</p> <p>Prime factor</p> <p>Venn diagram</p> <p>Significant figure</p> <p>Standard form</p>	<p>Solve problems using highest common factor and lowest common multiple</p> <p>Write a number as a product of its prime factors</p> <p>Use prime factorisation to find the highest common factor and lowest common multiple of two numbers</p> <p>Round numbers to a given number of significant figures</p> <p>Use standard form to write small and large numbers</p>	<p>Know the meaning of a prime number</p> <p>Recall prime numbers up to 50</p> <p>Understand the use of notation for powers</p> <p>Know how to round to the nearest whole number, 10, 100, 1000 and to decimal places</p> <p>Know how to identify the first significant figure in any number</p> <p>Multiply and divide numbers by powers of 10</p>	<p>There will be a written piece of homework each week to reinforce key concepts.</p>
Calculating	<p>Be able to apply the four operations to integers and simple fractions and mixed numbers – all both positive and negative</p> <p>Be able to use conventional notation for priority of operations, including brackets, powers, roots and reciprocals</p>	<p>Directed number</p> <p>Improper fraction</p> <p>Mixed number</p> <p>Power</p> <p>Indices</p> <p>Root</p>	<p>Add, subtract, multiply and divide integers that are both positive and negative</p> <p>Add, subtract, multiply and divide fractions that are both positive and negative</p> <p>Square and cube positive and negative numbers</p> <p>Use a scientific calculator to calculate with negative numbers</p> <p>Use the order of operations for calculations involving powers and roots</p>	<p>Fluently recall and apply multiplication facts up to 12×12</p> <p>Know the formal written method of long multiplication and division</p> <p>Convert between an improper fraction and a mixed number</p> <p>Know the order of operations for the four operations and brackets</p>	<p>There will be a written piece of homework each week to reinforce key concepts.</p>



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Visualising and constructing	<p>Be able to interpret plans and elevations of 3D shapes</p> <p>Be able to interpret maps and scale drawings and use bearings</p> <p>Be able to describe and construct similar shapes by enlargement, including on coordinate axes</p>	<p>Plan</p> <p>Elevation</p> <p>Bearing</p> <p>Scale drawing</p> <p>Similar</p> <p>Enlarge</p> <p>Scale factor</p>	<p>Identify plans and elevations of 3D shapes</p> <p>Construct scale diagrams and solve geometrical problems involving bearings</p> <p>Find the centre and scale factor of an enlargement</p> <p>Use the centre and scale factor to carry out an enlargement with a positive integer scale factor</p>	<p>Use a protractor to measure angles to the nearest degree</p> <p>Use a ruler to measure lengths to the nearest millimetre</p> <p>Understand coordinates in all four quadrants</p> <p>Work out a multiplier given two numbers</p>	<p>There will be a written piece of homework each week to reinforce key concepts.</p>
Understanding risk	<p>Be able to describe and analyse the frequency of outcomes of probability experiments using tables</p> <p>Be able to construct theoretical possibility spaces for single experiments with equally likely outcomes</p>	<p>Outcome</p> <p>Equally likely</p> <p>Mutually exclusive</p> <p>Exhaustive</p> <p>Possibility space</p>	<p>List all the outcomes for an experiment, including the use of tables</p> <p>Work out theoretical probabilities for events with equally likely outcomes</p> <p>Apply the fact that the sum of probabilities for all outcomes is 1</p>	<p>Understand the equivalence between fractions, decimals and percentages</p> <p>Compare fractions, decimals or percentages</p>	<p>There will be a written piece of homework each week to reinforce key concepts.</p>



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Algebraic proficiency	<p>Be able to simplify algebraic expressions</p> <p>Be able to substitute numerical values into scientific formulae</p> <p>Be able to rearrange formulae to change the subject</p>	<p>Product</p> <p>Variable</p> <p>Term</p> <p>Coefficient</p> <p>Common factor</p> <p>Power</p> <p>Indices</p> <p>Formulae</p> <p>Subject</p>	<p>Know and use the zero index</p> <p>Simplify expressions using the law of indices</p> <p>Simplify expressions involving terms with combinations of variables (e.g. $3a^2b + 4ab^2 + 2a^2 - a^2b$)</p> <p>Substitute positive and negative numbers into formulae</p> <p>Change the subject of a formula when one step or two steps are required</p>	<p>Simplify an expression by collecting like terms</p> <p>Substitute positive numbers into expressions and formulae</p> <p>Calculate with negative numbers</p> <p>Understand inverse operations</p>	<p>There will be a written piece of homework each week to reinforce key concepts.</p>