



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