

## Stage 6

<i>Units</i>	<i>Mastery indicators</i>	<i>Essential knowledge</i>
<ul style="list-style-type: none"> <li>Numbers and the number system</li> <li>Calculating</li> <li>Calculating: division</li> <li>Visualising and constructing</li> <li>Investigating properties of shapes</li> <li>Algebraic proficiency: using formulae</li> <li>Exploring fractions, decimals and percentages</li> <li>Proportional reasoning</li> <li>Pattern sniffing</li> <li>Measuring space</li> <li>Investigating angles</li> <li>Calculating fractions, decimals and percentages</li> <li>Solving equations and inequalities</li> <li>Calculating space</li> <li>Checking, approximating and estimating</li> <li>Mathematical movement</li> <li>Presentation of data</li> <li>Measuring data</li> </ul>	<ul style="list-style-type: none"> <li>Multiply and divide numbers with up to three decimal places by 10, 100, and 1000</li> <li>Use long division to divide numbers up to four digits by a two-digit number</li> <li>Use simple formulae expressed in words</li> <li>Generate and describe linear number sequences</li> <li>Use simple ratio to compare quantities</li> <li>Write a fraction in its lowest terms by cancelling common factors</li> <li>Add and subtract fractions and mixed numbers with different denominators</li> <li>Multiply pairs of fractions in simple cases</li> <li>Find percentages of quantities</li> <li>Solve missing angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line</li> <li>Calculate the volume of cubes and cuboids</li> <li>Use coordinates in all four quadrants</li> <li>Calculate and interpret the mean as an average of a set of discrete data</li> </ul>	<ul style="list-style-type: none"> <li>Know percentage and decimal equivalents for fractions with a denominator of 2, 3, 4, 5, 8 and 10</li> <li>Know the rough equivalence between miles and kilometres</li> <li>Know that vertically opposite angles are equal</li> <li>Know that the area of a triangle = <math>\text{base} \times \text{height} \div 2</math></li> <li>Know that the area of a parallelogram = <math>\text{base} \times \text{height}</math></li> <li>Know that volume is measured in cubes (cubed units)</li> <li>Know the names of parts of a circle</li> <li>Know that the diameter of a circle is twice the radius</li> <li>Know the conventions for a 2D coordinate grid</li> <li>Know that mean of a set of data = <math>\text{sum of data} \div \text{number of pieces of data}</math></li> </ul>

## Stage 7

<i>Units</i>	<i>Mastery indicators</i>	<i>Essential knowledge</i>
<ul style="list-style-type: none"> <li>Numbers and the number system</li> <li>Counting and comparing</li> <li>Calculating</li> <li>Visualising and constructing</li> <li>Investigating properties of shapes</li> <li>Algebraic proficiency: tinkering</li> <li>Exploring fractions, decimals and percentages</li> <li>Proportional reasoning</li> <li>Pattern sniffing</li> <li>Measuring space</li> <li>Investigating angles</li> <li>Calculating fractions, decimals and percentages</li> <li>Solving equations and inequalities</li> <li>Calculating space</li> <li>Checking, approximating and estimating</li> <li>Mathematical movement</li> <li>Presentation of data</li> <li>Measuring data</li> </ul>	<ul style="list-style-type: none"> <li>Use positive integer powers and associated real roots</li> <li>Apply the four operations with decimal numbers</li> <li>Write a quantity as a fraction or percentage of another</li> <li>Use multiplicative reasoning to interpret percentage change</li> <li>Add, subtract, multiply and divide with fractions and mixed numbers</li> <li>Check calculations using approximation, estimation or inverse operations</li> <li>Simplify and manipulate expressions by collecting like terms</li> <li>Simplify and manipulate expressions by multiplying a single term over a bracket</li> <li>Substitute numbers into formulae</li> <li>Solve linear equations in one unknown</li> <li>Understand and use lines parallel to the axes, <math>y = x</math> and <math>y = -x</math></li> <li>Calculate surface area of cubes and cuboids</li> <li>Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines</li> </ul>	<ul style="list-style-type: none"> <li>Know the first 6 cube numbers</li> <li>Know the first 12 triangular numbers</li> <li>Know the symbols =, ≠, &lt;, &gt;, ≤, ≥</li> <li>Know the order of operations including brackets</li> <li>Know basic algebraic notation</li> <li>Know that area of a rectangle = <math>\text{length} \times \text{width}</math></li> <li>Know that area of a triangle = <math>\text{base} \times \text{height} \div 2</math></li> <li>Know that area of a parallelogram = <math>\text{base} \times \text{height}</math></li> <li>Know that area of a trapezium = <math>((a + b) \div 2) \times h</math></li> <li>Know that volume of a cuboid = <math>l \times w \times h</math></li> <li>Know the meaning of faces, edges and vertices</li> <li>Know the names of special triangles and quadrilaterals</li> <li>Know how to work out measures of central tendency</li> <li>Know how to calculate the range</li> </ul>