

Place Value	Addition, Subtraction, Multiplication & Division	Fractions (including decimals & %)	Ratio & Proportion	Measurement	Properties of Shapes
<ul style="list-style-type: none"> <li>❖ <u>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</u></li> <li>❖ <u>Round any whole number to a required degree of accuracy.</u></li> <li>❖ <u>Use negative numbers in context and calculate intervals across zero.</u></li> <li>❖ <u>Solve number and practical problems that involve all of the above.</u></li> </ul>	<ul style="list-style-type: none"> <li>❖ <u>Multiply multi-digit numbers up to 4 digits by a two-digit whole number.</u></li> <li>❖ <u>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</u></li> <li>❖ <u>Divide numbers up to 4 digits by a two-digit number and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</u></li> <li>❖ <u>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</u></li> <li>❖ <u>Perform mental calculations, including with mixed operations and large numbers.</u></li> <li>❖ <u>Identify common factors, common multiples and prime numbers.</u></li> <li>❖ <u>Use their knowledge of the order of operations to carry out calculations involving the four operations.</u></li> <li>❖ <u>Solve addition, subtraction multiplication and division multi-step problems in contexts, deciding which operations and methods to use and why.</u></li> <li>❖ <u>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</u></li> </ul>	<ul style="list-style-type: none"> <li>❖ <u>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.</u></li> <li>❖ <u>Compare and order fractions, including fractions &gt; 1.</u></li> <li>❖ <u>Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.</u></li> <li>❖ <u>Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>].</u></li> <li>❖ <u>Divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>].</u></li> <li>❖ <u>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>].</u></li> <li>❖ <u>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.</u></li> <li>❖ <u>Multiply one-digit numbers with up to two decimal places by whole numbers.</u></li> <li>❖ <u>Use written division methods in cases where the answer has up to two decimal places.</u></li> <li>❖ <u>Solve problems which require answers to be rounded to specified degrees of accuracy.</u></li> <li>❖ <u>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</u></li> </ul>	<ul style="list-style-type: none"> <li>❖ <u>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</u></li> <li>❖ <u>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</u></li> <li>❖ <u>Solve problems involving similar shapes where the scale factor is known or can be found.</u></li> <li>❖ <u>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</u></li> </ul>	<ul style="list-style-type: none"> <li>❖ <u>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</u></li> <li>❖ <u>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.</u></li> <li>❖ <u>Convert between miles and kilometres.</u></li> <li>❖ <u>Recognise that shapes with the same areas can have different perimeters and vice versa.</u></li> <li>❖ <u>Recognise when it is possible to use formulae for area and volume of shapes.</u></li> <li>❖ <u>Calculate the area of parallelograms and triangles.</u></li> <li>❖ <u>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [for example, mm<sup>3</sup> and km<sup>3</sup>].</u></li> </ul>	<ul style="list-style-type: none"> <li>❖ <u>Draw 2-D shapes using given dimensions and angles.</u></li> <li>❖ <u>Recognise, describe and build simple 3-D shapes, including making nets.</u></li> <li>❖ <u>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.</u></li> <li>❖ <u>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</u></li> <li>❖ <u>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</u></li> </ul>
			<b>Algebra</b>		<b>Position and Direction</b>
			<ul style="list-style-type: none"> <li>❖ <u>Use simple formulae.</u></li> <li>❖ <u>Generate and describe linear number sequences.</u></li> <li>❖ <u>Express missing number problems algebraically.</u></li> <li>❖ <u>Find pairs of numbers that satisfy an equation with two unknowns.</u></li> <li>❖ <u>Enumerate possibilities of combinations of two variables.</u></li> </ul>		<ul style="list-style-type: none"> <li>❖ <u>Describe positions on the full coordinate grid (all four quadrants).</u></li> <li>❖ <u>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</u></li> </ul>
					<b>Statistics</b>
					<ul style="list-style-type: none"> <li>❖ <u>Interpret pie charts and line graphs and use these to solve problems.</u></li> <li>❖ <u>Construct pie charts and line graphs.</u></li> <li>❖ <u>Calculate and interpret the mean as an average.</u></li> </ul>

End of Year 6: Be fluent in written methods for all 4 operations, including long multiplication and division and in working with fractions, decimals and percentages; read, spell and pronounce mathematical vocabulary correctly.