

## Year 6 Maths Overview

### Ongoing Skills

- Weekly consolidation of all times tables
- Practice of formal written methods to add, subtract, divide and multiply

Number (place value)	Number (addition, subtraction, multiplication & division)		Number (fdp)		
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>-round any whole number to a required degree of accuracy</li> <li>-use negative numbers in context, and calculate intervals across zero</li> <li>-solve number problems and practical problems that involve all of the above.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>-divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>-divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.</li> <li>-perform mental calculations, including with mixed operations and large numbers</li> <li>-identify common factors, common multiples and prime numbers</li> <li>-use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>-solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>-solve problems involving addition, subtraction, multiplication and division</li> <li>-use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>-compare and order fractions, including fractions &gt;1</li> <li>-add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>-multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. <math>1/4 \times 1/2 = 1/8</math>)</li> <li>-divide proper fractions by whole numbers (e.g. <math>1/3 \div 2 = 1/6</math>)</li> <li>-associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <math>3/8</math>)</li> <li>-identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</li> <li>-multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>-use written division methods in cases where the answer has up to two decimal place</li> <li>-solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>-recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>		
Ratio & Proportion	Measurement	Algebra	Geometry (shape)	Geometry (position and direction)	Statistics
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li> <li>-solve problems involving the calculation of percentages (eg of measures &amp; 15% of 30) and the use of percentages for comparison</li> <li>-solve problems involving similar shapes where the scale factor is known or can be found</li> <li>-solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate</li> <li>-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 three decimal places</li> <li>-convert between miles and kilometres</li> <li>-recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>-calculate the area of parallelograms and triangles</li> <li>-recognise when it is necessary to use the formulae for area and volume of shapes</li> <li>-calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>) and extending to other units, such as mm<sup>3</sup> and km<sup>3</sup>.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-use simple formulae</li> <li>-generate and describe linear number sequences</li> <li>-express missing number problems algebraically</li> <li>-find pairs of numbers that satisfy an equation with two unknowns</li> <li>-enumerate all possibilities of combinations of two variables</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-draw 2D shapes using given dimensions and angles</li> <li>-recognise, describe and build simple 3-D shapes, including making nets</li> <li>-compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>-illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>-find unknown angles where they meet at a point, are on a straight line, and are vertically opposite, and find missing angles</li> </ul>	<p>Pupils should be taught to</p> <ul style="list-style-type: none"> <li>-describe positions on the full coordinate grid (all four quadrants)</li> <li>-draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-interpret and construct pie charts and line graphs and use these to solve problems</li> <li>-calculate and interpret the mean as an average.</li> </ul>