

## Year 5 Maths Overview

### Ongoing Skills

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

Number (place value)	Number (addition and subtraction)	Number (multiplication and division)	Number (fdp)	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>-count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>-interpret negative numbers in context, -count forwards and backwards with positive and negative whole numbers through zero</li> <li>-round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>-solve number problems and practical problems that involve all of the above</li> <li>-read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction)</li> <li>-add and subtract numbers mentally with increasingly large numbers</li> <li>-use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> <li>-solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-identify multiples and factors, including finding all factor pairs</li> <li>-know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>-establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>-multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers</li> <li>-multiply and divide numbers mentally drawing upon known facts</li> <li>-divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context</li> <li>-multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>-recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</li> <li>-solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>-solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> <li>-solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-compare and order fractions whose denominators are all multiples of the same number</li> <li>-identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>-recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number (e.g. <math>2/5 + 4/5 = 6/5 = 11/5</math>)</li> <li>-add and subtract fractions with the same denominator and multiples of the same number</li> <li>-multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</li> <li>-read and write decimal numbers as fractions (e.g. <math>0.71 = 71/100</math>)</li> <li>-recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>-round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>-read, write, order and compare numbers with up to three decimal places</li> <li>-solve problems involving number up to three decimal places.</li> <li>-recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal</li> <li>-solve problems which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math> and those with a denominator of a multiple of 10 or 25.</li> </ul>	
Measurement	Geometry (shape)		Geometry (position and direction)	Statistics
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-convert between different units of metric measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre)</li> <li>-understand and use equivalences between metric and common imperial units such as inches, pounds and pints</li> <li>-measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>-calculate and compare the area of squares and rectangles (including squares), including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> <li>-recognise and estimate volume (e.g. using 1 cm<sup>3</sup> blocks to build cubes and cuboids) and capacity (e.g. using water)</li> <li>-solve problems involving converting between units of time</li> <li>-use all four operations to solve problems involving measure (eg length, mass, volume, money) using decimal notation including scaling</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-identify 3-D shapes, including cubes and cuboids, from 2-D representations</li> <li>-know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li> <li>-draw given angles and measure them in degrees</li> <li>-identify: multiples of 90°, angles at a point on a straight line and 1/2 a turn (total 180°), angles at a point and one whole turn (total 360°)</li> <li>-draw shapes using given dimensions and angles</li> <li>-use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>-distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> </ul>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-solve comparison, sum and difference problems using information presented in line graphs</li> <li>-complete, read and interpret information in tables, including timetables</li> </ul>