

## Key Learning in Mathematics – Year 4

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
<ul style="list-style-type: none"> <li>▪ Count in multiples of 6, 7, 9, 25 and 1000.</li> <li>▪ Count backwards through zero to include negative numbers.</li> <li>▪ Count up and down in hundredths.</li> <li>▪ <i>Read and write numbers to at least 10 000.</i></li> <li>▪ <i>Read and write numbers with up to two decimal places.</i></li> <li>▪ Recognise the place value of each digit in a four-digit number.</li> <li>▪ <i>Identify the value of each digit to two decimal places.</i></li> <li>▪ <i>Partition numbers in different ways (e.g. <math>2.3 = 2+0.3</math> &amp; <math>1+1.3</math>).</i></li> <li>▪ Identify, represent and estimate numbers using different representations (<i>including the number line</i>).</li> <li>▪ Order and compare numbers beyond 1000.</li> <li>▪ <i>Order and compare numbers with the same number of decimal places up to two decimal places.</i></li> <li>▪ Find <i>0.1, 1, 10, 100</i> or 1000 more or less than a given number.</li> <li>▪ Round any number to the nearest 10, 100 or 1000.</li> <li>▪ Round decimals (one decimal place) to the nearest whole number.</li> <li>▪ Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer.</li> <li>▪ <i>Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.</i></li> <li>▪ Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value.</li> <li>▪ Solve number and practical problems that involve all of the above and with increasingly large positive numbers.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).</i></li> <li>▪ <i>Select a mental strategy appropriate for the numbers involved in the calculation.</i></li> <li>▪ <i>Recall and use addition and subtraction facts for 100.</i></li> <li>▪ <i>Recall and use +/- facts for multiples of 100 totalling 1000.</i></li> <li>▪ <i>Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).</i></li> <li>▪ <i>Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.</i></li> <li>▪ Add and subtract numbers with up to 4 digits <i>and decimals with one decimal place</i> using the formal written methods of columnar addition and subtraction where appropriate.</li> <li>▪ Estimate; use inverse operations to check answers to a calculation.</li> <li>▪ Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> <li>▪ <i>Solve addition and subtraction problems involving missing numbers.</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).</i></li> <li>▪ Recognise and use factor pairs and commutativity in mental calculations.</li> <li>▪ Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math>.</li> <li>▪ <i>Use partitioning to double or halve any number, including decimals to one decimal place.</i></li> <li>▪ Use place value, known and derived facts to multiply and divide mentally, including: <ul style="list-style-type: none"> <li>- multiplying by 0 and 1.</li> <li>- dividing by 1.</li> <li>- multiplying together three numbers.</li> </ul> </li> <li>▪ Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</li> <li>▪ <i>Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.</i></li> <li>▪ <i>Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</i></li> <li>▪ Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, <i>division (including interpreting remainders)</i>, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</li> </ul>

## Key Learning in Mathematics – Year 4

Number – fractions, decimals and percentages	Geometry – properties of shapes	Measurement
<ul style="list-style-type: none"> <li>▪ Understand that a fraction is one whole number divided by another (e.g. <math>\frac{3}{4}</math> can be interpreted as <math>3 \div 4</math>).</li> <li>▪ Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators.</li> <li>▪ Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> <li>▪ Count on and back in steps of unit fractions.</li> <li>▪ Compare and order unit fractions and fractions with the same denominators (including on a number line).</li> <li>▪ Recognise and show, using diagrams, families of common equivalent fractions.</li> <li>▪ Recognise and write decimal equivalents of any number of tenths or hundredths.</li> <li>▪ Recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math>.</li> <li>▪ Add and subtract fractions with the same denominator (using diagrams).</li> <li>▪ Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.</li> <li>▪ Solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</li> <li>▪ Identify lines of symmetry in 2-D shapes presented in different orientations.</li> <li>▪ Complete a simple symmetric figure with respect to a specific line of symmetry.</li> <li>▪ Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</li> <li>▪ Identify acute and obtuse angles and compare and order angles up to two right angles by size.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Estimate, compare and calculate different measures, including money in pounds and pence.</li> <li>▪ Order temperatures including those below <math>0^{\circ}\text{C}</math>.</li> <li>▪ Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.</li> <li>▪ Know area is a measure of surface within a given boundary.</li> <li>▪ Find the area of rectilinear shapes by counting squares.</li> <li>▪ Convert between different units of measure [e.g. kilometre to metre; hour to minute].</li> <li>▪ Read, write and convert time between analogue and digital 12- and 24-hour clocks.</li> <li>▪ Write amounts of money using decimal notation.</li> <li>▪ Recognise that one hundred 1p coins equal £1 and that each coin is <math>\frac{1}{100}</math> of £1.</li> <li>▪ Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures.</li> </ul>
	<h3>Geometry – position and direction</h3> <ul style="list-style-type: none"> <li>▪ Describe positions on a 2-D grid as coordinates in the first quadrant.</li> <li>▪ Plot specified points and draw sides to complete a given polygon.</li> <li>▪ Describe movements between positions as translations of a given unit to the left/right and up/down.</li> </ul>	
		<h3>Statistics</h3> <ul style="list-style-type: none"> <li>▪ Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties and sizes.</li> <li>▪ Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, time graphs.</li> <li>▪ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>