

Key Learning in Mathematics – Year 4

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
- Count in multiples of 6, 7, 9, 25 and 1000. - Count backwards through zero to include negative numbers. - Count up and down in hundredths. <u>Read and write numbers to at least 10 000.</u> <u>Read and write numbers with up to two decimal places.</u> <u>Recognise the place value of each digit in a four-digit number.</u> <u>Identify the value of each digit to two decimal places.</u> <u>Partition numbers in different ways (e.g. $2.3 = 2 + 0.3$ & $1 + 1.3$).</u> <u>Identify, represent and estimate numbers using different representations (including the number line).</u> <u>Order and compare numbers beyond 1000.</u> <u>Order and compare numbers with the same number of decimal places up to two decimal places.</u> <u>Find 0.1, 1, 10, 100 or 1000 more or less than a given number.</u> <u>Round any number to the nearest 10, 100 or 1000.</u> <u>Round decimals (one decimal place) to the nearest whole number.</u> <u>Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer.</u> <u>Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.</u> - Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value. - Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	<u>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).</u> <u>Select a mental strategy appropriate for the numbers involved in the calculation.</u> <u>Recall and use addition and subtraction facts for 100.</u> <u>Recall and use +/- facts for multiples of 100 totalling 1000.</u> <u>Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).</u> <u>Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.</u> <u>Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.</u> <u>Estimate; use inverse operations to check answers to a calculation.</u> - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <u>Solve addition and subtraction problems involving missing numbers.</u>	<u>Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).</u> - Recognise and use factor pairs and commutativity in mental calculations. <u>Recall multiplication and division facts for multiplication tables up to 12×12.</u> <u>Use partitioning to double or halve any number, including decimals to one decimal place.</u> - Use place value, known and derived facts to multiply and divide mentally, including: - multiplying by 0 and 1. - dividing by 1. - multiplying together three numbers. <u>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</u> <u>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.</u> <u>Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</u> - 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.

Key Learning in Mathematics – Year 4

Number – fractions, decimals and percentages	Geometry – properties of shapes	Measurement
- Understand that a fraction is one whole number divided by another (e.g. $\frac{3}{4}$ can be interpreted as $3 \div 4$). - Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators. - Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. - Count on and back in steps of unit fractions. - Compare and order unit fractions and fractions with the same denominators (including on a number line). - Recognise and show, using diagrams, families of common equivalent fractions. - Recognise and write decimal equivalents of any number of tenths or hundredths. - Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. - Add and subtract fractions with the same denominator (using diagrams). - 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. - Solve simple measure and money problems involving fractions and decimals to two decimal places.	- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. - Identify lines of symmetry in 2-D shapes presented in different orientations. - Complete a simple symmetric figure with respect to a specific line of symmetry. - Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines. - Identify acute and obtuse angles and compare and order angles up to two right angles by size.	- Estimate, compare and calculate different measures, including money in pounds and pence. - Order temperatures including those below 0°C. - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. - Know area is a measure of surface within a given boundary. - Find the area of rectilinear shapes by counting squares. - Convert between different units of measure [e.g. kilometre to metre; hour to minute]. - Read, write and convert time between analogue and digital 12- and 24-hour clocks. - Write amounts of money using decimal notation. - Recognise that one hundred 1p coins equal £1 and that each coin is $\frac{1}{100}$ of £1. - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures.
	Geometry – position and direction - Describe positions on a 2-D grid as coordinates in the first quadrant. - Plot specified points and draw sides to complete a given polygon. - Describe movements between positions as translations of a given unit to the left/right and up/down.	
		Statistics - Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties and sizes. - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, time graphs. - Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.