

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"> ▪ Count in multiples of 6, 7, 9, 25 and 1000. ▪ Count backwards through zero to include negative numbers. ▪ Count up and down in hundredths. ▪ <i>Read and write numbers to at least 10 000.</i> ▪ <i>Read and write numbers with up to two decimal places.</i> ▪ Recognise the place value of each digit in a four-digit number. ▪ <i>Identify the value of each digit to two decimal places.</i> ▪ <i>Partition numbers in different ways (e.g. $2.3 = 2+0.3$ & $1+1.3$).</i> ▪ Identify, represent and estimate numbers using different representations (<i>including the number line</i>). ▪ Order and compare numbers beyond 1000. ▪ <i>Order and compare numbers with the same number of decimal places up to two decimal places.</i> ▪ Find <i>0.1, 1, 10, 100</i> or 1000 more or less than a given number. ▪ Round any number to the nearest 10, 100 or 1000. ▪ Round decimals (one decimal place) to the nearest whole number. ▪ Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer. ▪ <i>Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.</i> ▪ 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. | <ul style="list-style-type: none"> ▪ <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> ▪ <i>Select a mental strategy appropriate for the numbers involved in the calculation.</i> ▪ <i>Recall and use addition and subtraction facts for 100.</i> ▪ <i>Recall and use +/- facts for multiples of 100 totalling 1000.</i> ▪ <i>Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).</i> ▪ <i>Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.</i> ▪ 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. ▪ Estimate; use inverse operations to check answers to a calculation. ▪ Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. ▪ <i>Solve addition and subtraction problems involving missing numbers.</i> | <ul style="list-style-type: none"> ▪ <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> ▪ Recognise and use factor pairs and commutativity in mental calculations. ▪ Recall multiplication and division facts for multiplication tables up to 12×12. ▪ <i>Use partitioning to double or halve any number, including decimals to one decimal place.</i> ▪ Use place value, known and derived facts to multiply and divide mentally, including: <ul style="list-style-type: none"> - multiplying by 0 and 1. - dividing by 1. - multiplying together three numbers. ▪ Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. ▪ <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> ▪ <i>Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</i> ▪ 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 |
|--|---|--|
| <ul style="list-style-type: none"> ▪ 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. | <ul style="list-style-type: none"> ▪ 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. | <ul style="list-style-type: none"> ▪ 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. |
| | <h3 data-bbox="853 659 1473 699">Geometry – position and direction</h3> <ul style="list-style-type: none"> ▪ 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. | <h3 data-bbox="1485 999 2177 1038">Statistics</h3> <ul style="list-style-type: none"> ▪ 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. |