

Mathematics

Key Learning Indicators of Performance: Year 3



Number – number and place value	Number – addition and subtraction	Number – multiplication and division
▶ Count from 0 in multiples of 4, 8, 50 and 100. ▶ Count up and down in tenths. ▶ Read and write numbers up to 1000 in numerals and in words. ▶ Read and write numbers with one decimal place. ▶ Identify, represent and estimate numbers using different representations (including the number line). ▶ Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). ▶ Identify the value of each digit to one decimal place. ▶ Partition numbers in different ways (e.g. $146 = 100 + 40 + 6$ and $146 = 130 + 16$). ▶ Compare and order numbers up to 1000. ▶ Compare and order numbers with one decimal place. ▶ Find 1, 10 or 100 more or less than a given number. ▶ Round numbers to at least 1000 to the nearest 10 or 100. ▶ Find the effect of multiplying a one- or two-digit number by 10 and 100, identify the value of the digits in the answer. ▶ Describe and extend number sequences involving counting on or back in different steps. ▶ Read Roman numerals from I to XII. ▶ Solve number problems and practical problems involving these ideas.	▶ <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> ▶ Select a mental strategy appropriate for the numbers involved in the calculation. ▶ Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context. ▶ Recall/use addition/subtraction facts for 100 (multiples of 5 and 10). ▶ Derive and use addition and subtraction facts for 100. ▶ Derive and use addition and subtraction facts for multiples of 100 totalling 1000. ▶ Add and subtract numbers mentally, including: - a three-digit number and ones. - a three-digit number and tens. - a three-digit number and hundreds. ▶ Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. ▶ Estimate the answer to a calculation and use inverse operations to check answers. ▶ Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	▶ <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> ▶ Understand that division is the inverse of multiplication and vice versa. ▶ Understand how multiplication and division statements can be represented using arrays. ▶ Understand division as sharing and grouping and use each appropriately. ▶ Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. ▶ <u>Derive and use doubles of all numbers to 100 and corresponding halves.</u> ▶ Derive and use doubles of all multiples of 50 to 500. ▶ Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. ▶ Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. ▶ Solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Mathematics

Key Learning Indicators of Performance: Year 3



Number – fractions	Geometry – properties of shapes	Measurement
▶ Show practically or pictorially that a fraction is one whole number divided by another (e.g. $\frac{3}{4}$ can be interpreted as $3 \div 4$). ▶ <u>Understand that finding a fraction of an amount relates to division.</u> ▶ <u>Recognise that tenths arise from dividing objects into 10 equal parts and in dividing one-digit numbers or quantities by 10.</u> ▶ <u>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</u> ▶ Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. ▶ <u>Recognise and show, using diagrams, equivalent fractions with small denominators.</u> ▶ Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]. ▶ Compare and order unit fractions, and fractions with the same denominators (including on a number line). ▶ Count on and back in steps of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$. ▶ Solve problems that involve all of the above.	▶ <u>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.</u> ▶ Recognise angles as a property of shape or a description of a turn. ▶ <u>Identify right angles</u>, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; <u>identify whether angles are greater than or less than a right angle.</u> ▶ <u>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</u>	▶ <u>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</u> ▶ <u>Continue to estimate and measure temperature to the nearest degree (°C) using thermometers.</u> ▶ <u>Understand perimeter is a measure of distance around the boundary of a shape.</u> ▶ Measure the perimeter of simple 2-D shapes. ▶ <u>Tell and write the time from an analogue clock</u>, including using Roman numerals from I to XII, <u>and 12-hour and 24-hour clocks.</u> ▶ Estimate/read time with increasing accuracy to the nearest minute. ▶ Record/compare time in terms of seconds, minutes, hours; <u>use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon, midnight.</u> ▶ <u>Know the number of seconds in a minute and the number of days in each month, year and leap year.</u> ▶ Compare durations of events [for example to calculate the time taken by particular events or tasks]. ▶ <u>Continue to recognise and use the symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds/pence.</u> ▶ <u>Recognise that ten 10p coins equal £1 and that each coin is $\frac{1}{10}$ of £1.</u> ▶ <u>Add and subtract amounts of money to give change, using both £ and p in practical contexts.</u> ▶ <u>Solve problems involving money and measures and simple problems involving passage of time.</u>
	Geometry – position and direction ▶ <u>Describe positions on a square grid labelled with letters and numbers.</u>	
		Statistics ▶ <u>Use sorting diagrams to compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects.</u> ▶ Interpret and present data using bar charts, pictograms and tables. ▶ <u>Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</u>