

Key learning in mathematics - year 3

Number - number and place value	Number - addition and subtraction	Number - multiplication and division
<ul style="list-style-type: none"> 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) <ul style="list-style-type: none"> 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 $= 130 + 16$) 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 <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) 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: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) 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 Derive and use doubles of all numbers to 100 and corresponding halves 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
	Geometry - Properties of shapes	Measurement
	<p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</p> <ul style="list-style-type: none"> Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a halfturn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines 	<ul style="list-style-type: none"> Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Continue to estimate and measure temperature to the nearest degree ($^{\circ}\text{C}$) using thermometers Understand perimeter is a measure of distance around the boundary of a shape Measure the perimeter of simple 2-D shapes Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks Estimate/read time with increasing accuracy to the nearest minute Record/compare time in terms of seconds, minutes, hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon, midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events [for example to calculate the time taken by particular events or tasks] Continue to recognise and use the symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds/pence Recognise that ten 10p coins equal £1 and that each coin is $\frac{1}{10}$ of £1 Add and subtract amounts of money to give change, using both £ and p in practical contexts Solve problems involving money and measures and simple problems involving passage of time
Number - fractions	Geometry - position and direction	
<ul style="list-style-type: none"> Show practically or pictorially that a fraction is one whole number divided by another (e.g. $\frac{3}{4}$ can be interpreted as $3 \div 4$) Understand that finding a fraction of an amount relates to division Recognise that tenths arise from dividing objects into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Recognise and show, using diagrams, equivalent fractions with small denominators 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 	Statistics	
	<ul style="list-style-type: none"> Use sorting diagrams to compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects Interpret and present data using bar charts, pictograms and tables 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 	