

2019-2020 Maths Curriculum: Year 2

Concept *mental fluency*

	Working towards the expected standard	Working at the expected standard	Working above the expected standard
Number & place Value	<i>Count to and across 100, forwards or backwards, beginning with 0 or 1, or from any given number.</i>		All aspects of number and place value at the national standard (expected) are embedded.
	<i>Count in multiples of 2s, 5s and 10s.</i>	<i>Count in steps of 2 and 5 from 0, and in 10s to 100, forwards and backwards.</i>	<i>Demonstrate fluency and reasoning in counting forwards and backwards in steps of 2, 5 and 10 including from different starting points and using numbers beyond 100.</i>
	<i>Count in steps of 10 within 100, starting from any number.</i>	<i>Count in multiples of 3 to at least 30</i>	
	Read and write numbers from 1 to 100 in numerals, and up to 20 in words (not necessarily spelled correctly).	Read and write numbers to at least 100 in numerals and words.	Consistently use less than (<), equals (=) and greater than (>) signs correctly when comparing numbers and expressions.
	Use the place value of each digit to order numbers to 100.	Use place value to compare and order numbers up to 100 sometimes using less than (<) equals(= and greater than (>) signs correctly.	
	Know the number that is 1 more and 1 less than any number up to 100.		Identify and represent numbers using different representations including more complex number lines.
	Use the language of least.	Identify and represent numbers using different representations; cubes, dienes, counters, number lines	Demonstrate reasoning about place value and number facts to solve more complex problems.
	Understand and use various concrete & pictorial representations of numbers up to 100 (cubes, dienes, counters, number lines)	Reason about place value and number facts and use them to solve problems.	All aspects of number - addition and subtraction at the national standard are embedded.
Addition & Subtraction	<i>Recall and use addition and subtraction facts for all numbers up to 10.</i>	<i>Recall and use addition and subtraction facts for all numbers up to 20 fluently and derive and use related facts up to 100.</i>	Derive and use related facts to 100 and beyond.
	Solve missing number addition problems involving single-digit numbers.	<i>Relate number facts to 10 to adding and subtracting multiples of 10 within 100.</i>	<i>Recall and use addition and subtraction facts to 20 fluently;</i>
	Add and subtract numbers using concrete objects, pictorial representations and the written columnar method including: <ul style="list-style-type: none"> • a two-digit number and 1 • adding 3 single-digit numbers with a total up to 20 • a two-digit number and 10s 	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems at least involving a 2-digit number and 1s or 10s.	Solve missing number problems involving a wider range of numbers.
	Add and subtract numbers mentally, including: <ul style="list-style-type: none"> • 2 single-digit numbers • a number up to 20 and 1s. 	<i>Add and subtract numbers using objects, pictorial representations and the written columnar methods including:</i> <ul style="list-style-type: none"> • a 2-digit number and 10s • adding 2, 2-digit numbers • simple cases of subtracting 2-digit numbers • adding 3 single-digit numbers. 	<i>Add and subtract numbers using objects, pictorial representations and the written columnar method including:</i> <ul style="list-style-type: none"> • adding several 2-digit numbers • subtracting 2-digit numbers • adding a 2-digit number to a 3-digit number • adding 3-digit numbers.
	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=).	<i>Add and subtract numbers mentally, including:</i> <ul style="list-style-type: none"> • a 2-digit number and 1s • a 2-digit number and 10s • 2 simple, 2-digit numbers, which do not involve bridging a 10 • adding 3 single-digit numbers. 	<i>Add and subtract numbers mentally using appropriate strategies, including:</i> <ul style="list-style-type: none"> • 2 2-digit numbers • adding /subtracting several single-digit numbers.
	Show that addition can be done in any order (commutative).	Show that subtraction can't be done in any order.	
	Solve simple 1 or 2 step problems with addition and subtraction.	Solve simple 2-step problems with addition and subtraction, applying increasing knowledge of mental and written methods.	Use addition and subtraction facts to solve more complex problems, such as 3 step problems.
	Multiplication & Division	Recall multiplication facts for the 10 multiplication table and use them to derive division facts, and count in steps of 10 to answer questions	<i>Recall and use multiplication and division facts for the 10 multiplication table using the appropriate signs (\times, \div and $=$).</i>
<i>Recall and use doubling and halving facts for numbers up to double 10 and other significant doubles.</i>		<i>Begin to recall and use multiplication and division facts for the 2 and 5 multiplication tables using appropriate signs.</i>	<i>Rapidly recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables and write mathematical statements using the multiplication (\times), division (\div) and equals ($=$) signs.</i>
<i>Recognise odd and even numbers to 20</i>		<i>Make connections between multiplication and division by 2 and doubling and halving and use these to reason about problems and calculations.</i>	<i>Make connections between place value and multiplication/division by 10 and use known multiplication and division facts to derive others</i>
Solve simple problems involving grouping and sharing, using objects, pictorial representations and arrays.		Show that multiplication of 2 numbers can be done in any order (commutative). Understand multiplication as repeated addition.	<i>Count in 3s to solve multiplication and division problems for the 3 multiplication table.</i>
	Recognise odd and even numbers to at least 100. Explain how they know a particular number is odd or is even.	Begin to solve simple problems involving multiplication and division.	Solve more complex problems involving multiplication and division in a range of contexts including measures.

Fractions	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity.	Recognise, find, name and write fractions of a half of a length, shape, set of objects or quantity.	All aspects of number – fractions at the national standard are embedded.
	Begin to solve simple problems involving fractions.	Identify $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{4}$ of a number or shape and know that all parts must be equal parts of a whole.	Recognise, find, name and write fractions: $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.
Measurement	Solve simple measure problems in a practical context using standardised units.	Recognise the equivalence of $\frac{2}{4}$ s and $\frac{1}{2}$ in practical contexts and when counting in fractions.	Express more complex problems using fraction notation and solve them.
	Measure and begin to record the following: <ul style="list-style-type: none"> lengths and heights mass/weight volume/capacity time. 	Express simple problems using fraction notation and solve them	All aspects of measurement at the national standard are embedded.
	Recognise and know the value of different denominations of coins and notes.	Solve problems involving money of the same unit, including giving change, and other measures, including time.	Solve more complex problems involving, money and other measures, including time.
	Begin to recognise and use the symbols for pounds (£) and pence (p).	Compare and order lengths, mass, volume or capacity and record the results using greater than (>), less than (<), and equals (=).	Reason about multiplicative relationships between specific measured quantities, drawing on knowledge of 2, 5 and 10 tables and knowledge of fractions
	Combine amounts to make small values.	Reason about simple multiplicative relationships such as twice as long, 10 times as high.	Find all possible combinations of coins to equal a given amount or how to pay a given amount using the fewest possible number of coins.
	Sequence the events of several days in chronological order using appropriate language.	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest labelled unit using rulers, scales, thermometers and measuring vessels.	Know that there are 60 minutes in an hour and 24 hours in a day and use these facts to solve problems.
	Recognise and use language relating to dates, including days of the week, weeks, months and years.	Recognise and use the symbols for pounds (£) and pence (p)	Tell and write the time to 5 minutes.
	Know there are 7 days in a week.	Combine amounts to make a particular value.	Draw hands on a clock face to show these times.
	Know the name of the day before or after a given day.	Find different combinations of coins that equal the same amounts of money.	All aspects of geometry – properties of shape at the national standard are embedded.
	Tell the time to half past the hour	Compare and order intervals of time.	Compare and sort common 2-D and 3-D shapes and common objects, using more than 1 criterion, identifying and describing Identify 2-D shapes on the surface of 3-D shapes. their properties
	Turn the hands of a geared clock to show these times	Recognise, tell and write the times: o'clock, half past and quarter past and begin to recognise quarter to the hour.	Reason about and solve more complex problems involving shapes and their properties.
	Draw hands on a clock face to show o'clock times.	Draw hands on a clock to show the time on the hour and at half past.	All aspects of geometry – position and direction at the national standard are embedded.
	Shape	Recognise, name and describe the properties of common 2-D shapes including pentagons and hexagons.	Compare and sort common 2-D and 3-D shapes and everyday objects, on the basis of their geometric properties including vertices, sides, edges, faces.
Recognise, name and describe the properties of common 3-D shapes including cones and spheres.		Identify lines of symmetry in a vertical line of 2-D shapes.	Solve more complex problems involving position and direction.
Solve simple problems involving shapes.		Identify 2-D shapes on the surface of 3-D shapes.	All aspects of statistics at the national standard are embedded.
Position & Direction	Describe position, directions and movement, including whole, half, quarter and three quarter turns.	Solve problems involving shapes and reason about their properties.	Interpret and construct pictograms (many to one correspondence), block diagrams (scale divided into 2s or 5s) and more complex tables.
	Solve simple problems involving position and direction.	Order and arrange combinations of mathematical objects in patterns and sequences.	Use more complex charts to ask and answer questions by reading from the chart the number of objects in each category, sorting the categories by quantity, totalling and comparing categorical data.
		Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line	
Statistic	Interpret and construct simple pictograms where the picture is worth 1 unit.	Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	
	Interpret simple tally charts and block diagrams.	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100'.	
	Ask and answer questions that require counting the number of objects in each category.	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables (2, 5, 10)	
	Ask and answer simple questions that require sorting the categories by quantity, totalling and comparing simple categorical data.		

