Maths

EYFS including nursery	Year 1	Year 2	Year 3 (KS2)
Number and Place Value			
Nursery - uses some number names and number language spontaneously -uses some number names accurately in play - recites numbers in order to 10 - knows that numbers identify how many objects there are in a set - beginning to represent numbers using fingers, marks on paper or pictures -sometimes matches numeral and quantity correctly -shows curiosity about numbers -compares two groups of objects saying when they have the same number -shows an interest in number problems -separates a group of three or four objects in different ways and begins to recognise that the total is still the same -shows an interest in numerals in the environment -shows an interest in representing numbers -recognises that anything, not only objects can be counted eg steps, jumps, claps	**Year 1** - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens - given a number, identify one more and one less - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words.	**Year 2** - count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward - recognise the place value of each digit in a two-digit number (tens, ones) - identify, represent and estimate numbers using different representations, including the number line - compare and order numbers from 0 up to 100; use and = signs - read and write numbers to at least 100 in numerals and in words - use place value and number facts to solve problems.	Pupils should be taught to: -count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number -recognise the place value of each digit in a three-digit number (hundreds, tens, ones) -compare and order numbers up to 1000 -identify, represent and estimate numbers using different representations -read and write numbers up to 1000 in numerals and in words -solve number problems and practical problems involving these ideas.

EYFS			
Number Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; - Subitise (recognise quantities without counting) up to 5; - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. **Numerical patterns** Children at the expected level of development will: - Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.			

VOCABULARY			
More, fewer, estimate	Multiples, one more, one less, equal to, greater than, less than, fewer, most, least	Multiples, one more, one less, equal to, greater than, less than, fewer, most, least, tens, ones	Multiples, one more, one less, equal to, greater than, less than, fewer, most, least, hundreds, tens, ones

Addition and subtraction

EYFS	Year 1	Year 2	
-Automatically recall number bonds to 5 (including some subtraction facts and some number bonds to 10, including double facts.	- read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs	- solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures	Pupils should be taught to: -add and subtract numbers mentally, including: -a three-digit number and ones -a three-digit number and tens

	- represent and use number bonds and related subtraction facts within 20 - add and subtract one-digit and two-digit numbers to 20, including zero - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.	- applying their increasing knowledge of mental and written methods - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers - adding three one-digit numbers - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	-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.
VOCABULARY			
-In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. (Add, addition, altogether, takeaway, subtract, how many left)	Add, addition, altogether, takeaway, subtract, how many left	Add, addition, altogether, takeaway, subtract, how many left	Add, addition, altogether, takeaway, subtract, how many left
Multiplication and division			
EYFS	**Year 1**	**Year 2**	Pupils should be taught to:

-Explore and represent patterns within numbers up to 10, including evens and odds, doubles and how quantities can be distributed equally.	- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	-recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables -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 -solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.
		VOCABULARY	
	Groups of, share, lots of	Multiply, multiple, groups of, arrays, divide, division, share	Multiply, multiple, groups of, arrays, divide, division, share, column addition

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<tr><td colspan="4" align="center" style="background-color:#4472C4">Fractions</td></tr>
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	Year 1 - recognise, find and name a half as one of two equal parts of an object, shape or quantity	Year 2 - recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity	Pupils should be taught to: -count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-

	- recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	- write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½.	digit numbers or quantities by 10 -recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit 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, 5/7 + 1/7 = 6/7] -compare and order unit fractions, and fractions with the same denominators -solve problems that involve all of the above.
		VOCABULARY	
	Fraction, half, quarter	Fraction, half, quarter, third	Fraction, half, quarter, third, fifth etc , equivalent fractions, denominator, numerator

Measurement

EYFS -Orders two or three items by length or height. -Orders two items by weight or capacity.	Year 1 - compare, describe and solve practical problems for:	Year 2 - choose and use appropriate standard units to estimate and measure length/height in	Pupils should be taught to: -measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

-Uses familiar objects and common shapes to create and recreate patterns and build models. -Uses everyday language related to time. -Beginning to use everyday language related to money. -Orders and sequences familiar events. -Measures short periods of time in simple ways.	- lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] - mass/weight [for example, heavy/light, heavier than, lighter than] - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] - time [for example, quicker, slower, earlier, later] - measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) - recognise and know the value of different denominations of coins and notes - sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] - recognise and use language relating to dates, including days of the week, weeks, months and years - tell the time to the hour and half past the hour and draw	any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels - compare and order lengths, mass, volume/capacity and record the results using >, < and = - recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value - find different combinations of coins that equal the same amounts of money - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change - compare and sequence intervals of time - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times - know the number of minutes in an hour and the number of hours in a day.	-measure the perimeter of simple 2-D shapes -add and subtract amounts of money to give change, using both £ and p in practical contexts -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 and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and 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].

	the hands on a clock face to show these times. -		
VOCABULARY			
	-sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] -recognise and use language relating to dates, including days of the week, weeks, months and years -long/short, longer/shorter, tall/short, double/half -heavy/light, heavier than, lighter than - quicker, slower, earlier, later	- days of the week, - months of the year	- days of the week, - months of the year o'clock, a.m./p.m., morning, afternoon, noon and midnight, leap year
Geometry			
Nursery - shows an interest in shape and space by playing with shapes or making arrangements with objects -shows awareness of similarities in shape in the environment -uses positional language -shows an interest in shape through a sustained construction activity or by talking about shapes and arrangements -shows interest in shapes in the environment -uses shapes appropriately for tasks - beginning to talk about the shapes of everyday objects eg 'round' and 'tall' **EYFS** Develop spacial reasoning skills for space shape and measure	**Year 1** - recognise and name common 2-D and 3-D shapes, including - 2-D shapes [for example, rectangles (including squares), circles and triangles] - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	**Year 2** - identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line - identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces - identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] - compare and sort common 2-D and 3-D shapes and everyday objects.	Pupils should be taught to: -draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them -recognise angles as a property of shape or a description of a turn -identify right angles, recognise that two right angles make a half-turn, 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.
COVERAGE			

VOCABULARY			
Flat, solid, 2D, 3D Rectangle, square, circles and triangles. Cuboid, cube, pyramids, spheres	2D shape, 3D shape Rectangle, square, circles and triangles. Cuboid, cube, pyramids, spheres Whole, half, quarter and three-quarter turns. Left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside	Rectangle, square, circles and triangles. Cuboid, cube, pyramids, spheres -use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).	Angles, right angle, obtuse, acute, vertical, perpendicular

Geometry – position and direction

	Year 1 - describe position, direction and movement, including whole, half, quarter and threequarter turns.	Year 2 - order and arrange combinations of mathematical objects in patterns and sequences - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).	
VOCABULARY			
	Straight, forwards, backwards, side, whole turn, half turn, quarter turn, three quarter turn	Straight, forwards, backwards, side, whole turn, half turn, quarter turn, three quarter turn, clockwise, anti-clockwise	

Statistics

		Year 2 - interpret and construct simple pictograms, tally charts, block diagrams and simple tables - ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity - ask and answer questions about totalling and comparing categorical data.	Pupils should be taught to: - 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.
VOCABULARY			
		Pictogram, tally, block diagram	