

Number: Number & Place Value	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting	<p>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). (3&4 year olds)</p> <p>Show 'finger numbers' up to 5. (3&4 year olds)</p> <p>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. (3&4 year olds)</p> <p>Count objects, actions and sounds. (Reception)</p> <p>Count beyond ten. (Reception)</p> <p>Verbally count beyond 20, recognising the pattern of the counting system. (Reception ELG)</p>	<p>count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (y1)</p> <p>count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens (y1)</p> <p>count in steps of 2, 3 and 5 from 0 and in tens from any number, forward or backward (y2)</p> <p>given a number, identify one more and one less (y1)</p>			<p>count backwards through zero to include negative numbers (y4)</p> <p>count from 0 in multiples of 4, 8, 50 and 100 (y3)</p> <p>count in multiples of 6, 7, 9, 25 and 1000 (y4)</p> <p>find 10 or 100 more or less than a given number (y3)</p> <p>find 1000 more or less than a given number (y4)</p>		<p>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero (y5)</p> <p>use negative numbers in context and calculate intervals across zero (y6)</p>	
Comparing numbers	<p>Compare quantities using language: 'more than', 'fewer than'. (3&4 year olds)</p> <p>Link the number symbol (numeral) with its cardinal number value. (Reception)</p> <p>Compare numbers. (Reception)</p> <p>Understand the 'one more than/one less than' relationship between consecutive numbers. (Reception)</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. (Reception ELG)</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. (Reception ELG)</p>	<p>use the language of: equal to, more than, less than (fewer), most, least (y1)</p> <p>compare and order numbers from 0 up to 100; use <, > and = signs (y2)</p>			<p>compare and order numbers up to 1000 (y3)</p> <p>order and compare numbers beyond 1000 (y4)</p>		<p>read, write, order and compare numbers to at least 1000000 and determine the value of each digit (y5)</p> <p>read, write, order and compare numbers up to 10 000000 and determine the value of each digit (y6)</p>	
Identifying, representing and estimating numbers	<p>Show 'finger numbers' up to 5. (3&4 year olds)</p> <p>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. (3&4 year olds)</p> <p>Subitise up to 5. (Reception/Reception ELG)</p>		<p>identify and represent numbers using objects and pictorial representations including the number line (y1)</p> <p>identify, represent and estimate numbers using different representations, including the</p>		<p>identify, represent and estimate numbers using different representations (y3, y4)</p>			

		number line (y2)		
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Number: Number & Place Value	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Reading and writing numbers	Experiment with their own symbols and marks as well as numerals. (3&4 year olds)		read and write numbers from 1 to 20 in numerals and words (y1)	read and write numbers to at least 100 in numerals and words (y2)	read and write numbers up to 1000 in numerals and words (y3)	read Roman numerals to 100 (I to C) and know that over time the numeral system changed to include the concept of zero and place value (y4)	read, write, order and compare numbers to at least 1000000 and determine the value of each digit (y5)	read Roman numerals to 1000 (M) and recognise year written in Roman numerals (y5)
Understanding place value			recognise the place value of each digit in a two-digit number (tens, ones) (y2)		recognise the place value of each digit in a three-digit number (hundreds, tens, ones) (y3)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones) (y4)	read, write, order and compare numbers to at least 1000000 and determine the value of each digit (y5)	read, write, order and compare numbers up to 10 000000 and determine the value of each digit (y6)
Rounding					round any number to the nearest 10, 100 or 1000 (y4)		round any number up to 1000000 to the nearest 10, 100, 1000, 10000 or 100000 (y5)	round any whole number to a required degree of accuracy (y6)
Problem solving	Solve real world mathematical problems with numbers up to 5. (3&4 year olds)		use place value and number facts to solve problems (y2)		solve number problem and practical problems involving these ideas (y3)	solve number and practical problems that involve all of the above and with increasingly large positive numbers (y4)	solve number and practical problems that involve all of the above (y5, y6)	

Addition & subtraction	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number bonds	Explore the composition of numbers to 10. (Reception) Automatically recall number bonds for numbers 0–10. (Reception) Have a deep understanding of number to 10, including the composition of each number. (Reception ELG) 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. (Reception ELG)		represent and use number bonds and related subtraction facts within 20 (y1) recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100 (y2)					
Mental calculation			add and subtract one-digit and two-digit numbers to 20 including zero (y1) add and subtract numbers using concrete objects, pictorial representations and mentally including <ul style="list-style-type: none"> • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers (y2) read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (y1) show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot (y2)				add and subtract numbers mentally with increasingly large numbers (y5) perform mental calculations including with mixed operations and large numbers (y6) use their knowledge of the order of operations to carry out calculations involving the four operations (y6)	

Addition & subtraction	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Written methods			read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (y1)		add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction (y3) add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction (y4)			add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction) (y5)

Inverse operations, estimating and checking answers		recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems (y2)	estimate the answer to a calculation and use inverse operations to check answers (y3) estimate and use inverse operations to check answers to a calculation (y4)	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy (y5) use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy (y6)
Problem solving		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems (y1) solve problems with addition and subtraction: <ul style="list-style-type: none"> • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods (y2) 	solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction (y3) solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why (y4)	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why (y5, y6) solve problems involving addition, subtraction, multiplication and division (y6)

Multiplication & division	Nursery	Reception	Year 1	Year 2	Multiplication & division facts		recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (y2)	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables (y3) recall multiplication and division facts for multiplication tables up to 12 x 12 (y4)	
Mental calculations		show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot (y2)	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-	multiply and divide numbers mentally drawing upon known facts (y5) multiply and divide whole					

			<p>digit numbers, using mental and progressing to formal written methods (y3)</p> <p>use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers (y4)</p> <p>recognise and use factor pairs and commutativity in mental calculations (y4)</p>	<p>numbers and those involving decimals by 10, 100 and 1000</p> <p>perform mental calculations, including with mixed operations and large numbers (y6)</p>
Written calculations		<p>calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs (y2)</p>	<p>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 (y3)</p> <p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout (y4)</p>	<p>multiply numbers up to 4 digits by a one- or two-digit number using the formal written method of long multiplication (y5)</p> <p>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication (y6)</p> <p>divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context (y5)</p> <p>divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context, divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context (y6)</p>

Properties of numbers: multiples, factors, primes, square & cube numbers			<p>recognise and use factor pairs and commutativity in mental calculations (y4)</p>	<p>identify multiples and factors, including finding all factor pairs of a number and common factors of 2 numbers (y5)</p> <p>identify common factors, common multiples and prime numbers (y6)</p>
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Order of operations				use their knowledge of the order of operations to carry out calculations involving the four operations (y6)
Inverse operations, estimating and checking answers				use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy (y6)
Problem solving		<p>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 (y1)</p> <p>solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts (y2)</p>	<p>solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems (y3)</p> <p>solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems (y4)</p>	<p>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes (y5)</p> <p>solve problems involving addition, subtraction, multiplication and division (y6)</p> <p>solve problems involving addition, subtraction, multiplication and division and a combination of these including understanding the meaning of the equals sign (y5)</p> <p>solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates (y5)</p>

Fractions	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting in fractional steps					count up and down in tenths (y3) count up and in hundredths (y4)			
Recognising fractions			recognise, find and name a half as one of two equal parts of an object, shape or quantity (y1) recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ of a length, shape, set of objects or quantity (y2) recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (y1)		recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators (y3) recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten (y4) recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 (y3) recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (y3)		recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (y5)	
Comparing fractions					compare and order unit fractions and fractions with the same denominators (y3)		compare and order fractions whose denominators are all multiples of the same number (y5) compare and order fractions including fractions >1 (y6)	
Comparing decimals					compare numbers with the same number of decimal places up to two decimal places (y4)		read, write, order and compare numbers with up to three decimal places (y5) identify the value of each digit in numbers given to three decimal places (y6)	
Rounding including decimals					round decimals with one decimal place to the nearest whole number (y4)		round decimals with two decimal places to the nearest whole number and to one decimal place (y5) solve problems which require answers to be rounded to specified degrees of accuracy (y6)	

<p>Equivalence (including fractions, decimals & percentages)</p>		<p>write simple fractions eg $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of half (y2)</p>	<p>recognise and show, using diagrams, equivalent fractions with small denominators (y3)</p> <p>recognise and show, using diagrams, families of common equivalent fractions (y4)</p> <p>recognise and write decimal equivalents of any number of tenths or hundredths (y4)</p> <p>recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ (y4)</p>	<p>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths (y5)</p> <p>use common factors to simplify fractions; use common multiples to express fractions in the same denomination (y6)</p> <p>read and write decimal numbers as fractions (eg $0.71 = \frac{71}{100}$) (y5)</p> <p>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (y5)</p> <p>associate a fraction with division and calculate decimal fraction equivalents (eg 0.375) for a simple fraction (eg $\frac{3}{8}$) (y6)</p> <p>recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred” and write percentages as a fraction with denominator 100 as a decimal factor (y5)</p> <p>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts (y6)</p>
<p>Addition and subtraction of fractions</p>			<p>add and subtract fractions with the same denominator within one whole (eg $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) (y3)</p> <p>add and subtract fractions with the same denominator (y4)</p>	<p>add and subtract fractions with the same denominator and multiples of the same number (y5)</p> <p>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions (y6)</p> <p>recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (eg $\frac{7}{5} + \frac{4}{5} = \frac{11}{5} = 2 \frac{1}{5}$) (y5)</p>

<p>Multiplication and division of fractions</p>				<p>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (y5)</p> <p>multiply simple pairs of proper fractions, writing the answer in its simplest form (eg $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) (y6)</p> <p>multiply one-digit numbers with up to two decimal places by whole numbers (y6)</p> <p>divide proper fractions by whole numbers (eg $\frac{1}{3} \div 2 = \square$) (y6)</p>
<p>Multiplication and division of decimals</p>			<p>find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths (y4)</p>	<p>multiply one-digit numbers with up to two decimal places by whole numbers (y6)</p> <p>multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (y6)</p> <p>identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (y6)</p> <p>associate a fraction with division and calculate decimal fraction equivalents (eg 0.375) for a simple fraction (eg $\frac{3}{8}$) (y6)</p> <p>use written division methods in cases where the answer has up to two decimal places (y6)</p>
<p>Problem solving</p>			<p>solve problems that involve all of the above (y3)</p> <p>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 (y4)</p> <p>solve simple measure and money problems involving fractions and decimals to two-decimal places (y4)</p>	<p>solve problems involving numbers up to three decimal places (y5)</p> <p>solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25 (y5)</p>

Ratio & proportion				Year 6
				<p>solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>solve problems involving the calculation of percentages (for example of measures, such as 15% of 360) and the use of percentages for comparison</p> <p>solve problems involving similar shapes where the scale factor is known and can be found</p> <p>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p>

Measurement	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparing & estimating	<p>Make comparisons between objects relating to size, length, weight and capacity. (3&4 year olds.)</p> <p>Compare length, weight and capacity. (Reception)</p>	<p>compare, describe and solve practical problems for</p> <ul style="list-style-type: none"> lengths and heights (eg long/short, longer/shorter, tall/short, double/half) mass/weight (eg heavy/light, heavier than/lighter than) capacity and volume (eg full/empty, more than, less than, half full, quarter full) time (eg quicker, slower, earlier, later) (y1) <p>compare and order lengths, mass, volume/capacity and record the results using <, > and = (y2)</p> <p>sequence events in chronological order using language (eg before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) (y1)</p> <p>compare and sequence intervals of time (y2)</p>	<p>compare, describe and solve practical problems for</p> <ul style="list-style-type: none"> lengths and heights (eg long/short, longer/shorter, tall/short, double/half) mass/weight (eg heavy/light, heavier than/lighter than) capacity and volume (eg full/empty, more than, less than, half full, quarter full) time (eg quicker, slower, earlier, later) (y1) <p>compare and order lengths, mass, volume/capacity and record the results using <, > and = (y2)</p> <p>sequence events in chronological order using language (eg before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) (y1)</p> <p>compare and sequence intervals of time (y2)</p>	<p>estimate, compare and calculate different measures, including money in pounds and pence (y4)</p> <p>compare durations of events for example to calculate the time taken by particular events or tasks (y3)</p> <p>estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon,, midnight (y3)</p>	<p>calculate and compare the area of squares and rectangles including using standard units, square centimetres and square metres and estimate the area of irregular shapes (y5)</p> <p>calculate, estimate and compare volume of cubes and cuboids using standard units including centimetres cubed and cubic metres and extending to other units such as mm and km (y6)</p> <p>estimate volume (eg using 1 cm cubed blocks to build cubes and cuboids) and capacity (eg using water) (y5)</p>			
Measuring & calculating			<p>measure and begin to record the following</p> <ul style="list-style-type: none"> lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) (y1) <p>choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (g/kg); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels (y2)</p> <p>recognise and know the value of different denominations of coins</p>	<p>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) (y3)</p> <p>estimate, compare and calculate different measures including money in pounds and pence (y4)</p> <p>measure the perimeter of simple 2D shapes (y3)</p> <p>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres (y4)</p> <p>add and subtract amounts of money to give change, using both £ and p in practical contexts</p>	<p>use all four operations to solve problems involving measures (eg length, mass, volume, money) using decimal notation including scales (y5)</p> <p>solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places where appropriate (y6)</p> <p>measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (y5)</p> <p>recognise that shapes with the same areas can have different perimeters and vice versa (y6)</p>			

		<p>and notes (y1)</p> <p>recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value (y2)</p> <p>find different combinations of coins that equal the same amounts of money (y2)</p> <p>solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (y2)</p>	<p>(y3)</p> <p>find the area of rectilinear shapes by counting squares (y4)</p>	<p>calculate and compare the area of squares and rectangles including using standard units, square centimetres, and square metres and estimate the area of irregular shapes (y5)</p> <p>calculate the area of parallelograms and triangles (y6)</p> <p>calculate, estimate and compare volume of cubes and cuboids using standard units including cubic cm and cubic m and extending to other units (eg cubic mm and cubic km) (y6)</p> <p>recognise when it is possible to use formulae for area and volume of shapes (y6)</p>
Telling the time	<p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' (3&4 year olds.)</p>	<p>tell the time to the hour and half past the hour and draw the hands on a clock face to show these times (y1)</p> <p>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 (y2)</p> <p>recognise and use language relating to dates, including days of the week, weeks, months and years (y1)</p> <p>know the number of minutes in an hour and the number of hours in a day (y2)</p>	<p>tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12 hour and 24 hour clocks (y3)</p> <p>read, write and convert time between analogue and digital 12 and 24 hour clocks (y4)</p> <p>estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon, midnight (y3)</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (y4)</p>	<p>solve problems involving converting between units of time (y5)</p>
Converting		<p>know the number of minutes in an hour and the number of hours in a day (y2)</p>	<p>know the number of seconds in a minute and the number of days in each month, year and leap year (y3)</p> <p>convert between different units of measure (eg kilometre to metre; hour to minute) (y4)</p>	<p>convert between different units of metric measure (eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) (y5)</p> <p>use, read, write and convert</p>

			<p>read, write and convert time between analogue and digital 12 and 24-hour clocks (y4)</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (y4)</p>	<p>between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit and vice versa using decimal notation up to three decimal places (y6)</p> <p>solve problems involving converting between units of time (y5)</p> <p>solve problems involving calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (y6)</p> <p>understand and use equivalences between metric units and common imperial units such as inches, pounds and pints (y5)</p> <p>convert between miles and kilometres (y6)</p>
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Geometry - properties of shapes	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Identifying shapes & their properties	Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. (3&4 year olds.)		<p>recognise and name common 2D and 3D shapes including</p> <ul style="list-style-type: none"> • 2D shapes (eg rectangles including squares, circles and triangles) • 3D shapes (eg cuboids including cubes, pyramids and spheres) (y1) <p>identify and describe the properties of 2D shapes including the number of sides and line symmetry in a vertical line (y2)</p> <p>identify and describe the properties of 3D shapes including the number of edges, vertices and faces (y2)</p>		<p>identify lines of symmetry in 2D shapes presented in different orientations (y4)</p>		<p>identify 3D shapes including cubes and other cuboids from 2D representations (y5)</p> <p>illustrate and name parts of circles including radius, diameter and circumference and know that the diameter is twice the radius (y6)</p>	

		identify 2D shapes on the surface of 3D shapes (for example a circle on a cylinder, a triangle on a pyramid) (y2)		
Drawing & constructing	<p>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. (3&4 year olds.)</p> <p>Combine shapes to make new ones - an arch, a bigger triangle etc. (3&4 year olds.)</p>		<p>draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them (y3)</p> <p>complete a simple symmetric figure with respect to a specific line of symmetry (y4)</p>	<p>draw given angles and measure them in degrees ($^{\circ}$) (y5)</p> <p>draw 2D shapes using given dimensions and angles (y6)</p> <p>recognise, describe and build simple 3D shapes including making nets (y6)</p>
Comparing & classifying	<p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills. (Reception)</p> <p>Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. (Reception)</p>	compare and sort common 2D and 3D shapes and everyday objects (y2)	compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes (y4)	<p>use the properties of rectangles to deduce related facts and find missing lengths and angles (y5)</p> <p>compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons (y6)</p> <p>distinguish between regular and irregular polygons based on reasoning about equal sides and angles (y5)</p>
Angles			<p>recognise angles as a property of a shape or a description of a turn (y3)</p> <p>identify right angles, recognise that two right angles make a half-turn, three makes three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle (y3)</p> <p>identify acute and obtuse angles compare and order angles up to two right angles by size (y4)</p> <p>identify horizontal and vertical lines and pairs of perpendicular and parallel lines (y3)</p>	<p>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (y5)</p> <p>identify:</p> <ul style="list-style-type: none"> • angles at a point and one whole turn (total 360°) • angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) • other multiples of 90° (y5) <p>recognise angles where they meet a point, are on a straight line, or are vertically opposite and find missing angles (y6)</p>

Geometry: position, direction & movement	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Position, direction & movement	<p>Understand position through words alone – for example, “The bag is under the table,” – with no pointing. (3&4 year olds.)</p> <p>Describe a familiar route. (3&4 year olds.)</p> <p>Discuss routes and locations, using words like ‘in front of’ and ‘behind’. (3&4 year olds.)</p>	<p>describe position, direction and movement, including quarter, half and three-quarter turns (y1)</p> <p>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 anti-clockwise) (y2)</p>	<p>describe positions on a 2D grid as coordinates in the first quadrant (y4)</p> <p>describe movements between positions as translations of a given unit to the left/right and up/down (y4)</p> <p>plot specified points and draw sides to complete a given polygon (y4)</p>	<p>identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed (y5)</p> <p>describe positions on the full coordinate grid (all four quadrants) (y6)</p> <p>draw and translate simple shapes on the coordinate plane and reflect them on the axes (y6)</p>				
Pattern	<p>Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc. (3&4 year olds.)</p> <p>Extend and create ABAB patterns – stick, leaf, stick, leaf. (3&4 year olds.)</p> <p>Notice and correct an error in a repeating pattern. (3&4 year olds.)</p> <p>Continue, copy and create repeating patterns. (Reception)</p>	<p>order and arrange combinations of mathematical objects in patterns and sequences (y2)</p>						

Statistics	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Interpreting, constructing and presenting data			interpret and construct simple pictograms, tally charts, block diagrams and simple tables (y2)	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity (y2)	ask and answer questions about totalling and comparing categorical data (y2)	interpret and present data using bar charts, pictograms and tables (y3)	interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs (y4)	complete, read and interpret information in tables, including timetables (y5)	interpret and construct pie charts and line graphs and use these to solve problems (y6)
Solving problems						solve one-step and two-step problems (eg how many more? and how many fewer?) using information presented in scaled bar charts and pictograms and tables (y3)	solve comparison, sum and difference problems using information in bar charts, pictograms, tables and other graphs (y4)	solve comparison, sum and difference problems using information presented in a line graph (y5)	calculate and interpret the mean as an average (y6)

Algebra				Year 5 Year 6
Equations				<p>express missing number problems algebraically (y6)</p> <p>find pairs of numbers that satisfy number sentences involving two unknowns (y6)</p> <p>enumerate all possibilities of combinations of two variables (y6)</p>