



# Alfriston Primary School

## Maths Progression



### PLACE VALUE

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Counting</b>	Continue, copy and create repeating patterns  Count objects, actions and sounds.  Count beyond ten  Verbally count beyond 20, recognising the pattern of the counting system  Match one number name to each item (one-one principle)  Understand that the last number of the count indicates the total number in a group.  Count out a smaller number from a larger group.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	4, 8, 50 and 100; find 10 or 100 more or less than a given number.	Count in multiples of 6, 7, 9, 25 and 1000.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	Use negative numbers in context, and calculate intervals across zero.
	Understand the 'one more than/one less than' relationship between consecutive numbers.	Count, read and write numbers to 100 in numerals identify one more and one less than numbers	Read scales* in divisions of ones, twos, fives and tens		Find 1000 more or less than a given number.  Count backwards through zero to include negative numbers.	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	
<b>Comparing numbers</b>	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Use the language of: equal to, more than, less than (fewer), most, least	Compare and order numbers from 0 up to 100; use and = signs.	Compare and order numbers up to 1000.	Order and compare numbers beyond 1000.	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also under reading and writing numbers).
<b>Identifying, representing and estimating numbers</b>		Identify and represent numbers using objects and pictorial representations including the number line.	Identify, represent and estimate numbers using different representations, including the number line.	Identify, represent and estimate numbers using different representations.	Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000.	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Round any whole number to a required degree of accuracy.
<b>Reading and writing numbers</b>	Link the number symbol (numeral) with its cardinal number value.	Read and write numbers from 1 to 20 in numerals and words.	Read and write numbers to at least 100 in numerals and in words.	Read and write numbers up to 1000 in numerals and in words.	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.	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. (appears also under reading and writing numbers)	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
						Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	



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<b>Understanding place value</b>			Recognise the place value of each digit in a two-digit number (tens, ones).	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).	Solve number problems and practical problems that involve all of the above.	Solve number and practical problems that involve all of the above.
			Use place value and number facts to solve problems. partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus	Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.		

### ADDITION AND SUBTRACTION

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Number bonds</b>	<p>Explore the composition of numbers to 10.</p> <p>Have a deep understanding of number to 10, including the composition of each number</p> <p>Automatically recall number bonds for numbers 0–5 and some to 10.</p> <p>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.</p>	Represent and use number bonds and related subtraction facts within 20	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.				
			Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If $7 + 3 = 10$ then $17 + 3 = 20$ ; if $7 - 3 = 4$ then $17 - 3 = 14$ ; leading to if $14 + 3 = 17$ , then $3 + 14 = 17$ , $17 - 14 = 3$ and $17 - 3 = 14$ )				
<b>Mental calculation</b>	Subitise (recognise quantities without counting) up to 5.	Add and subtract one digit and two-digit numbers to 20, including zero	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> <li>• a two-digit number and ones</li> <li>• a two-digit number and tens</li> </ul>	Add and subtract numbers mentally, including: <ul style="list-style-type: none"> <li>• a three-digit number and ones</li> <li>• a three-digit number and tens</li> </ul>		Add and subtract numbers mentally with increasingly large numbers.	Perform mental calculations, including with mixed operations and large numbers.



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			<ul style="list-style-type: none"> <li>two two-digit numbers</li> <li>adding three one-digit numbers</li> </ul>	<ul style="list-style-type: none"> <li>a three-digit number and hundreds</li> </ul>			
	<p>Understand that we can swap the order of numbers in an addition number sentence and we will still get the same answer (Commutative Law)</p> <p>Begin to recognise odd and even numbers.</p> <p>Begin to recognise double facts within 10.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</p>	<p>Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p>				<p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p>
			<p>Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. <math>48 + 35</math>; <math>72 - 17</math>)</p>				
<b>Written methods</b>	<p>Begin to read and write addition and subtraction number sentences.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.</p>		<p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p>	<p>Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.</p>	<p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).</p>	
<b>Inverse operations, estimating and checking answers</b>			<p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>	<p>Estimate the answer to a calculation and use inverse operations to check answers.</p>	<p>Inverse operations, estimating and checking answers Estimate and use inverse operations to check answers to a calculation.</p>	<p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p>	<p>Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p>
<b>Problem solving</b>		<p>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math></p>	<p>Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures.</p>	<p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p>	<p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p>



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### MULTIPLICATION AND DIVISION

Area of learning		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Multiplication and number facts</b>		Count in multiples of twos, fives and tens (copied from Number and Place Value)	RECAP: Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.	RECAP: Count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)	RECAP: 7, 9, 25 and 1 000 (copied from Number and Place Value)	RECAP: Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (copied from Number and Place Value)	
			Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to $12 \times 12$		
<b>Mental calculation</b>			Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 (appears also in Written Methods).	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	Multiply and divide numbers mentally drawing upon known facts.  Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Perform mental calculations, including with mixed operations and large numbers.
					Recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)		
<b>Written methods</b>			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs	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 (appears also in Mental Methods)	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
						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	
<b>Order of operations</b>							Use their knowledge of the order of operations to carry out calculations involving the four operations



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<b>Properties of numbers: multiples, factors, primes, square and cube numbers</b>					Recognise and use factor pairs and commutativity in mental calculations (repeated)	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Identify common factors, common multiples and prime numbers
						Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers.	
						Establish whether a number up to 100 is prime and recall prime numbers up to 19	
						Recognise and use square numbers and cube numbers, and the notation for squared ( $^2$ ) and cubed ( $^3$ )	
<b>Inverse operations, estimating and checking answers</b>				RECAP: Estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)	RECAP: Estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction)		Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
<b>Problem solving</b>		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.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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	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 such as n objects are connected to m objects	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	solve problems involving addition, subtraction, multiplication and division
						Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
						Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	

### FRACTIONS

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Counting in fractional steps</b>			Count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (Non Statutory Guidance)	Count up and down in tenths	Count up and down in hundredths		
<b>Recognising fractions/decimals</b>		Recognise, find and name a half as one of two equal parts of an	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	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	



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		object, shape or quantity		Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.			
				Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
<b>Comparing fractions/decimals</b>				Compare and order unit fractions, and fractions with the same denominators	Compare numbers with the same number of decimal places up to two decimal places	Compare and order fractions whose denominators are all multiples of the same number.	Compare and order fractions, including fractions >1
						Read, write, order and compare numbers with up to three decimal places.	Identify the value of each digit in numbers given to three decimal places.
<b>Rounding including decimals</b>					Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	Solve problems which require answers to be rounded to specified degrees of accuracy
<b>Equivalence (including fractions, decimals and percentages)</b>		Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Write simple fractions e.g. $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$ .	recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
	Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$ )			Recognise and write decimal equivalents of any number of tenths or hundredths	Read and write decimal numbers as fractions (e.g. $0.71 = 71/100$ )	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	
				Recognise and write decimal equivalents to $1/4$ ; $1/2$ ; $3/4$	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Associate a fraction with division and calculate decimal fraction equivalents (e.g. $0.375$ ) for a simple fraction (e.g. $3/8$ )	
					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 fraction	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	
<b>Problem solving</b>				Solve problems that involve all of the above	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	Solve problems involving numbers up to three decimal places solve problems which require knowing percentage and decimal equivalents of $1/2$ , $1/4$ , $1/5$ , $2/5$ , $4/5$ and	



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					Solve simple measure and money problems involving fractions and decimals to two decimal places.	those with a denominator of a multiple of 10 or 25.	
<b>Addition and subtraction of fractions</b>					Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and multiples of the same number	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions recognise mixed numbers fractions
						Recognise mixed numbers fractions and improper fractions and convert from one form to the other and write mathematical statements $> 1$ as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1\ 1/5$ )	
<b>Multiplication and division of fractions and decimals</b>					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	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$ )
							Multiply one-digit numbers with up to two decimal places by whole numbers.
							Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$ ).
							Multiply one-digit numbers with up to two decimal places by whole numbers.
							Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.
							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.
							Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $3/8$ ).
							Use written division methods in cases where the answer has up to two decimal places.



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<b>Ratio and proportion</b>							Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
							Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
							Solve problems involving similar shapes where the scale factor is known or can be found
							Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

MEASUREMENT							
Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Comparing and estimating</b>	Compare length, weight and capacity	Compare, describe and solve practical problems for: <ul style="list-style-type: none"> <li>• lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half]</li> <li>• mass/weight [e.g. heavy/light, heavier than, lighter than]</li> <li>• capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter]</li> <li>• time [e.g. quicker, slower, earlier, later]</li> </ul> Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Compare and order lengths, mass, volume/capacity and record the results using $>$ , $<$ and $=$	Compare durations of events, for example to calculate the time taken by particular events or tasks	Estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes (also included in measuring)	Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> ), and extending to other units such as mm <sup>3</sup> and km <sup>3</sup> .
			Compare and sequence intervals of time.	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 and midnight (appears also in Telling the Time)			



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<b>Measuring and calculating</b>		<p>Measure and begin to record the following:</p> <ul style="list-style-type: none"> <li>lengths and heights</li> <li>mass/weight</li> <li>capacity and volume</li> <li>time (hours, minutes, seconds)</li> </ul>	<p>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 appropriate unit, using rulers, scales, thermometers and measuring vessels</p>	<p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p>	<p>Estimate, compare and calculate different measures, including money in pounds and pence (appears also in Comparing)</p>	<p>Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</p>	<p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting)</p>
		<p>Recognise and know the value of different denominations of coins and notes</p>	<p>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</p>	<p>Measure the perimeter of simple 2-D shapes</p>	<p>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p>	<p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p>	<p>Recognise that shapes with the same areas can have different perimeters and vice versa</p>
		<p>Find different combinations of coins that equal the same amounts of money</p> <ul style="list-style-type: none"> <li>use different coins to make the same amount</li> </ul>	<p>Find the area of rectilinear shapes by counting squares</p>				
		<p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</p>	<p>Add and subtract amounts of money to give change, using both £ and p in practical contexts</p>	<p>Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</p>	<p>RECAP: recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</p>	<p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [e.g. mm<sup>3</sup> and km<sup>3</sup>].</p>	
<b>Telling the time</b>	<p>Begin to sequence events in chronological order.</p> <p>Name the days of the week.</p> <p>Start to recognise the months of the year.</p>	<p>Recognise and use language relating to dates, including days of the week, weeks, months and years</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.</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</p>	<p>Read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)</p>	<p>Solve problems involving converting between units of time</p>	
			<p>Know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)</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 and midnight (appears also in Comparing and Estimating)</p>			



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		Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Read the time on a clock to the nearest 15 minutes				
<b>Converting</b>			Know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	Know the number of seconds in a minute and the number of days in each month, year and leap year	Convert between different units of measure (e.g. kilometre to metre; hour to minute)	Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Use, read, write and convert 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
					Read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	Solve problems involving converting between units of time	Decimal notation to up to three decimal places
					Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating)
						Convert between miles and kilometres	

### GEOMETRY

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Identifying shapes and their properties</b>	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can	recognise and name common 2-D and 3-D shapes, including:	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.		Identify lines of symmetry in 2-D shapes presented in different orientations.	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing).
		<ul style="list-style-type: none"> <li>• 2-D shapes [e.g. rectangles (including squares), circles and triangles]</li> <li>• 3-D shapes [e.g. cuboids]</li> </ul>	Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].				



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		(including cubes), pyramids and spheres].	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.				Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
<b>Drawing and constructing</b>				Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	Complete a simple symmetric figure with respect to a specific line of symmetry.	Draw given angles, and measure them in degrees ( ° )	Draw 2-D shapes using given dimensions and angles.
							Recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties).
<b>Comparing and classifying</b>			Compare and sort common 2-D and 3-D shapes and everyday objects	Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
						Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	
<b>Angles</b>				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 acute and obtuse angles and compare and order angles up to two right angles by size.	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. identify: <ul style="list-style-type: none"> <li>• angles at a point and one whole turn (total 360 ° )</li> <li>• angles at a point on a straight line and ½ a turn (total 180 ° )</li> <li>• other multiples of 90 °</li> </ul>	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
				Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.			
<b>Position and direction</b>	Draw information from a simple map.	Describe position, direction and movement, including whole, half, quarter and three quarter turns.	Order and arrange combinations of mathematical objects in patterns and sequences	Use mathematical vocabulary to describe position, direction and movement, including	Describe positions on a 2-D grid as coordinates in the first quadrant.	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.	Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
	Respond to simple directions						
	Give simple directions.						



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	Use positional and directional language with some accuracy.		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).		Plot specified points and draw sides to complete a given polygon.		
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### STATISTICS AND ALGEBRA

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Interpreting, Constructing and Presenting Data</b>			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use these to solve problems
			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				
<b>Solving problems</b>				Solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Solve comparison, sum and difference problems using information presented in a line graph	Calculate and interpret the mean as an average
<b>Equations</b>							Express missing number problems algebraically.
							Find pairs of numbers that satisfy number sentences involving two unknowns.
							Enumerate all possibilities of combinations of two variables.
<b>Formulae</b>							Use simple formulae RECAP: recognise when it is possible to use formulae for area and volume of shapes.
<b>Sequences</b>							Generate and describe linear number sequences.