



# St Bartholomew's Primary School – History – Progression of skills

EYFS – Early Learning Goals (ELG)

## Place Value

Place Value								
	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	<ul style="list-style-type: none"> <li>develop fast recognition of up to 3 objects, without having to count them individually ('subsidising')</li> <li>recite numbers past 5</li> <li>say one number for each item in order: 1, 2, 3, 4, 5</li> <li>know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principal')</li> </ul>	<ul style="list-style-type: none"> <li>count objects, actions and sounds, up to 10</li> <li>subitise with patterns, 5 and 10 frames, dots on dice, fingers, etc (up to 10)</li> <li>count beyond ten</li> <li>have a deep understanding of number to 10, including the composition of each number</li> <li>subitise (recognise quantities without counting) up to 5</li> <li>verbally count beyond 20, recognising the pattern of the counting system</li> </ul>	<ul style="list-style-type: none"> <li>count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>count numbers to 100 in numerals; count in multiples of twos, fives and tens</li> </ul>	<ul style="list-style-type: none"> <li>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</li> </ul>	<ul style="list-style-type: none"> <li>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> </ul>	<ul style="list-style-type: none"> <li>count in multiples of 6, 7, 9, 25 and 1000</li> <li>count backwards through zero to include negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000</li> <li>count forwards and backwards with positive and negative whole numbers, including through zero</li> </ul>	



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		EYFS		KS1		KS2			
		3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Represent		<ul style="list-style-type: none"> <li>show 'finger numbers' up to 5</li> <li>experiment with their own symbols and marks as well as numerals</li> <li>link numerals and amounts [for example, showing the right number of objects to match the numeral, up to 5]</li> </ul>	<ul style="list-style-type: none"> <li>link the number symbol (numeral) with its cardinal number value, up to 10</li> </ul>	<ul style="list-style-type: none"> <li>identify and represent numbers using objects and pictorial representations</li> <li>read and write numbers to 100 in numerals</li> <li>read and write numbers from 1 to 20 in numerals and words</li> </ul>	<ul style="list-style-type: none"> <li>read and write numbers to at least 100 in numerals and in words</li> <li>identify, represent and estimate numbers using different representations, including the number line</li> </ul>	<ul style="list-style-type: none"> <li>read and write numbers to at least 1000 in numerals and in words</li> <li>identify, represent and estimate numbers using different representations</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>read, write (order and compare) numbers to at least 1,000,000 and determine the value of each digit</li> <li>read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	<ul style="list-style-type: none"> <li>read, write (order and compare) numbers to at least 10,000,000 and determine the value of each digit</li> </ul>
	Place Value: Use PV and Compare	<ul style="list-style-type: none"> <li>compare quantities using language: 'more than', 'fewer than'</li> </ul>	<ul style="list-style-type: none"> <li>compare numbers using vocabulary: 'more than', 'less than', 'fewer', 'the same as', 'equal to'</li> <li>understand the 'one more than/one less than' relationship between consecutive numbers</li> <li>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity</li> </ul>	<ul style="list-style-type: none"> <li>given a number, identify one more and one less</li> </ul>	<ul style="list-style-type: none"> <li>recognise the place value of each digit in a two-digit number</li> <li>compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> </ul>	<ul style="list-style-type: none"> <li>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li>compare and order numbers up to 1000</li> </ul>	<ul style="list-style-type: none"> <li>find 1000 more or less than a given number</li> <li>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)</li> <li>order and compare numbers beyond 1000</li> </ul>	<ul style="list-style-type: none"> <li>(read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit</li> </ul>	<ul style="list-style-type: none"> <li>(read, write) order and compare numbers to at least 10,000,000 and determine the value of each digit</li> </ul>



# Place Value

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Problem & Rounding				<ul style="list-style-type: none"><li>• use place value and number facts to solve problems</li></ul>	<ul style="list-style-type: none"><li>• solve number problems and practical problems involving these ideas</li></ul>	<ul style="list-style-type: none"><li>• round any number to the nearest 10, 100 or 1000</li><li>• solve number and practical problems that involve all of the above with increasingly large positive numbers</li></ul>	<ul style="list-style-type: none"><li>• interpret negative numbers in context</li><li>• round any number up to 1,000,000 to the nearest 10, 100, 1000, 10 000 and 100 000</li><li>• solve number and practical problems that involve all of the above</li></ul>	<ul style="list-style-type: none"><li>• round any whole number to a required degree of accuracy</li><li>• use negative numbers in context, and calculate intervals across zero</li><li>• solve number and practical problems that involve all of the above</li></ul>



# Addition & Subtraction

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Recall, Represent, Use		<ul style="list-style-type: none"><li>• explore the composition of numbers to 10</li><li>• automatically recall number bonds for numbers 0–10</li><li>• 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</li></ul>	<ul style="list-style-type: none"><li>• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs</li><li>• represent and use number bonds and related subtraction facts within 20</li></ul>	<ul style="list-style-type: none"><li>• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li><li>• show the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li><li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li></ul>	<ul style="list-style-type: none"><li>• estimate the answer to the calculation and use inverse operations to check answers</li></ul>	<ul style="list-style-type: none"><li>• estimate and use inverse operations to check answers to a calculation</li></ul>	<ul style="list-style-type: none"><li>• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li></ul>	



# Addition & Subtraction

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Calculations			<ul style="list-style-type: none"><li>• add and subtract one-digit and two-digit numbers to 20, including zero</li></ul>	<ul style="list-style-type: none"><li>• 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><li>➤ two two-digit numbers</li><li>➤ adding three one-digit numbers</li></ul></li></ul>	<ul style="list-style-type: none"><li>• 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><li>➤ a three-digit number and hundreds</li></ul></li><li>• add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li></ul>	<ul style="list-style-type: none"><li>• add and subtract numbers with up to 4 digits using formal written methods of columnar addition and subtraction where appropriate</li></ul>	<ul style="list-style-type: none"><li>• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li><li>• add and subtract numbers mentally with increasingly large numbers</li></ul>	<ul style="list-style-type: none"><li>• perform mental calculations, including with mixed operations and large numbers</li><li>• use their knowledge of the order of operations to carry out calculations involving the four operations</li></ul>



# Addition & Subtraction

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Solve Problems	<ul style="list-style-type: none"><li>• solve real world mathematical problems with numbers up to 5</li></ul>	<ul style="list-style-type: none"><li>• solve real world mathematical problems with numbers up to 10</li></ul>	<ul style="list-style-type: none"><li>• 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></li></ul>	<ul style="list-style-type: none"><li>• solve problems with addition and subtraction:<ul style="list-style-type: none"><li>➤ using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li><li>➤ applying their increasing knowledge of mental and written methods</li></ul></li></ul>	<ul style="list-style-type: none"><li>• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</li></ul>	<ul style="list-style-type: none"><li>• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</li></ul>	<ul style="list-style-type: none"><li>• solve addition and subtraction multi-step problems and contexts, deciding which operations and methods to use and why</li><li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equal sign</li></ul>	<ul style="list-style-type: none"><li>• solve addition and subtraction multi-step problems and contexts, deciding which operations and methods to use and why</li></ul>



# Multiplication & Division

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Multiplication &amp; Division: Recall, Represent, Use</b>		<ul style="list-style-type: none"> <li>• explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally</li> </ul>	<ul style="list-style-type: none"> <li>• count in 2s, 5s and 10s up to 100</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> <li>• show that multiplication of two numbers can be done in any order (commutative) and division of one number by any other cannot</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> </ul>	<ul style="list-style-type: none"> <li>• recall multiplication and division facts for multiplication tables up to 12 x 12</li> <li>• 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</li> <li>• recognise and use factor pairs and commutativity in mental calculations</li> </ul>	<ul style="list-style-type: none"> <li>• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>• establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>• recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>• identify common factors, common multiples and prime numbers</li> <li>• use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul>



# Multiplication & Division

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & Division: Calculations				<ul style="list-style-type: none"><li>• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs</li></ul>	<ul style="list-style-type: none"><li>• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li></ul>	<ul style="list-style-type: none"><li>• multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li></ul>	<ul style="list-style-type: none"><li>• 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</li><li>• multiply and divide numbers mentally drawing upon known facts</li><li>• 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</li><li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li></ul>	<ul style="list-style-type: none"><li>• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li><li>• 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</li><li>• divide numbers up to four digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li><li>• perform mental calculations, including with mixed operations and large numbers</li></ul>



# Multiplication & Division

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & Division: Solve Problems			<ul style="list-style-type: none"> <li>• 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</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems using multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems involving multiplying and adding, including using the distributive law to multiply two numbers by one digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems involving addition, subtraction, multiplication and division</li> </ul>
Multiplication & Division: Combined Operations							<ul style="list-style-type: none"> <li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equal sign</li> </ul>	<ul style="list-style-type: none"> <li>• use their knowledge of the order of operations to carry out calculations involving the four operations</li> </ul>



# Fractions, Decimals & Percentages

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Recognise and Write			<ul style="list-style-type: none"> <li>recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li>recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</li> </ul>	<ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> </ul>	<ul style="list-style-type: none"> <li>count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and dividing one-digit numbers or quantities by 10</li> <li>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> </ul>	<ul style="list-style-type: none"> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</li> </ul>	<ul style="list-style-type: none"> <li>identify, name and write equivalent fractions of a give fraction, represented visually, including tenths and hundredths</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number [for example, <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}</math>]</li> </ul>	
Fractions: Compare				<ul style="list-style-type: none"> <li>recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul>	<ul style="list-style-type: none"> <li>recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>compare and order unit fractions, and fractions with the same denominators</li> </ul>	<ul style="list-style-type: none"> <li>recognise and show, using diagrams, families of common equivalent fractions</li> </ul>	<ul style="list-style-type: none"> <li>compare and order fractions whose denominators are all multiples of the same number</li> </ul>	<ul style="list-style-type: none"> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions <math>&gt;1</math></li> </ul>



# Fractions, Decimals & Percentages

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Calculations				<ul style="list-style-type: none"><li>• write simple fractions for example, <math>\frac{1}{2}</math> of 6 = 3</li></ul>	<ul style="list-style-type: none"><li>• add and subtract fractions with the same denominator within one whole [for example, <math>\frac{5}{17} + \frac{1}{17} = \frac{6}{17}</math>]</li></ul>	<ul style="list-style-type: none"><li>• add and subtract fractions with the same denominator</li></ul>	<ul style="list-style-type: none"><li>• add and subtract fractions with the same denominator and denominators that are multiples of the same number</li><li>• multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li></ul>	<ul style="list-style-type: none"><li>• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li><li>• multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li><li>• divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>]</li></ul>
Fractions: Solve Problems					<ul style="list-style-type: none"><li>• solve problems that involve all of the above</li></ul>	<ul style="list-style-type: none"><li>• 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</li></ul>		



# Fractions, Decimals & Percentages

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Recognise and Write						<ul style="list-style-type: none"><li>• recognise and write decimal equivalents of any number of tenths or hundredths</li><li>• recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li></ul>	<ul style="list-style-type: none"><li>• read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>]</li><li>• recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li></ul>	<ul style="list-style-type: none"><li>• identify the value of each digit in numbers given to three decimal places</li></ul>
Decimals: Compare						<ul style="list-style-type: none"><li>• round decimals with one decimal place to the nearest whole number</li><li>• compare numbers with the same number of decimal places up to two decimal places</li></ul>	<ul style="list-style-type: none"><li>• round decimals with two decimal places to the nearest whole number and to one decimal place</li><li>• read, write order and compare numbers with up to three decimal places</li></ul>	



# Fractions, Decimals & Percentages

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Calculations and Problems						<ul style="list-style-type: none"><li>• find the effect of dividing a one- of two-digit number by 10 and 100, identifying the value of digits in the answer as ones, tenths and hundredths</li></ul>	<ul style="list-style-type: none"><li>• solve problems involving number up to three decimal places</li></ul>	<ul style="list-style-type: none"><li>• multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li><li>• multiply one-digit numbers with up to two decimal places by whole numbers</li><li>• use written division methods in cases where the answer has up to two decimal places</li><li>• solve problems which require answers to be rounded to specified degrees of accuracy</li></ul>



# Fractions, Decimals & Percentages

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions, Decimals and Percentages						<ul style="list-style-type: none"><li>• solve simple measure and money problems involving fractions and decimals to two decimal places</li></ul>	<ul style="list-style-type: none"><li>• recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal</li><li>• solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25</li></ul>	<ul style="list-style-type: none"><li>• associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li><li>• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li></ul>



# Ratio & Proportion

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio and Proportion								<ul style="list-style-type: none"><li>• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li><li>• solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li><li>• solve problems involving similar shapes where the scale factor is known or can be found</li><li>• solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li></ul>



# Algebra

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra			<ul style="list-style-type: none"><li>• 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></li></ul>	<ul style="list-style-type: none"><li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</li></ul>	<ul style="list-style-type: none"><li>• solve problems, including missing number problems</li></ul>			<ul style="list-style-type: none"><li>• use simple formulae</li><li>• generate and describe linear number sequences</li><li>• express missing number problems algebraically</li><li>• find pairs of numbers that satisfy an equation with two unknowns</li><li>• enumerate possibilities of combinations of two variables</li></ul>



# Measurement

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Measurement: Using Measures</b>	<ul style="list-style-type: none"> <li>• make comparisons between objects relating to size, length, weight and capacity</li> </ul>	<ul style="list-style-type: none"> <li>• compare length, weight and capacity by making predictions and using vocabulary 'than' [for example, "This is heavier than that."]</li> </ul>	<ul style="list-style-type: none"> <li>• compare, describe and solve practical problems for:               <ul style="list-style-type: none"> <li>➤ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]</li> <li>➤ mass/weight [for example, heavy/light, heavier/lighter, lighter than]</li> <li>➤ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]</li> <li>➤ time [for example, quicker, slower, earlier, later]</li> </ul> </li> <li>• measure and begin to record the following:               <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> </li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul>	<ul style="list-style-type: none"> <li>• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> </ul>	<ul style="list-style-type: none"> <li>• Convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li>• estimate, compare and calculate different measures</li> </ul>	<ul style="list-style-type: none"> <li>• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre, centimetre and millimetre; gram and kilogram; litre and millilitre)</li> <li>• understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>• 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 decimal notation to up to three decimal places</li> <li>• convert between miles and kilometres</li> </ul>



# Measurement

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Money			<ul style="list-style-type: none"><li>• recognise and know the value of different denominations of coins and notes</li></ul>	<ul style="list-style-type: none"><li>• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li><li>• find different combinations of coins that equal the same amounts of money</li><li>• solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li></ul>	<ul style="list-style-type: none"><li>• add and subtract amounts of money to give changes, using both £ and p in practical contexts</li></ul>	<ul style="list-style-type: none"><li>• estimate, compare and calculate different measures, including money in pounds and pence</li></ul>	<ul style="list-style-type: none"><li>• use all four operations to solve problems involving measure [for example, money]</li></ul>	



# Measurement

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Time	<ul style="list-style-type: none"><li>begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</li></ul>		<ul style="list-style-type: none"><li>sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</li><li>recognise and use language relating to dates, including days of the week, weeks, months and years</li><li>tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</li></ul>	<ul style="list-style-type: none"><li>compare and sequence intervals of time</li><li>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</li><li>know the number of minutes in an hour and the number of hours in a day</li></ul>	<ul style="list-style-type: none"><li>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li><li>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</li><li>know the number of seconds in a minute and the number of days in each month, year and leap year</li><li>compare durations of events [for example to calculate the time taken by particular events or tasks]</li></ul>	<ul style="list-style-type: none"><li>read, write and convert time between analogue and digital 12- and 24- hour clocks</li><li>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li></ul>	<ul style="list-style-type: none"><li>solve problems involving converting between units of time</li></ul>	<ul style="list-style-type: none"><li>use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa</li></ul>



# Measurement

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Perimeter, Area, Volume					<ul style="list-style-type: none"><li>• measure the perimeter of simple 2-D shapes</li></ul>	<ul style="list-style-type: none"><li>• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li><li>• find the area of rectilinear shapes by counting squares</li></ul>	<ul style="list-style-type: none"><li>• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li><li>• calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li><li>• estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li></ul>	<ul style="list-style-type: none"><li>• recognise that shapes with the same areas can have different perimeters and vice versa</li><li>• recognise when it is possible to use formulae for area and volume of shapes</li><li>• calculate the area of parallelograms and triangles</li><li>• 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 [for example, mm<sup>3</sup> and km<sup>3</sup>]</li></ul>



# Geometry

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: 2-D Shapes	<ul style="list-style-type: none"> <li>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'.</li> </ul>	<ul style="list-style-type: none"> <li>select, rotate and manipulate shapes in order to develop spatial reasoning skills</li> <li>compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can</li> </ul>	<ul style="list-style-type: none"> <li>recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</li> <li>compare and sort common 2-D shapes and everyday objects</li> </ul>	<ul style="list-style-type: none"> <li>draw 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>identify lines of symmetry in 2-D shapes presented in different orientations</li> </ul>	<ul style="list-style-type: none"> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> <li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> </ul>	<ul style="list-style-type: none"> <li>draw 2-D shapes using given dimensions and angles</li> <li>compare and classify geometric shapes based on their properties and sizes</li> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul>
Geometry: 3-D Shapes	<ul style="list-style-type: none"> <li>select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</li> <li>combine shapes to make new ones - an arch, a bigger triangle etc.</li> </ul>	<ul style="list-style-type: none"> <li>select, rotate and manipulate shapes in order to develop spatial reasoning skills</li> </ul>	<ul style="list-style-type: none"> <li>recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]</li> </ul>	<ul style="list-style-type: none"> <li>recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]</li> <li>compare and sort common 3-D shapes and everyday objects</li> </ul>	<ul style="list-style-type: none"> <li>make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> </ul>		<ul style="list-style-type: none"> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> </ul>	<ul style="list-style-type: none"> <li>recognise, describe and build simple 3-D shapes, including making nets</li> </ul>



# Geometry

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Angles & Lines					<ul style="list-style-type: none"><li>• recognise angles as a property of shape of a description of a turn</li><li>• 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</li><li>• identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li></ul>	<ul style="list-style-type: none"><li>• identify acute and obtuse angles and compare and order angles up to two right angles by size</li><li>• identify lines of symmetry in 2-D shapes presented in different orientations</li><li>• complete a simple symmetric figure with respect to a specific line of symmetry</li></ul>	<ul style="list-style-type: none"><li>• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li><li>• draw given angles, and measure them in degrees</li><li>• 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></li></ul>	<ul style="list-style-type: none"><li>• find unknown angles in any triangles, quadrilaterals, and regular polygons</li><li>• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li></ul>



# Geometry

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Geometry: Position &amp; Direction</b>	<ul style="list-style-type: none"><li>• understand position through words alone – for example, “The bag is under the table,” – with no pointing</li><li>• describe a familiar route</li><li>• discuss routes and locations, using words like ‘in front of’ and ‘behind’</li><li>• 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.</li><li>• extend and create ABAB patterns – stick, leaf, stick, leaf</li><li>• notice and correct an error in a repeating pattern</li></ul>	<ul style="list-style-type: none"><li>• continue, copy and create repeating patterns [including AB, ABB and ABBC]</li></ul>	<ul style="list-style-type: none"><li>• describe position, direction and movement, including whole, half, quarter and three-quarter turns</li></ul>	<ul style="list-style-type: none"><li>• order and arrange combinations of mathematical objects in patterns and sequences</li><li>• 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)</li></ul>		<ul style="list-style-type: none"><li>• describe positions on a 2-D grid as coordinates in the first quadrant</li><li>• describe movements between positions as translations of a given unit to the left/right and up/down</li><li>• plot specified points and draw sides to complete a given polygon</li></ul>	<ul style="list-style-type: none"><li>• 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</li></ul>	<ul style="list-style-type: none"><li>• describe positions on the full coordinate grid (all four quadrants)</li><li>• draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li></ul>



# Statistics

	EYFS		KS1		KS2			
	3-4 Years	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present & Interpret				<ul style="list-style-type: none"> <li>interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present data using bar charts, pictograms and tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li> </ul>	<ul style="list-style-type: none"> <li>complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>
Statistics: Solve Problems				<ul style="list-style-type: none"> <li>ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>ask and answer questions about totalling and comparing categorical data</li> </ul>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>solve comparison sum and different problems using information presented in bar charts, pictograms, tables and other graphs</li> </ul>	<ul style="list-style-type: none"> <li>solve comparison, sum and difference problems using information presented in a line graph</li> </ul>	<ul style="list-style-type: none"> <li>calculate and interpret the mean as an average</li> </ul>