



**Whaddon Cof E School**  
**Maths Skills and Knowledge Progression Document**  
**EYFS – Year 6**



	<u>EYFS</u>	<u>KS1</u> <u>Statutory Curriculum Guidance</u>		<u>KS2</u> <u>Statutory Curriculum Guidance</u>			
	Birth -3 years 3-4 years 4-5 years Early Learning Goal	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Number and Place Value</b> 	<ul style="list-style-type: none"> <li>-Combine objects, like stacking cups and blocks. Put objects inside others and take them out again. Take part in finger rhymes with numbers.</li> <li>-React to changes of amount in a group of up to three items.</li> <li>-Compare amounts, saying 'lots', 'more' or 'same'.</li> <li>-Develop countinglike behaviour, such as making sounds, pointing or saying some numbers in sequence.</li> <li>-Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'</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, read and write numbers to 100 in numerals, count in different multiples including ones, twos, fives and tens.</li> <li>-Given a number, identify one more and one less.</li> <li>-Identify and represent numbers using concrete objects and</li> </ul>	<ul style="list-style-type: none"> <li>-Count in steps of 2, 5 and 10 from 0 and count.</li> <li>-In tens from any number, forward or backward</li> <li>-Recognise the value of each digit in a two-digit number (tens, ones).</li> <li>-Partition any two-digit number into into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus.</li> </ul>	<ul style="list-style-type: none"> <li>-Count from 0 in multiples of 4, 8, 50 and 100.</li> <li>-Finding 10 or 100 more than a given number</li> <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> <li>-Identify, represent and estimate numbers using different representations.</li> </ul>	<ul style="list-style-type: none"> <li>-Count in multiples of 6, 7, 9, 25 and 100.</li> <li>-Find 1000 more or less than a given number.</li> <li>-Count backwards through zero to include negative numbers.</li> <li>-Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and 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> <li>-Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>-Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.</li> </ul>	<ul style="list-style-type: none"> <li>-Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</li> <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 problems and practical problems that involve all of the above.</li> </ul>

<ul style="list-style-type: none"> <li>-Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</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 principle'). • Show 'finger numbers' up to 5.</li> <li>-Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> <li>-Experiment with their own symbols and marks as well as numerals.</li> <li>-Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than'.</li> <li>-Count objects, actions and sounds.</li> <li>-Subitise.</li> <li>-Link the number symbol (numeral) with its cardinal number value.</li> <li>-Count beyond ten.</li> <li>-Compare numbers.</li> <li>Understand the 'one more than/one less than' relationship between consecutive numbers.</li> <li>-Explore the composition of numbers to 10.</li> <li>-Automatically recall number bonds for numbers 0–5 and some to 10.</li> </ul>	<p>pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least.</p> <p>-Read and write numbers 1 to 20 in numerals and words</p>	<ul style="list-style-type: none"> <li>-Identify, represent and estimate numbers using different representation, including the number line.</li> <li>-Compare and order numbers from 0 up to 100; use and = signs</li> <li>-Read and write numbers to at least 100 in numerals and in words.</li> <li>-Use place value and number facts to solve problems.</li> <li>-To read scales in divisions of 2,5 and 10.</li> <li>-Read scales where not all numbers on the scale are given and estimate points in between.</li> </ul>	<ul style="list-style-type: none"> <li>-Read and write numbers to at least 1000 in numerals and in words.</li> <li>-Solve number problems and practical problems involving these ideas.</li> </ul>	<ul style="list-style-type: none"> <li>-Identify, represent and estimate numbers using different representations.</li> <li>-Round any number to the nearest 10, 100 or 100</li> <li>-Solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>-Read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value.</li> </ul>	<ul style="list-style-type: none"> <li>-Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>-Solve number problems and practical problems that involve all of the above</li> <li>-Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul>	
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	<p>Number:</p> <ul style="list-style-type: none"><li>-Have a deep understanding of number to 10, including the composition of each number.</li></ul> <p>Subitise (recognise quantities without counting) up to 5.</p> <ul style="list-style-type: none"><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> <p>Numerical Patterns:</p> <ul style="list-style-type: none"><li>-Verbally count beyond 20, recognising the pattern of the counting system.</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><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>						
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	Birth -3 years 4-5 years Goal	3-4 years Early Learning	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Addition and Subtraction</b> 			<p>-Read, write and interpret mathematical statements involving addition (+), subtraction (-), and equals (=) signs</p> <p>-Represent and use number bonds and related subtraction facts within 20.</p> <p>-Add and subtract one-digit and two-digit numbers to 20, including zero</p> <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 simple one step problems with addition and subtraction:</p> <p>-Using concrete objects and pictorial representations, including those involving numbers quantities and measures</p> <p>-Applying their increasing knowledge of mental and written methods</p> <p>-Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.</p> <p>-Recall all Number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated addition relationships (eg if <math>7+3=10</math> then <math>17+3=20</math>; if <math>7-3=4</math> and <math>17-3=14</math> etc)</p>	<p>-Add and subtract numbers mentally, - Including: a three-digit number and ones; a three digit number and tens; a three-digit number and hundreds</p> <p>-Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>-Estimate the answer to a calculation and use inverse operations to check answers. - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</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>-Estimate and use inverse operations to check answers to a calculation.</p> <p>-Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>-Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>-Add and subtract numbers mentally with increasingly large numbers.</p> <p>-Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</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>-Add and subtract numbers using concrete objects, pictorial representations and mentally including: a 2 digit number and 1s; a 2 digit number and 10s; two 2 digit numbers, three 1 digit numbers</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>-Recognise the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.</p> <p>-Use reasoning about numbers and relationships to solve more complex problems and explain their thinking</p> <p>-Solve unfamiliar word problems that involve more than one step.</p>				
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## Multipli- cation and Division



-Solve one step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.  
 -Recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts, including recognising odd and even numbers  
 -Calculate mathematical statements for multiplication and division, within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.  
 -Show that multiplications of two numbers can be done in any order (commutative) and division of

-Recall and use multiplication and division facts for the 3, 4 and 8 times tables  
 -Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know including 2-digit numbers x 1 digit numbers, using mental and progressing to formal written methods  
 -Solve problems including missing number problems involving multiplication and division including integer scaling problems and correspondence problems in which n objects are connected to m objects.

-Recall multiplication and division facts for multiplication tables up to 12 x 12.  
 -Write and calculate mathematical to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers.  
 -Recognise and use factor pairs and commutatively in mental calculations.  
 -Multiply two-digit and three-digit numbers by: a one-digit number using formal written layout.  
 -Solve problems involving multiplying and adding, including using the distributive law to multiply 2- digit numbers by 1-digit, integer-scaling problems and harder

-Identify multiples and factors, including finding all factor pairs of a number, and common factors of two 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.  
 -Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for 2-digit numbers.  
 -Multiply and divide numbers mentally drawing upon known facts.  
 -Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and

-Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication.  
 -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  
 -Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to context  
 -Perform mental calculations, including with mixed operations and large numbers -

			<p>one number by another cannot.</p> <p>-Solve problems involving multiplication and division, using materials arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>		<p>correspondence problems such as which n objects are connected to m objects?</p>	<p>interpret remainders appropriately for the context.</p> <p>-Multiply and divide whole numbers and those involving decimals 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</p> <p>-Divide numbers up to 4 digits by a twodigit number using the formal written method of short division where appropriate, interpreting remainders according to context</p> <p>Perform mental calculations, including with mixed operations and large numbers</p>	<p>Identify common factors, common multiples and prime numbers</p> <p>-Using their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>-Solve problems involving addition, subtraction, multiplication and division</p> <p>-Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</p>
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		<ul style="list-style-type: none"><li>-Identify common factors, common multiples and prime numbers</li><li>-Using their knowledge of the order of operations to carry by 10, 100 and 1000.</li><li>-Recognise and use square numbers and cube numbers, and the notations, <math>(^2)</math> <math>(^3)</math>.</li><li>-Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li></ul>
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**Fractions, Decimals and Percentages**




	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
		<p>-Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>-Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p>	<p>-Recognise find, name and write write fractions <math>1/3</math>, <math>1/4</math>, <math>2/4</math> and <math>3/4</math> of a length, shape, set of objects or quantity.</p> <p>-Write simple fractions e.g. <math>1/2</math> and recognise the equivalent of two quarters and one half.</p>	<p>-Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <p>-Recognise, find and write fractions of a discrete set of objects, unit fractions and non-unit fractions with small denominators.</p> <p>-Recognise and use fractions as numbers, unit fractions and non-unit fractions with small denominators.</p> <p>-Recognise and show, using diagrams, equivalent fractions with small denominators.</p> <p>-Add and subtract fractions with the same denominator within one whole or (e.g. <math>5/7 + 1/7 = 6/7</math>).</p> <p>-Compare and order unit</p>	<p>-Recognise and show, using diagrams, families of common equivalent fractions.</p> <p>-Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.</p> <p>-Solve problems involving increasingly harder fractions to calculate quantities, including non-unit fractions where the answer is a whole number.</p> <p>-Add and subtract fractions with the same denominator.</p> <p>-Recognise and write decimal equivalents of any number of tenths or hundredths.</p> <p>-Recognise and write decimal equivalents to <math>1/4</math>, <math>1/2</math>, <math>3/4</math>.</p>	<p>-Recognise and order fractions whose denominators are all multiples of the same number.</p> <p>-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths -</p> <p>Recognise mixed numbers and improper fractions and convert from one to the other and write mathematical statements <math>&gt;1</math> as a mixed number (e.g. <math>2/5 + 4/5 = 6/5 = 1 1/5</math>).</p> <p>-Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>-Multiply proper fractions and mixed numbers, by whole numbers,</p>	<p>-Compare and order fractions whose denominators are all multiples of the same number.</p> <p>-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths -</p> <p>Recognise mixed numbers and improper fractions and convert from one to the other and write mathematical statements <math>&gt;1</math> as a mixed number (e.g. <math>2/5 + 4/5 = 6/5 = 1 1/5</math>).</p> <p>-Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>-Multiply proper fractions and mixed numbers, by whole numbers,</p>	<p>-Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. --</p> <p>Compare and order fractions including fractions <math>&gt;1</math>.</p> <p>-Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.</p> <p>-Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. <math>1/4 \times 1/2 = 1/8</math>).</p> <p>-Divide proper fractions by whole numbers (e.g. <math>1/3 \div 2 = 1/6</math>).</p> <p>-Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <math>3/8</math>).</p>

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<p>fractions with the same denominators and solve problems involving all above</p>	<p>-Find the effect of dividing a one or 2digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.          -Round decimals with one decimal place to the nearest whole number.          -Compare numbers with the same number of decimal places up to two decimal places.          -Solve simple measures and money problems involving fractions and decimals to two decimal places</p>	<p>supported by materials and diagrams.          -Read and write decimal numbers as fractions (e.g. 1.71 = 171/100).          -Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.          -Round decimals with two decimal places to the nearest whole number and to one decimal place.          -Read, write, order and compare numbers with up to 3 decimal places.          solve problems involving numbers up to 3 decimal places.          -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, and as a decimal.</p>	<p>-Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.          -Multiply one-digit numbers with up to two decimal places by whole numbers.          -Use written division methods in cases where the answer has up to two decimal places.          -Solve problems which require answers to be rounded to specified degrees of accuracy.          recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.          -Solve problems involving the calculation of percentages (e.g. of measures, and such as 15% of 360) and the use of</p>
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		<p>-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.</p>	<p>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.</p>

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Ratio and Proportion</b> 							<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 (e.g. of measures, and 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 or can be found.</p> <p>-Solve problems involving unequal sharing and</p>

							grouping using knowledge of fractions and multiples.
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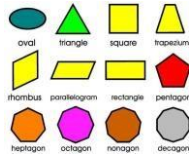
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Algebra</b>  $2x + 4$							<ul style="list-style-type: none"> <li>-Use simple formulae.</li> <li>-Generate and describe linear number sequences.</li> <li>-Express missing number problems algebraically.</li> <li>-Find pairs of numbers that satisfy an equation with two unknowns.</li> <li>-Enumerate possibilities of combinations of two variables</li> </ul>

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Measures</b> 	<p>-Continue, copy and create repeating patterns.</p> <p>-Compare length, weight and capacity.</p>	<p>-Compare, describe and solve practical problems for: lengths and heights (e.g. <math>\leq</math>, <math>\geq</math>, or = to, long/short, longer/shorter, tall/short, double/half); mass or weight (e.g. heavy/light, heavier than, lighter than); capacity/volume (e.g. full/empty, more than, less than, half, half full, quarter); time (e.g. quicker, slower, earlier, later)</p> <p>-Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume.</p> <p>-Time (hours, minutes, seconds).</p> <p>-Recognise and know the value of different denominations of coins and notes.</p>	<p>-Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (<math>^{\circ}</math>C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.</p> <p>-Compare and order lengths, mass, volume/capacity and record the results using <math>\leq</math> than, <math>\geq</math> than, or = to)</p> <p>-Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.</p> <p>-Find different combinations of coins that equal the same amounts of money.</p>	<p>-Measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p>-Measure the perimeter of simple 2-D shapes.</p> <ul style="list-style-type: none"> <li>• Add and subtract amounts of money giving change, using both £ and p in practical contexts.</li> </ul> <p>-Tell and write the time from an analogue clock, including using Roman numerals from 1 to X11, and 12 hour and 24hour clocks.</p> <p>-Estimate and read time to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as am/pm, morning, afternoon, noon and midnight.</p>	<p>-Convert between different units of measure, (e.g. kilometre to metre; hour to minute).</p> <p>-Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.</p> <p>-Find the area of rectilinear shapes by counting.</p> <p>-Estimate, compare and calculate different measures, including money in pounds and pence.</p> <p>-Read, write and convert time between analogue and digital 12 and 24-hour clocks.</p> <p>-Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>	<p>-Convert between different units of measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</p> <p>-Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>-Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>-Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and</p>	<p>-Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</p> <p>-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 three decimal places.</p> <p>-Convert between miles and kilometres.</p> <p>-Recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>-Recognise when it is possible to use formulae for area and volume of</p>

		<ul style="list-style-type: none"> <li>-Sequence events in chronological order using language (e.g. before, after, next, first, today, tomorrow, morning, afternoon and evening).</li> <li>-Recognise and use the 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.</li> </ul>	<ul style="list-style-type: none"> <li>-Solve simple problems in a practical context involving addition and subtraction money of the same unit, including giving change.</li> <li>-Compare and sequence intervals of time.</li> <li>-Tell and write time, including quarter past/to the hour and draw hands on a clock face to show the times.</li> <li>-Tell and write time to five minutes.</li> <li>-Know the number of minutes in an hour and the number of hours a day.</li> </ul>	<ul style="list-style-type: none"> <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>estimate the area of irregular shapes.</li> <li>-Estimate volume (e.g. using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)) and capacity (e.g. using water).</li> <li>-Solve problems involving converting between units of time.</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>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 (e.g. mm<sup>3</sup> and km<sup>3</sup>).</li> </ul>
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## Properties of Shapes



-Climb and squeeze themselves into different types of spaces.

-Build with a range of resources.  
-Complete inset puzzles. Compare sizes, weights etc.

using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'

-Notice patterns and arrange things in patterns.

-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'.

-Make comparisons between objects relating to size, length, weight and capacity.

-Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.

-Recognise and name common 2-D and 3-D shapes, including: 2-D shapes (e.g. rectangles (including squares), circles and triangles).

-3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).

- Identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line.

-Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

-Identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid

-Compare and sort common 2-D and 3-D shapes and everyday objects.

-Describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid

-Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them with increasing accuracy.

-Recognise angles as a property of shape and associate angles with turning.

-Identify right angles, , recognise that two right angles make a halfturn, three make , threequarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.

- Identify horizontal and vertical lines and pairs.

-Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

-Identify acute and obtuse angles and compare and order angles up to two right angles by size.

-Identify lines of symmetry in 2-D shapes presented in different orientations.

- Complete a simple symmetric figure with respect to a specific line of symmetry

- Identify 3-D shapes, including cubes and cuboids, from 2-D representations.

-Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.

-Draw given angles, measuring them in degrees (°).

-Identify: angles at a point and one whole turn (total 360°).

-Angles at a point on a straight line and ½ a turn (total 180°).

-Other multiples of 90°.

-Use the properties of a rectangle to deduce related facts and find missing lengths and angles.

-Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

-Draw 2D shapes using given dimensions and angles.

-Recognise, describe and build simple 3-D shapes, including making nets.


-Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.

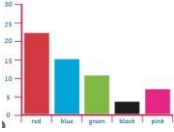
-Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

-Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

	<p>-Combine shapes to make new ones – an arch, a bigger triangle, etc.</p> <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.</p> <p>-Extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>-Notice and correct an error in a repeating pattern.</p> <p>-Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</p>		<p>have the same number of edges, faces and vertices, but different dimensions)</p>				
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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<p><b>Position and Direction</b></p> 	<p>-Understand position through words alone – for example, “The bag is under the table,” – with no pointing.</p> <p>-Describe a familiar route.</p> <p>-Discuss routes and locations, using words like ‘in front of’ and ‘behind’.</p> <p>-Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’</p> <p>-Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</p>	<p>-Describe position, directions and movements, including half, quarter and threequarter turns.</p>	<p>-Order and arrange combinations of mathematical objects in patterns.</p> <p>-Use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and threequarter turns (clockwise/anticlockwise)</p>		<p>-Describe positions on a 2-D grid as coordinates in the first quadrant.</p> <p>-Describe movement between positions as translations of a given unit to the left/right and up/down.</p> <p>-Plot specified points and draw sides to complete a given polygon.</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.</p>	<p>-Describe positions on the full coordinate grid (all four quadrants).</p> <p>-Draw and translate simple shapes on the coordinate plane and reflect them in the axes.</p>
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6												
<p><b>Statistics</b></p>  <table border="1"> <caption>Data from Bar Chart</caption> <thead> <tr> <th>Category</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>red</td> <td>22</td> </tr> <tr> <td>blue</td> <td>15</td> </tr> <tr> <td>green</td> <td>10</td> </tr> <tr> <td>black</td> <td>5</td> </tr> <tr> <td>pink</td> <td>8</td> </tr> </tbody> </table>	Category	Value	red	22	blue	15	green	10	black	5	pink	8			<p>-Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p> <p>-Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>-Ask and answer questions about totalling and compare categorical data.</p>	<p>-Interpret and present data using bar charts, pictograms and tables.</p> <p>-Solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.</p>	<p>-Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>-Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>	<p>-Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>-Complete, read and interpret information in tables, including timetables.</p>	<p>-Interpret and construct pie charts and line graphs and use these to solve problems.</p> <p>-Calculate and interpret the mean as an average.</p>
Category	Value																		
red	22																		
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