



# Maths Progression of Skills and Knowledge

## Great Kingshill C of E Combined School

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Counting</b>	<ul style="list-style-type: none"> <li>Count actions or objects which cannot be moved.</li> <li>Count an irregular arrangement of up to twenty objects</li> <li>Estimate how many objects they can see and check by counting them</li> <li>Count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number</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 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 2, 3, 4, 5, 8, 10, 11, 50 and 100;</li> <li>find 10 or 100 more or less than a given number.</li> </ul>	<ul style="list-style-type: none"> <li>count in multiples of 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 25 and 1000</li> <li>find 1000 more or less than a given number</li> <li>count backwards through zero to include negative numbers</li> <li>solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul>	<ul style="list-style-type: none"> <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, including through zero</li> </ul>	<ul style="list-style-type: none"> <li>use negative numbers in context, and calculate intervals across zero</li> </ul>
<b>Place Value</b>	<ul style="list-style-type: none"> <li>Select the correct numeral to represent 1 to 20 objects</li> <li>use the language of 'more' and 'fewer' to compare two sets of data</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> <li>use place value and number facts to solve problems</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> <li>solve number problems and practical problems involving these ideas</li> </ul>	<ul style="list-style-type: none"> <li>recognise the place value of each digit in a four-digit number</li> <li>order and compare numbers beyond 1000</li> <li>round any number to the nearest 10, 100 or 1000</li> <li>solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 1 000 000 and determine the value of each digit</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>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>solve number and practical problems that involve the above</li> </ul>
<b>Representing number</b>	<ul style="list-style-type: none"> <li>Recognise some numerals of personal significance</li> <li>Identify and select the correct numeral for a group of objects</li> <li>To use their own method of recording to explain their ideas.</li> </ul>	<ul style="list-style-type: none"> <li>identify and represent numbers using objects and pictorial representations including the number line, &amp; use language of: equal to, more than, less than (fewer), most, least</li> <li>read and write numbers from 1 to 20 in numerals and words</li> <li>read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>read and write numbers to at least 100 in numerals and in words</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations</li> <li>read and write numbers up to 1000 in numerals and in words</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 Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	
<b>Number facts (+/-)</b>	<ul style="list-style-type: none"> <li>Begin to use the vocabulary involved in adding and subtracting in practical activities</li> </ul>	<ul style="list-style-type: none"> <li>given a number, identify one more and one less</li> <li>represent and use number bonds and related subtraction facts within 20</li> <li>add and subtract one-digit and two-digit numbers to 20, including zero</li> </ul>	<ul style="list-style-type: none"> <li>use place value and number facts to solve problems</li> <li>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>add and subtract numbers using concrete objects, pictorial representations, and mentally, including: TU+U, TU+T, TU+TU and U+U+U</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H</li> </ul>			
<b>Mental +/-</b>	<ul style="list-style-type: none"> <li>Begin to use the vocabulary involved in adding and subtracting in practical activities and discussion</li> <li>Use quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer</li> </ul>		<ul style="list-style-type: none"> <li>show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> </ul>	<ul style="list-style-type: none"> <li>Pupils continue to practise mental methods with increasingly large numbers to aid fluency</li> </ul>	<ul style="list-style-type: none"> <li>Pupils continue to practise mental methods with increasingly large numbers to aid fluency.</li> </ul>	<ul style="list-style-type: none"> <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> </ul>
<b>Written +/-</b>				<ul style="list-style-type: none"> <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 the 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> </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>
<b>Problems +/-</b>	<ul style="list-style-type: none"> <li>Begin to identify own mathematical problems based on own interests and fascinations</li> <li>To solve real life problems, including weight, length and time.</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, using concrete, pictorial and abstract representations, including those involving numbers, quantities and measures</li> <li>apply their increasing knowledge of mental and written methods</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 a calculation and use inverse operations to check answers</li> <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>estimate and use inverse operations to check answers to a calculation</li> <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>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> <li>solve addition and subtraction multi-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 in contexts, deciding which operations and methods to use and why</li> <li>solve problems involving addition, subtraction, multiplication and division</li> <li>use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> </ul>
<b>Number facts (x/÷)</b>			<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> </ul>	<ul style="list-style-type: none"> <li>recall and use multiplication and division facts for the 2, 3, 4, 5, 8, 10 and 11 multiplication tables</li> </ul>	<ul style="list-style-type: none"> <li>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></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 used</li> </ul>	<ul style="list-style-type: none"> <li>identify common factors, common multiples and prime numbers</li> </ul>
<b>Mental (x/÷)</b>			<ul style="list-style-type: none"> <li>calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs</li> <li>show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</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 for two-digit numbers times one-digit numbers, using mental methods</li> </ul>	<ul style="list-style-type: none"> <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>multiply and divide numbers mentally drawing upon known facts</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>perform mental calculations, including with mixed operations and large numbers</li> </ul>
<b>Written (x/÷)</b>				<ul style="list-style-type: none"> <li>Progress to formal written methods calculations as above</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>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>recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</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 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to context</li> </ul>
<b>Problems (x/÷)</b>	<ul style="list-style-type: none"> <li>solve problems, including doubling, halving and sharing</li> </ul>	<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 involving 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 n objects are connected to m objects</li> </ul>	<ul style="list-style-type: none"> <li>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</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 addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</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>use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>solve problems involving addition, subtraction, multiplication and division</li> <li>use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul>
<b>Recognising fractions</b>		<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>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</li> </ul>	<ul style="list-style-type: none"> <li>count up and down in tenths;</li> <li>recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> </ul>	<ul style="list-style-type: none"> <li>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>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</li> </ul>	

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparing fractions				<ul style="list-style-type: none"> <li>compare and order unit fractions, and fractions with the same denominators</li> <li>recognise and show, using diagrams, equivalent fractions with small 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> <li>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> </ul>	<ul style="list-style-type: none"> <li>use common factors to simplify fractions</li> <li>use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions &gt; 1</li> </ul>
Finding fractions of quantities				<ul style="list-style-type: none"> <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>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>		
Fraction calculations			<ul style="list-style-type: none"> <li>write simple fractions for example, <math>1/2</math> of 6 = 3 and recognise the equivalence of <math>2/4</math> and <math>1/2</math>.</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract fractions with the same denominator within one whole [for example, <math>5/7 + 1/7 = 6/7</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</li> <li>divide proper fractions by whole numbers</li> </ul>
Decimals as fractional amounts					<ul style="list-style-type: none"> <li>count up and down in hundredths;</li> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>recognise and write decimal equivalents to <math>1/4</math>, <math>1/2</math> and <math>3/4</math></li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>read and write decimal numbers as fractions</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</li> <li>identify the value of each digit in numbers given to three decimal places</li> </ul>
Ordering decimals					<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>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <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>	
Calculating with decimals							<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 number 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> </ul>
Percentages						<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <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> </ul>
Fraction problems				<ul style="list-style-type: none"> <li>solve problems using all fraction knowledge</li> </ul>	<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>solve problems involving number up to three decimal places</li> <li>solve problems which require knowing percentage and decimal equivalents of <math>1/4</math>, <math>1/2</math>, <math>1/5</math>, <math>2/5</math>, <math>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>solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>
Ratio & 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 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							<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>
Measures	<ul style="list-style-type: none"> <li>order two or three items by length or height</li> <li>describe their relative position such as 'behind' or 'next to'</li> <li>measure short period of time in simple ways</li> <li>order two items by weight or capacity</li> <li>order and sequence familiar events. Use everyday language related to time</li> </ul>	<ul style="list-style-type: none"> <li>compare, describe and solve practical problems for: length/height e.g. long/short, longer/shorter, tall/short, double/half, weight/mass e.g. heavy/light, heavier than/lighter than, capacity/volume e.g. full/empty, more than/less than, half, half full, quarter and time e.g. quicker, slower, earlier, later</li> <li>measure and begin to record length/height, weight/mass, capacity/volume &amp; time (hours, minutes, seconds)</li> </ul>	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure length/height (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</li> <li>compare and order lengths, mass, volume/capacity and record the results using &gt;, &lt; and =</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 e.g. km to m estimate, compare and calculate different measures</li> </ul>	<ul style="list-style-type: none"> <li>convert between different units of metric measure (e.g. km and m, cm and m, cm and mm, gr and kg, l and ml</li> <li>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>estimate volume and capacity</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>
Mensuration				<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 (<math>cm^2</math>) and square metres (<math>m^2</math>) and estimate the area of irregular shapes</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 (<math>cm^3</math>) and cubic metres (<math>m^3</math>), and extending to other units.</li> </ul>

## Maths progression

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Money</b>	<ul style="list-style-type: none"> <li>Use everyday language to talk about money.</li> <li>Compare quantities and objects and to solve problems.</li> </ul>	<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 change, using both £ and p in practical contexts</li> </ul>	<ul style="list-style-type: none"> <li>estimate, compare and calculate 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, length, mass, volume, money] using decimal notation, including scaling</li> </ul>	
<b>Time</b>	<ul style="list-style-type: none"> <li>Use everyday language to talk about time (Eg-later, earlier, after, before, minute and hour).</li> <li>Recognise different ways that time is represented.</li> </ul>	<ul style="list-style-type: none"> <li>sequence events in chronological order using language e.g. before, 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 compare durations of events</li> </ul>	<ul style="list-style-type: none"> <li>Convert between different units of measure (e.g. Hours to minutes)</li> <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>	
<b>Shape vocabulary</b>	<ul style="list-style-type: none"> <li>recognise and name common 2-D shapes (e.g. Square, circle, triangle)</li> <li>recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids &amp; spheres)</li> </ul>	<ul style="list-style-type: none"> <li>recognise and name common 2-D shapes (e.g. square, circle, triangle)</li> <li>recognise and name common 3-D shapes (e.g. cubes, cuboids, pyramids &amp; spheres)</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and use vertices, edges, faces, symmetry.</li> </ul>	<ul style="list-style-type: none"> <li>identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li> </ul>			<ul style="list-style-type: none"> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul>
<b>Properties of 2-d shape</b>	<ul style="list-style-type: none"> <li>use mathematical names for 'flat' 2D shapes, and mathematical terms to describe shapes.</li> <li>Use familiar objects and common shapes to create and recreate patterns and build models.</li> <li>recognise, create and describe patterns.</li> <li>explore characteristics of everyday objects and shapes and use mathematical language to describe them.</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>compare and sort common 2-D and 3-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 properties and sizes</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>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>distinguish between regular and irregular polygons based on reasoning about equal sides 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> </ul>
<b>Properties of 3-d shape</b>	<ul style="list-style-type: none"> <li>use mathematical names for 'solid' 3D shapes and mathematical terms to describe shapes</li> </ul>		<ul style="list-style-type: none"> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>identify 2-D shapes on the surface of 3-D shapes e.g. a circle on a cylinder and a triangle on a pyramid</li> <li>compare and sort common 2-D and 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> <li>find unknown angles in any triangles, quadrilaterals, and regular polygons</li> </ul>
<b>Angles</b>				<ul style="list-style-type: none"> <li>recognise angles as a property of shape or 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</li> <li>identify whether angles are greater or less than right angle</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> </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 angles at a point and one whole turn (total 360°); at a point on a straight line and ½ a turn (total 180°), identify other multiples of 90°</li> </ul>	<ul style="list-style-type: none"> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>
<b>Position &amp; Direction</b>	<ul style="list-style-type: none"> <li>describe their relative position such as 'behind' or 'next to'</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 ¾ turns</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>
<b>Interpreting data</b>			<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</li> <li>calculate and interpret the mean as an average</li> </ul>
<b>Extract info from data</b>			<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 difference 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>use pie charts and line graphs to solve problems</li> </ul>