

## Maths Skills and Knowledge Progress Grid



	Year R	Year 1	Year2	Year 3	Year 4	Year 5	Year 6
<b>Number: Counting</b>	<p>Counts objects to 10, and beginning to count beyond 10.</p> <ul style="list-style-type: none"> <li>Counts an irregular arrangement of up to ten objects.</li> <li>Children count reliably with numbers from one to 20 and place them in order</li> </ul>	<p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p> <ul style="list-style-type: none"> <li>Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li> <li>Given a number identify one more and one less</li> </ul>	<p>Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward</p>	<ul style="list-style-type: none"> <li>Count from 0 in multiples of 4, 8, 50 and 100</li> <li>Find 10 or 100 more or less than a give number</li> </ul>	<p>Count backwards through zero to include negative numbers</p> <ul style="list-style-type: none"> <li>Count in multiples of 6, 7, 9, 25 and 1000</li> <li>Find 1000 more or less than a give number</li> </ul>	<p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</p> <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> </ul>	<p>Use negative numbers in context, and calculate intervals across zero</p>
<b>Number: Comparing</b>	<p>Uses the language of 'more' and 'fewer' to compare two sets of objects.</p>	<p>Use the language of: equal, to, more, less than (fewer), most, least</p>	<p>Compare and order numbers from 0 up to 100; use &gt; &lt; and = signs</p>	<p>Compare and order numbers up to 1000</p>	<ul style="list-style-type: none"> <li>Order and compare numbers beyond 1000</li> <li>Compare numbers with the same</li> </ul>	<p>Read, write, order and compare numbers to at least 1,000,000 and determine the value</p>	<p>Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit</p>

					amount of decimals places	of each digit	
<b>Number: Identify, Representing and Estimating Numbers</b>	<ul style="list-style-type: none"> <li>• Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.</li> <li>• Estimates how many objects they can see and checks by counting them.</li> </ul>	Identify and represent numbers using objects and pictorial representations including the number line	Identify, represent and estimate numbers using different representations, including the number line	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations		
<b>Number: Reading and Writing Numbers</b>		Read and write numbers from 1 to 20 in numerals and words	Read and write numbers to at least 100 in numerals and words	Read and write numbers to at least 1000 in numerals and words	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit <ul style="list-style-type: none"> <li>• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
<b>Number: Understanding Place Value</b>			Recognise the place value of each digit in a two-digit number (tens, ones)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)	<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>• Recognise and</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> <li>• Identify the</li> </ul>

					<ul style="list-style-type: none"> <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 units, tenths and hundredths</li> </ul>	use thousandths and relate them to tenths, hundredths and decimals equivalents	value of each digit to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers up 3 decimal places
<b>Number: Rounding</b>					<ul style="list-style-type: none"> <li>• Round any number to the nearest 10, 100 and 1000</li> <li>• Round decimals with one decimal place to the nearest whole number</li> </ul>	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000	
<b>Number: Problem Solving</b>	Begins to identify own mathematical problems based on own interests and fascinations.		Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Solve number problems and practical problems that involve all of the above	Solve number and practical problems that involve all of the above
<b>Addition and Subtraction Number Bonds</b>		Represent and use number bonds and related subtraction facts	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100				

<p><b>Addition and Subtraction Mental Calculations</b></p>	<ul style="list-style-type: none"> <li>• In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.</li> <li>• Using 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>• Add and subtract one-digit and two digit numbers to 20, including zero</li> <li>• Read, write and interpret mathematical statements involving addition (+) subtraction (-) and equals (=) signs</li> </ul>	<p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * A two-digit number and ones * A two-digit number and tens * Two two-digit numbers * Adding three onedigit numbers</p> <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>	<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 mentally with increasingly large numbers</p>	<p>Perform mental calculations, including with mixed operations and large numbers</p> <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>
<p><b>Addition and Subtraction Written Methods</b></p>		<p>Read, write and interpret mathematical statements involving addition (+) subtraction (-) and equals (=) signs</p>		<p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p>	<p>Add and subtract numbers with up to four digits, using formal written methods of columnar addition and subtraction where appropriate</p>	<p>Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)</p>	

<p><b>Addition and Subtraction Inverse, Estimating and Checking Answers</b></p>			<p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</p>	<p>Estimate the answer to a calculation and use inverse operations to check answers</p>	<p>Estimate and use inverse operations to check answers to a calculation</p>	<p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p>	<p>Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</p>
<p><b>Addition and Subtraction Problem Solving</b></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 = \_ - 9</math></p>	<p>Solve problems with addition and subtraction: * Using concrete objects and pictorial representations, including those</p>	<p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p>	<p>Add and subtract numbers with up to four digits, using formal written methods of columnar addition and subtraction where appropriate</p>	<p>Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)</p>	<p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <ul style="list-style-type: none"> <li>• Solve problem involving addition, subtraction, multiplication and division</li> </ul>
<p><b>Multiplication and Division Facts</b></p>		<p>Count in multiples of twos, fives and tens</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward</p> <ul style="list-style-type: none"> <li>• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including</li> </ul>	<p>Count from 0 in multiples of 4, 8, 50 and 100</p> <ul style="list-style-type: none"> <li>• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> </ul>	<p>Count in multiples of 6, 7, 9, 25 and 1 000</p> <ul style="list-style-type: none"> <li>• Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> </ul>	<p>Count forwards or backwards in steps of powers of 10 for any given number up to</p> <ul style="list-style-type: none"> <li>• 1 000 000</li> </ul>	

			recognising odd and even numbers				
<b>Multiplication and Division Mental Calculations</b>			Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	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 <ul style="list-style-type: none"> <li>• Recognise and use factor pairs and commutativity in mental calculation</li> </ul>	Multiply and divide numbers mentally drawing upon known facts <ul style="list-style-type: none"> <li>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> </ul>	Perform mental calculations, including with mixed operations and large numbers <ul style="list-style-type: none"> <li>• Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)</li> </ul>
<b>Multiplication and Division Written Calculations</b>			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one digit numbers, using mental and	<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>	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 <ul style="list-style-type: none"> <li>• Divide numbers up to 4 digits by a one-digit number using the formal written method of</li> </ul>	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <ul style="list-style-type: none"> <li>• divide numbers up to 4- digits by a two-digit whole number using the formal written method of short</li> </ul>

				progressing to formal written methods		short division and interpret remainders appropriately for the context	division where appropriate for the context divide numbers up to 4 digits by a two digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
<b>Multiplication and Division: Multiples, factors, primes, squares and cubes</b>					Recognise and use factor pairs and commutativity in mental calculations	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <ul style="list-style-type: none"> <li>• Know and use the vocabulary of primer numbers, prime factors and composite (non - prime) numbers</li> <li>• Establish whether a</li> </ul>	Identify common factors, common multiples and prime numbers <ul style="list-style-type: none"> <li>• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> </ul>

						number up to 100 us prime and recall prim numbers up to 19 • Recognise and use square numbers and cube numbers, and the notation for squared ( <sup>2</sup> ) and cubed ( <sup>3</sup> )	
<b>Multiplication and Division: Order of operations</b>							Use their knowledge of the order or operations to carry out calculations involving the four operations
<b>Multiplication and Division: Inverse, estimating and checking</b>				Estimate the answer to a calculation and use the inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation		Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
<b>FDP: Counting in fractional steps</b>		Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line	Count up and down in tenths	Count up and down in hundredths			

<p><b>FDP: Recognising fractions</b></p>		<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity</p> <ul style="list-style-type: none"> <li>• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</li> </ul>	<p>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</p>	<p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <ul style="list-style-type: none"> <li>• Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li>• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> </ul>	<p>Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</p>	<p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p>	
<p><b>FDP: Comparing Fractions</b></p>				<p>Compare and order unit fractions, and fractions with the same denominator</p>		<p>Compare and order fractions whose denominators are all multiples of the same number</p>	<p>Compare and order fractions, including fractions <math>&gt;1</math></p>
<p><b>FDP: Comparing decimals</b></p>					<p>Compare numbers with the same number of</p>	<p>Read, write, order and compare numbers with up</p>	<p>Identify the value of each digit in numbers given to</p>

					decimal places up to two decimal places	to three decimal places	three decimal places
<b>FDP: Rounding decimals</b>					Compare numbers with the same number of decimal places up to two decimal places	Read, write, order and compare numbers with up to three decimal places	Identify the value of each digit in numbers given to three decimal places
<b>FDP: Equivalence</b>			Write simple fractions eg. $\frac{1}{2}$ of 6 = 3 and recognize the equivalence of $\frac{3}{4}$ and $\frac{1}{2}$	Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions <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>	Identify, name and write equivalent fractions of a given fractions, represented visually including tenths and hundredths <ul style="list-style-type: none"> <li>Read and write decimal numbers as fractions (eg. <math>0.71 = \frac{71}{100}</math>)</li> <li>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>Recognise the per cent symbol (%) and understand that</li> </ul>	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination <ul style="list-style-type: none"> <li>Associate a fraction with division and calculate decimal equivalents (eg 0.375) for a simple fraction (eg <math>\frac{3}{8}</math>)</li> <li>Recall and use equivalences between simple fractions, decimals and percentages.</li> </ul>

						per cent relates to 'number of parts per hundred' and write percentages as a fraction with denominator 100 as a decimal fraction	Including in different contexts
<b>FDP: Addition and subtraction</b>				<ul style="list-style-type: none"> <li>• Add and subtract fractions with the same denominator within one whole (eg. <math>5/7 + 1/7 = 6/7</math>)</li> </ul>	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and multiples of the same number <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 (eg <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>)</li> </ul>	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
<b>FDP: Multiplying and dividing fractions</b>						Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	<ul style="list-style-type: none"> <li>• Multiply simple pairs of proper fractions, writing the answer in its simplest form (eg <math>1/4 \times 1/2 = 1/8</math>)</li> </ul>

							<ul style="list-style-type: none"> <li>• Multiply one - digit numbers with up to two decimal places by whole numbers</li> <li>• Divide proper fractions by whole numbers ( eg <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>)</li> </ul>
<b>FDP: Multiplying and dividing decimals</b>					Find the effect of dividing a one or two - digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths		<ul style="list-style-type: none"> <li>• Multiply one - digit numbers with up to two decimal places by whole numbers</li> <li>• Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</li> <li>• Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 100 where the answers are up to three decimal places</li> </ul>

							<ul style="list-style-type: none"> <li>• Associate a fraction with division and calculate decimal fraction equivalents (eg 0.375) for a simple fraction (eg <math>\frac{3}{8}</math>)</li> <li>• Use written division methods in cases where the answer has up to two decimal places</li> </ul>
<b>FDP: Problem Solving</b>				Solve problems that involve all of the above	<p>Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non - unit fractions where the answer is a whole number</p> <ul style="list-style-type: none"> <li>• Solve simple measure and money problems involving fractions and decimals to</li> </ul>	<p>Solve problems involving numbers up to three decimal places</p> <ul style="list-style-type: none"> <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 with a denominator of a multiple of 10 or 25</li> </ul>	

					two decimal places		
<b>Ratio &amp; Proportion</b>							<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 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>

<b>Measurement: Comparing and estimating</b>	Children use • everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	Compare, describe and solve practical problems for: * Lengths and heights (eg. Long/short, tall/short, double/half) * Mass/weight (eg. Heavy/light, heavier than/lighter than) * Capacity and volume (eg. Full/empty, more than/ less than) * Time ( eg. Quicker, slower, earlier, later) • Sequence events in chronological order using language (eg before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening	Compare and order lengths, mass, volume/capacity and record the results using > < and = • Compare and sequence intervals of time	Compare durations of events, for example to calculate the time taken by particular events or tasks • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as am/pm, morning, afternoon, noon and midnight	Estimate, compare and calculate different measures, including money in pounds and pence	Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm <sup>2</sup> ) and square metres and estimate the area of irregular shapes (also included in measuring) • Estimate volume (eg using 1cm <sup>3</sup> blocks to build cubes and cuboids) and capacity (eg using water)	
	• Orders two or three items by length or height.	Measure and begin to record the following: *	Choose and use appropriate standard units to	Measure, compare, add and subtract; lengths	Estimate, compare and calculate different	Use all four operations to solve problems	Solve problems involving the calculation and

<p><b>Measurement: Measuring &amp; Calculating</b></p>	<ul style="list-style-type: none"> <li>• Orders two items by weight or capacity.</li> </ul>	<p>Lengths and heights * Mass/weight * Capacity/volume * Time (hours, minutes, seconds)</p> <ul style="list-style-type: none"> <li>• Recognise and know the value of different denominations of coins and notes</li> </ul>	<p>estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</p> <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 combination 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</li> </ul>	<p>(m/cm/ mm); mass (kg/g); volume/capacity (l/ ml)</p> <ul style="list-style-type: none"> <li>• Measure the perimeter of simple 2D shapes</li> <li>• Add and subtract amounts of money to give change, using both £ and p in practical contexts</li> </ul>	<p>measures, including money in pounds and pence</p> <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>	<p>involving measure (eg. Lengths, mass, volume, money) using decimal notation including scaling</p> <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 squares and rectangles including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> </ul>	<p>conversion of units of measure, using decimal notation up to three decimal places where appropriate</p> <ul style="list-style-type: none"> <li>• Recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>• Calculate the area of parallelograms and triangles</li> <li>• Calculate, estimate and compare volume of cubes of cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units (eg mm<sup>3</sup> and km<sup>3</sup>)</li> <li>• Recognise when it is possible to use formulae</li> </ul>
--	---	--	--	---	---	--	---

			same unit, including giving change				for area and volume of shapes
<b>Measurement: Telling the time</b>	<ul style="list-style-type: none"> <li>• Uses everyday language related to time.</li> <li>• Orders and sequences familiar events.</li> <li>• Measures short periods of time in simple ways</li> </ul>	<ul style="list-style-type: none"> <li>• Tell the times to the hour and half past the hour and draw hands on a clock face to show these times</li> <li>• Recognise and use language relating to dates including days of the week, weeks, months and years</li> </ul>	<p>Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</p> <ul style="list-style-type: none"> <li>• Know the number of minutes in an hour and the number of hours in a day</li> </ul>	<p>Tell and write the time from an analogue clock, including Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <ul style="list-style-type: none"> <li>• Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as am/pm, morning, afternoon, noon and midnight</li> </ul>	<p>Read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <ul style="list-style-type: none"> <li>• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> </ul>	<p>Solve problems involving converting between units of time</p>	
			<p>Know the number of minutes in an hour and the number of hours in a day</p>	<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> </ul>	<ul style="list-style-type: none"> <li>• Convert between different units of measure (eg. Kilometre to metre, hour to minute)</li> <li>• Read, write and convert</li> </ul>	<p>Convert between different units of metric measure (eg kilometre and metre, centimeter and metre; centimeter and</p>	<p>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time</p>

<p><b>Measurement: Converting</b></p>					<p>time between analogue and digital 12- and 24-hour clocks</p> <ul style="list-style-type: none"> <li>• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> </ul>	<p>millimeter; gram and kilogram; litre and millilitre)</p> <ul style="list-style-type: none"> <li>• Solve problems involving converting between units of time</li> <li>• Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints</li> </ul>	<p>from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places</p> <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>• Convert between miles and kilometer</li> </ul>
<p><b>Geometry: Identifying shapes and their properties</b></p>	<ul style="list-style-type: none"> <li>• Selects a particular named shape.</li> <li>• Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.</li> <li>• They explore characteristics of</li> </ul>	<p>Recognise and name common 2D and 3D shapes including: * 2D shapes eg rectangles (including squares), circles and triangles * 3D shapes eg cuboids (including cubes), pyramids and spheres</p>	<p>Identify and describe the properties of 2D shapes including the number of sides and line symmetry in a vertical line</p> <ul style="list-style-type: none"> <li>• Identify and describe the properties of 3D shapes including the number of</li> </ul>		<p>Identify lines of symmetry in 2D shapes presented in different orientations</p>	<p>Identify 3D shapes including cubes and other cuboids from 2D representations</p>	<ul style="list-style-type: none"> <li>• Recognise, describe and build simple 3D shapes, including making nets</li> <li>• Illustrate and name parts or circles, including radius, diameter and circumference and know that the</li> </ul>

	everyday objects and shapes and use mathematical language to describe them.		edges, vertices and faces <ul style="list-style-type: none"> <li>Identify 2D shapes on the surface of 3D shapes (eg a circles on a cylinder and a triangle on a pyramid)</li> </ul>				diameter is twice the radius
<b>Geometry: Position, direction and movement</b>		<ul style="list-style-type: none"> <li>Describe position, direction and movement including half, quarter and three-quarter turns</li> </ul>	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 anticlockwise)		<ul style="list-style-type: none"> <li>Describe positions on a 2D grid as coordinate 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>	Identify, describe and represent the position of a shape following a reflections or translation, using the appropriate language, and know that the shape has not changed	<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>Geometry: Pattern</b>	<ul style="list-style-type: none"> <li>They recognise, create and describe patterns</li> </ul>		Order and arrange combination of mathematical objects in patterns and sequences				

<p><b>Statistics: Interpreting, constructing and presenting data</b></p>			<p>Interpret and construct simple pictograms, tally charts, block diagrams and simple tables</p> <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>	<p>Interpret and present data using bar chart, pictograms and tables</p>	<p>Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs</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><b>Statistics: Solving problems</b></p>				<p>Solve one step and two step questions (eg How many more? How many fewer? Using information presented in scaled bar charts, pictograms and tables</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>Calculate and interpret the mean as an average</p>
							<ul style="list-style-type: none"> <li>• Express missing number problems algebraically</li> </ul>

<b>Algebra: Equations</b>							<ul style="list-style-type: none"> <li>• Find pairs of numbers that satisfy number sentences involving two unknowns</li> <li>• Enumerate all possibilities of combinations of two variables</li> </ul>
<b>Algebra: Formulae</b>							Use simple formulae
<b>Algebra: Sequences</b>							Generate and describe linear number sequences