

## Place Value: Counting

<u>Nursery</u>			<u>Reception</u>		
<ul style="list-style-type: none"> <li>• Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!</li> <li>• May enjoy counting verbally as far as they can go</li> <li>• Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5.</li> <li>• Uses some number names and number language within play, and may show fascination with large numbers</li> <li>• Begin to recognise numerals 0 to 10 (Cardinality)</li> <li>• Subitises one, two and three objects (without counting)</li> <li>• Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle)</li> </ul>			<ul style="list-style-type: none"> <li>• Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0</li> <li>• Increasingly confident at putting numerals in order 0 to 10 (ordinality)</li> <li>• Engages in subitising numbers to four and maybe five</li> </ul> <p>Counts out up to 10 objects from a larger group</p> <p><u>ELG</u></p> <ul style="list-style-type: none"> <li>• Verbally counting beyond 20, recognising the pattern of the counting system.</li> </ul>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>• Count numbers to 100 in numerals; count in multiples of twos, fives and tens</li> </ul>	<ul style="list-style-type: none"> <li>• Count in steps of 2, 3 and 5 from 0, and tens from any number, forward and backward</li> </ul>	<ul style="list-style-type: none"> <li>• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> </ul>	<ul style="list-style-type: none"> <li>• Count in multiples of 6, 7, 9, 25 and 1000</li> <li>• Count backwards through zero to include negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>• Count forwards and backwards with positive and negative whole numbers, including through zero</li> </ul>	

## Place Value: Represent

<u>Nursery</u>			<u>Reception</u>		
<ul style="list-style-type: none"> <li>• Begin to recognise numerals 0 to 10</li> <li>• Links numerals with amounts up to 5 and maybe beyond</li> <li>• Explores using a range of their own marks and signs to which they ascribe mathematical meanings</li> </ul>			<ul style="list-style-type: none"> <li>• Matches the numeral with a group of items to show how many there are (up to 10)</li> <li>• Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”</li> </ul>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>• Identify and represent numbers using objects and pictorial representations</li> <li>• Read and write numbers to 100 in numerals</li> <li>• Read and write numbers from 1 to 20 in numerals and words</li> </ul>	<ul style="list-style-type: none"> <li>• Read and write numbers to at least 100 in numerals and words</li> <li>• Identify, represent and estimate numbers using different representations, including the number line</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 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, write (order and compare) numbers to at least 1 000 000 and determine the value of each digit</li> <li>• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals</li> </ul>	<ul style="list-style-type: none"> <li>• Read, write (order and compare) numbers to at least 10 000 000 and determine the value of each digit</li> </ul>

## Place Value: Use PV & Compare

<u>Nursery</u>			<u>Reception</u>		
<ul style="list-style-type: none"> <li>• Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers</li> <li>• Beginning to recognise that each counting number is one more than the one before</li> <li>• Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same</li> </ul>			<ul style="list-style-type: none"> <li>• Uses number names and symbols when comparing numbers, showing interest in large numbers</li> <li>• Estimates of numbers of things, showing understanding of relative size</li> <li>• Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects</li> <li>• Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three</li> <li>• In practical activities, adds one and subtracts one with numbers to 10</li> </ul> <p><b>ELG</b></p> <ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number;- subitise (recognise quantities without counting) up to 5.</li> <li>• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.</li> </ul>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>• Given a number, identify one more and one less</li> </ul>	<ul style="list-style-type: none"> <li>• Recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>• Compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> </ul>	<ul style="list-style-type: none"> <li>• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li>• Compare and order numbers up to 1000</li> </ul>	<ul style="list-style-type: none"> <li>• Find 1000 more or less than a given number</li> <li>• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)</li> <li>• Order and compare numbers beyond 1000</li> </ul>	<ul style="list-style-type: none"> <li>• (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit</li> </ul>	<ul style="list-style-type: none"> <li>• (read, write) order and compare numbers to at least 10 000 000 and determine the value of each digit</li> </ul>

## Place Value: Problems & Rounding

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>Beginning to use understanding of number to solve practical problems in play and meaningful activities</li> </ul>		<ul style="list-style-type: none"> <li>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”</li> </ul>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<ul style="list-style-type: none"> <li>Use place value and number facts to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>Solve number problems and practical problems involving these ideas</li> </ul>	<ul style="list-style-type: none"> <li>Round any number to the nearest 10, 100 or 1000</li> <li>Solve number and practical problems involving all of the above and with increasingly large positive numbers</li> </ul>	<ul style="list-style-type: none"> <li>Interpret negative numbers in context</li> <li>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>Solve number problems and practical problems that involve all of the above</li> </ul>	<ul style="list-style-type: none"> <li>Round any whole number to a required degree of accuracy</li> <li>Use negative numbers in context, and calculate intervals across zero</li> <li>Solve number and practical problems that involve all of the above</li> </ul>

## Addition & Subtraction: Recall, Represent, Use

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>Beginning to use understanding of number to solve practical problems in play and meaningful activities</li> </ul>		<ul style="list-style-type: none"> <li>In practical activities, adds one and subtracts one with numbers to 10</li> <li>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”</li> <li>Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects.</li> </ul> <p><u>ELG</u></p> <ul style="list-style-type: none"> <li>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</li> </ul>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>Represent and use number bonds and related subtraction facts within 20</li> </ul>	<ul style="list-style-type: none"> <li>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li> </ul>	<ul style="list-style-type: none"> <li>Estimate the answer to a calculation and use inverse operations to check answers</li> </ul>	<ul style="list-style-type: none"> <li>Estimate and use inverse operations to check answers to a calculation</li> </ul>	<ul style="list-style-type: none"> <li>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> </ul>	

## Addition & Subtraction: Calculations

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>Beginning to use understanding of number to solve practical problems in play and meaningful activities.</li> </ul>		<ul style="list-style-type: none"> <li>In practical activities, adds one and subtracts one with numbers to 10</li> <li>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”</li> <li>Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects.</li> </ul> <p><b>ELG:</b> 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 doubling facts.</p>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>Add and subtract one-digit and two-digit numbers to 20, including zero</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including;               <ul style="list-style-type: none"> <li>A two-digit number and ones</li> <li>A two-digit number and tens</li> <li>Two two-digit numbers</li> <li>Adding three one-digit numbers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract numbers mentally, including:               <ul style="list-style-type: none"> <li>A three-digit number and ones</li> <li>A three-digit number and tens</li> <li>A three-digit number and hundreds</li> </ul> </li> <li>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract numbers with up to 4 digits using 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> <li>Add and subtract numbers mentally with increasingly large numbers</li> </ul>	<ul style="list-style-type: none"> <li>Perform mental calculations, including with mixed operations and large numbers</li> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations</li> </ul>

## Addition & Subtraction: Solve Problems

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>Beginning to use understanding of number to solve practical problems in play and meaningful activities</li> </ul>		<ul style="list-style-type: none"> <li>In practical activities, adds one and subtracts one with numbers to 10</li> <li>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”</li> <li>Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects.</li> </ul>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math></li> </ul>	<ul style="list-style-type: none"> <li>Solve problems with addition and subtraction:               <ul style="list-style-type: none"> <li>➤ Using concrete and pictorial representations, including those involving numbers, quantities and measures</li> <li>➤ Applying their increasing knowledge of mental and written methods</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Solve problems, including missing number problems, using numbers facts, place value, and more complex addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</li> </ul>	<ul style="list-style-type: none"> <li>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</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> </ul>

## Multiplication & Division: Recall, Represent, Use

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<ul style="list-style-type: none"> <li>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising off and even numbers</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>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> </ul>	<ul style="list-style-type: none"> <li>Recall and use multiplication and division facts for the multiplication tables up to 12x12</li> <li>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> <li>Recognise and use factor pairs and commutativity in mental calculations</li> </ul>	<ul style="list-style-type: none"> <li>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>Establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>Recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>Identify common factors, common multiples and prime numbers</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>



## Multiplication & Division: Calculations

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<ul style="list-style-type: none"> <li>Calculate the mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (<math>\div</math>) and equals (=) signs</li> </ul>	<ul style="list-style-type: none"> <li>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> </ul>	<ul style="list-style-type: none"> <li>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> </ul>	<ul style="list-style-type: none"> <li>Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers</li> <li>Multiply and divide numbers mentally drawing upon known facts</li> <li>Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the content</li> <li>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> </ul>	<ul style="list-style-type: none"> <li>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> <li>Perform mental calculations, including with mixed operations and large numbers</li> </ul>

## Multiplication & Division: Solve Problems

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<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 one-step 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 <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving addition, subtraction, multiplication and division</li> </ul>

## Multiplication & Division: Combined Operations

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	• <u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
				<ul style="list-style-type: none"><li>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li></ul>	<ul style="list-style-type: none"><li>Use their knowledge of the order of operations to carry out calculations involving the four operations</li></ul>

## Fractions: Recognise & Write Compare

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>Recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</li> </ul>	<ul style="list-style-type: none"> <li>Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity.</li> </ul>	<ul style="list-style-type: none"> <li>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li>Recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators</li> <li>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> </ul>	<ul style="list-style-type: none"> <li>Count up and down in hundredths; recognise that hundredths arise when dividing tenths by ten</li> </ul>	<ul style="list-style-type: none"> <li>Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements for <math>&gt;1</math> as a mixed number (for example <math>\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}</math>)</li> </ul>	
	<ul style="list-style-type: none"> <li>Recognise the equivalence of <math>\frac{1}{2}</math> and <math>\frac{2}{4}</math></li> </ul>	<ul style="list-style-type: none"> <li>Recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>Compare and order unit fractions, and fractions with the same denominator</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> </ul>	<ul style="list-style-type: none"> <li>Compare and order fractions whose denominators are all multiples of the same number</li> </ul>	<ul style="list-style-type: none"> <li>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>Compare and order fractions, including fractions <math>&gt;1</math></li> </ul>

## Fractions: Calculations

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<ul style="list-style-type: none"><li>Write simple fractions for example <math>\frac{1}{2}</math> of 6 =3</li></ul>	<ul style="list-style-type: none"><li>Add and subtract fractions with the same denominator within one whole (for example <math>\frac{5}{7} + \frac{1}{7} = \frac{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 (for example <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>)</li><li>Divide proper fractions by whole numbers (for example <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>)</li></ul>

## Fractions: Solve Problems

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
		<ul style="list-style-type: none"><li>Solve problems that involve all of the above</li></ul>	<ul style="list-style-type: none"><li>Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li></ul>		

## Decimals: Recognise, Write and Compare

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
			<ul style="list-style-type: none"> <li>Recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>Recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> </ul>	<ul style="list-style-type: none"> <li>Read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>)</li> <li>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> </ul>	<ul style="list-style-type: none"> <li>Identify the value of each digit in numbers given to three decimal places</li> </ul>
			<ul style="list-style-type: none"> <li>Round decimals with one decimal place to the nearest whole number</li> <li>Compare numbers with the same number of decimal places up to two decimal places</li> </ul>	<ul style="list-style-type: none"> <li>Round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>Read, write, order and compare numbers with up to three decimal places</li> </ul>	

## Decimals: Calculations and Problems

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
			<ul style="list-style-type: none"><li>Find the effect of dividing a one or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li></ul>	<ul style="list-style-type: none"><li>Solve problems involving number up to three decimal places</li></ul>	<ul style="list-style-type: none"><li>Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li><li>Multiply one-digit numbers with up to two decimal places by whole numbers</li><li>Use written division methods in cases where the answer has up to two decimal places</li><li>Solve problems which require answers to be rounded to specified degrees of accuracy</li></ul>



## Fractions, Decimals and Percentages

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
			<ul style="list-style-type: none"><li>Solve simple measure and money problems involving fractions and decimals up to two decimal places</li></ul>	<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><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{3}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of 10 or 25</li></ul>	<ul style="list-style-type: none"><li>Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, <math>\frac{3}{8}</math>)</li><li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li></ul>

## Ratio and Proportion

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

## Algebra

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"><li>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math></li></ul>	<ul style="list-style-type: none"><li>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li></ul>	<ul style="list-style-type: none"><li>Solve problems, including missing number problems</li></ul>			<ul style="list-style-type: none"><li>Use simple formulae</li><li>Generate and describe linear number sequences</li><li>Express missing number problems algebraically</li><li>Find pairs of numbers that satisfy an equation with two unknowns</li><li>Enumerate possibilities of combinations of two variables</li></ul>

## Measurement: Using Measures

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>• In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.</li> <li>• Recalls a sequence of events in everyday life and stories.</li> </ul>		<ul style="list-style-type: none"> <li>• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy.</li> <li>• Becomes familiar with measuring tools in everyday experiences and play</li> <li>• Is increasingly able to order and sequence events using everyday language related to time</li> <li>• Beginning to experience measuring time with timers and calendars.</li> </ul>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>• Compare, describe and solve practical problems for:               <ul style="list-style-type: none"> <li>➤ lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)</li> <li>➤ mass/weight (for example, heavy/light, heavier than, lighter than)</li> <li>➤ capacity and volume (for example, full/empty, more than, less than, half, half full, quarter)</li> <li>➤ time (for example, quicker, slower, earlier, later)</li> </ul> </li> <li>• measure and begin to record the following:               <ul style="list-style-type: none"> <li>➤ lengths and heights</li> <li>➤ mass/weight</li> <li>➤ capacity and volume</li> <li>➤ time (hours, minutes, seconds)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Choose and use appropriate standard units to estimate and measure Length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers scales, thermometers and measuring vessels</li> <li>• Compare and order lengths, mass, volume/capacity and record the results using &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 (for example, kilometre to metre; hour to minute)</li> <li>• Estimate, compare and calculate different measures</li> </ul>	<ul style="list-style-type: none"> <li>• Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</li> <li>• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>• Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling</li> </ul>	<ul style="list-style-type: none"> <li>• Solve problems involving the calculation and conversion of units or measure, using decimal notation up to three decimal places where appropriate</li> <li>• Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</li> <li>• Convert between miles and kilometres</li> </ul>

## Measurement: Money

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<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 different measures, including money in pounds and pence</li></ul>	<ul style="list-style-type: none"><li>Use all four operations to solve problems involving measure (for example, money)</li></ul>	

## Measurement: Time

<u>Nursery</u>			<u>Reception</u>		
<ul style="list-style-type: none"> <li>Recalls a sequence of events in everyday life and stories.</li> </ul>			<ul style="list-style-type: none"> <li>Is increasingly able to order and sequence events using everyday language related to time</li> <li>Beginning to experience measuring time with timers and calendars.</li> </ul>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)</li> <li>Recognise and use language relating to dates, including days of the week, weeks, months and years</li> <li>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</li> </ul>	<ul style="list-style-type: none"> <li>Compare and sequence intervals of time</li> <li>Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>Know the number of minutes in an hour and the number of hours in a day</li> </ul>	<ul style="list-style-type: none"> <li>Tell and write the times 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, am/pm, morning, afternoon, noon and midnight</li> <li>Know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>Compare durations of events (for example to calculate the time taken by particular events or tasks)</li> </ul>	<ul style="list-style-type: none"> <li>Read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving converting between units of time</li> </ul>	<ul style="list-style-type: none"> <li>Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa</li> </ul>

## Measurement: Perimeter, Area and Volume

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
		<ul style="list-style-type: none"> <li>Measure the perimeter of simple 2D shapes</li> </ul>	<ul style="list-style-type: none"> <li>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li>Find the area of rectilinear shapes by counting squares</li> </ul>	<ul style="list-style-type: none"> <li>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> <li>Estimate volume (for example, using 1cm<sup>3</sup> blocks to build cuboids (including cubes) and capacity (for example, using water)</li> </ul>	<ul style="list-style-type: none"> <li>Recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>Recognise when it is possible to use formulae for area and volume of shapes</li> <li>Calculate the area of parallelograms and triangles</li> <li>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units (for example, mm<sup>3</sup> and km<sup>3</sup>)</li> </ul>

## Geometry: 2D Shape

<u>Nursery</u>			<u>Reception</u>		
			<ul style="list-style-type: none"> <li>• Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes</li> <li>• Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes</li> <li>• Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build</li> </ul> <p>Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)</p>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"> <li>• Recognise and name common 2D shapes (for example, rectangles (including squares), circles and triangles)</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line</li> <li>• Identify 2D shapes on the surface of 3D shapes, (for example, a circle on a cylinder and a triangle on a pyramid)</li> <li>• Compare and sort common 2D shapes and everyday objects</li> </ul>	<ul style="list-style-type: none"> <li>• Draw 2D shapes</li> </ul>	<ul style="list-style-type: none"> <li>• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>• Identify lines of symmetry in 2D shapes presented in different orientations</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> <li>• Use the properties of rectangles to deduce related facts and find missing lengths and angles</li> </ul>	<ul style="list-style-type: none"> <li>• Draw 2D shapes using given dimensions and angles</li> <li>• Compare and classify geometric shapes based on their properties and sizes</li> <li>• Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul>



## Geometry: 3D Shape

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<ul style="list-style-type: none"><li>Recognise and name common 3D shapes (for example, cuboids (including cubes), pyramids and spheres)</li></ul>	<ul style="list-style-type: none"><li>Recognise and name common 3D shapes (for example, cuboids (including cubes), pyramids and spheres)</li><li>Compare and sort common 3D shapes and everyday objects</li></ul>	<ul style="list-style-type: none"><li>Make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them</li></ul>		<ul style="list-style-type: none"><li>Identify 3D shapes, including cubes and other cuboids, from 2D representations</li></ul>	<ul style="list-style-type: none"><li>Recognise, describe and build simple 3D shapes, including making nets</li></ul>

## Geometry: Angles & Lines

<u>Nursery</u>		<u>Reception</u>			
<ul style="list-style-type: none"> <li>Creates their own special patterns showing some organisation or regularity.</li> <li>Explores and adds to simple linear patterns of two or three repeating items, eg. stick, leaf (AB) or stick, leaf, stone (ABC)</li> </ul>		<ul style="list-style-type: none"> <li>Spots patterns in the environment, beginning to identify the pattern "rule"</li> <li>Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat</li> </ul>			
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
		<ul style="list-style-type: none"> <li>Recognise angles as a property of shape or description of a turn</li> <li>Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle</li> <li>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li> </ul>	<ul style="list-style-type: none"> <li>Identify acute and obtuse angles and compare and order angles up to two right angles by size</li> <li>Identify lines of symmetry in 2D shapes presented in different orientations</li> <li>Complete a simple symmetric figure with respect to a specific line of symmetry</li> </ul>	<ul style="list-style-type: none"> <li>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> <li>Draw given angles, and measure them in degrees</li> <li>Identify:               <ul style="list-style-type: none"> <li>➤ Angles at a point and one whole turn (total <math>360^\circ</math>)</li> <li>➤ Angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^\circ</math>)</li> <li>➤ Other multiples of <math>90^\circ</math></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>

## Statistics: Present & Interpret

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<ul style="list-style-type: none"><li>• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li></ul>	<ul style="list-style-type: none"><li>• Interpret and present data using bar charts, pictograms and tables</li></ul>	<ul style="list-style-type: none"><li>• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li></ul>	<ul style="list-style-type: none"><li>• Complete, read and interpret information in tables, including timetables</li></ul>	<ul style="list-style-type: none"><li>• Interpret and construct pie charts and line graphs and use these to solve problems</li></ul>

## Statistics: Solve Problems

<u>Nursery</u>			<u>Reception</u>		
<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<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 comparisons, sum and difference problems using information presented in a line graph</li></ul>	<ul style="list-style-type: none"><li>• Calculate and interpret the mean as an average</li></ul>