

## Place Value - Count

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p style="color: #E67E22;">Recite numbers past 5.</p> <p style="color: #E67E22;">Say one number for each item in order: 1,2,3,4,5.</p> <p style="color: #E67E22;">Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</p> <p style="color: #3498DB;">Count objects, actions and sounds.</p> <p style="color: #3498DB;">Count beyond ten.</p> <p style="color: #3498DB;">Compare numbers.</p> <p style="color: #3498DB;">Understand the 'one more than/one less than' relationship between consecutive numbers.</p> <p style="color: #27AE60;">Verbally count beyond 20, recognising the pattern of the counting system.</p>	<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> <li>• Given a number, identify one more and one less.</li> </ul>	<ul style="list-style-type: none"> <li>• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</li> </ul>	<ul style="list-style-type: none"> <li>• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.</li> <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 6, 7, 9, 25 and 1000.</li> <li>• Count backwards through zero to include negative numbers.</li> <li>• Find 1000 more or less than a given number</li> </ul> <p>NOTE: in the WRM scheme, negative numbers are introduced in Year 5.</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> <li>• Count forwards and backwards with positive and negative whole numbers, including through zero.</li> <li>• Interpret negative numbers in context.</li> </ul>	<ul style="list-style-type: none"> <li>• Use negative numbers in context, and calculate intervals across zero.</li> </ul>

## Place Value – Representing, Reading and Writing

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</p> <p>Show "finger numbers" up to 5.</p> <p>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</p> <p>Experiment with their own symbols and marks as well as numerals.</p> <p>Subitise.</p> <p>Link the number symbol (numeral) with its cardinal number value.</p> <p>Subitise (recognise quantities without counting) up to 5.</p>	<ul style="list-style-type: none"> <li>Identify and represent numbers using objects and pictorial representations.</li> <li>Read and write numbers from 1 to 20 in numerals and words.</li> </ul>	<ul style="list-style-type: none"> <li>Read and write numbers to at least 100 in numerals and in words.</li> <li>Identify, represent and estimate numbers using different representations including the number line</li> </ul>	<ul style="list-style-type: none"> <li>Read and write numbers up to 1000 in numerals and in words.</li> <li>Identify, represent and estimate numbers using different representations.</li> <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 (copied from Measurement).</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 up to 10 000 000 and determine the value of each digit.</li> </ul>

## Place Value – Understand, Compare, Problems and Rounding

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Compare quantities using language: 'more than', 'fewer than'.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p> <p>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.</p> <p>Understand the 'one more than/one less than' relationship between consecutive numbers.</p> <p>Explore the composition of numbers to 10.</p> <p>Have a deep understanding of numbers to 10, including the composition of each number.</p> <p>Solve real world mathematical problems with numbers up to 5.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p>	<ul style="list-style-type: none"> <li>Use the language of: equal to, more than, less than (fewer), most, least</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> <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 (thousands, hundreds, tens and ones).</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 units, tenths and hundredths (copied from Fractions)</li> <li>Order and compare numbers beyond 1000.</li> <li>compare numbers with the same number of decimal places up to two decimal places (copied from Fractions)</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 to at least 1 000 000 and determine the value of each digit (also compare).</li> <li>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions)</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>(Read, write), order and compare numbers up to 10 000 000 and determine the value of each digit (also compare).</li> <li>Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (copied from Fractions)</li> <li>Round any whole number to a required degree of accuracy.</li> <li>Solve number and practical problems that involve all of the above.</li> </ul>

## Addition & Subtraction: Calculations, Written Methods and Inverse Operations (Checking Answers)

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</p> <p>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</p> <p>Show 'finger numbers' up to 5.</p> <p style="text-align: center;">Subitise.</p> <p>Explore the composition of numbers to 10.</p> <p>Automatically recall number bonds 0-5 and some to 10.</p> <p>Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p> <p>Have a deep understanding of numbers to 10, including the composition of each number.</p> <p>Subitise (recognise quantities without counting) up to 5.</p>	<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.                             <ul style="list-style-type: none"> <li>• Represent and use number bonds and related subtraction facts within 20.</li> </ul> </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> <li>• Add and subtract 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> <li>• Recall and use addition and subtraction facts to 20 and derive and use related facts up to 100.                             <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> </li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract 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> <li>• Estimate the answer to a calculation and use inverse operations to check answers.</li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract numbers with up to four digits, using the formal written methods of columnar addition and subtraction where appropriate                             <ul style="list-style-type: none"> <li>• Estimate and use inverse operations to check answers to a calculation.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract whole numbers with more than four digits, including formal written methods (columnar addition and subtraction).</li> <li>• Add and subtract numbers mentally with increasingly large numbers.</li> <li>• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform mental calculations, including with mixed operations and large numbers.                             <ul style="list-style-type: none"> <li>• Use their knowledge of the order of operation to carry out calculations involving the four operations.</li> <li>• use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> </ul> </li> </ul>

## Addition & Subtraction: Problems

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Solve real world mathematical problems with numbers up to 5.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>	<ul style="list-style-type: none"> <li>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  <math>7 = \square - 9</math></li> </ul>	<ul style="list-style-type: none"> <li>Solve problems with addition and subtraction:                             <ul style="list-style-type: none"> <li>using concrete objects and pictorial representations, including those involving numbers, quantities and measures.</li> <li>applying their increasing knowledge of mental and written methods.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul>	<ul style="list-style-type: none"> <li>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>	<ul style="list-style-type: none"> <li>Solve addition and subtraction multistep 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 multistep problems in contexts, deciding which operations and methods to use and why.                             <ul style="list-style-type: none"> <li>Solve problems involving addition, subtraction, multiplication and division</li> </ul> </li> </ul>

## Multiplication & Division: Facts and Mental Calculation

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Explore the composition of numbers to 10.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p> <p>Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p>		<ul style="list-style-type: none"> <li>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</li> <li>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by 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.                             <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 (appears also in Written Methods)</li> </ul> </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> <li>Recognise and use factor pairs and commutativity in mental calculations.</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> </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>

## Multiplication & Division: Written Calculation

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<ul style="list-style-type: none"> <li>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs.</li> </ul>	<ul style="list-style-type: none"> <li>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including 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 the formal written.</li> <li>Become fluent in the formal written method of short division with exact answers.</li> </ul>	<ul style="list-style-type: none"> <li>Multiply numbers up to four digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers fluently.</li> <li>Divide numbers up to four digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context fluently.</li> </ul>	<ul style="list-style-type: none"> <li>Multiply multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication.</li> <li>Divide numbers up to four digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</li> <li>Divide numbers up to four digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.</li> <li>Perform mental calculations, including with mixed operations and large numbers.</li> </ul>

## Multiplication & Division: Multiples, Factors, Prime, Square and Cube Numbers

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Explore the composition of numbers to 10.</p> <p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p> <p>Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p>				<ul style="list-style-type: none"> <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 (nonprime) numbers. To 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 and cubed.</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: Problems

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</p>	<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 <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. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 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 problems involving addition, subtraction, multiplication and division. Use their knowledge of the order of operations to carry out calculations involving the four operations.</li> </ul>

## Fractions: Recognise, Count, Compare

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<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, identify and write fractions  <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math>                      of a length, number, 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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators.</li> <li>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> </ul>	<ul style="list-style-type: none"> <li>Identify, name and write equivalent fractions of a 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 <math>&gt; 1</math> as a mixed number.</li> </ul>	
		<ul style="list-style-type: none"> <li>Recognise the equivalence of  <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul>	<ul style="list-style-type: none"> <li>Recognise and show, using diagrams, equivalent fractions with small denominators.</li> <li>Compare and order unit fractions, and fractions with the same denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and show, using diagrams, families of 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 and Solve Problems

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<ul style="list-style-type: none"> <li>Write simple fractions for example <math>\frac{1}{2}</math> of 6 = 2</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. 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>
			<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, Compare

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<ul style="list-style-type: none"> <li>• Recognise and write decimal equivalents of any number of tenths and hundredths.</li> <li>• Recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math> and <math>\frac{3}{4}</math>. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.</li> </ul>	<ul style="list-style-type: none"> <li>• Read and write decimals 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> <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>	<ul style="list-style-type: none"> <li>• Identify the value of each digit in numbers given to three decimal places.</li> </ul>

## Fractions, Decimals and Percentages

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<ul style="list-style-type: none"> <li>Solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<ul style="list-style-type: none"> <li>Recognise the 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{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</li> </ul>	<ul style="list-style-type: none"> <li>Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>

## Ratio and Proportion

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						<ul style="list-style-type: none"><li>• Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts.</li><li>• Solve problems involving the calculations/use of percentages of 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

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<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> <li>Represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)</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> <li>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction)</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems, including <b>missing number</b> problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction)</li> <li>Solve problems, including <b>missing number</b> problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)</li> </ul>		<ul style="list-style-type: none"> <li>Use the properties of rectangles to deduce related facts and find <b>missing lengths and angles</b> (copied from Geometry: Properties of Shapes)</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>

Note: although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3

## Measurement: Comparing and Estimating

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p style="color: #E67E22;">Make comparisons between objects relation to size, length, weight and capacity.</p> <p style="color: #3498DB;">Compare length, weight and capacity.</p>	<ul style="list-style-type: none"> <li>• Compare, describe and solve practical problems for:                             <ul style="list-style-type: none"> <li>- lengths and heights</li> <li>- mass/weight</li> <li>- capacity and volume</li> <li>- time</li> </ul> </li> <li>• Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</li> </ul>	<ul style="list-style-type: none"> <li>• Compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> <li>• Compare and sequence intervals of times.</li> </ul>	<ul style="list-style-type: none"> <li>• Compare durations of events, for example to calculate the time taken by particular events or tasks</li> <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 a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate and compare the area of squares and rectangles including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes (also included in measuring).</li> <li>• Estimate volume (e.g. using <math>1\text{ cm}^3</math> blocks to build cubes and cuboids) and capacity (e.g. using water)</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (<math>\text{cm}^3</math>) and cubic metres (<math>\text{m}^3</math>), and extending to other units such as <math>\text{mm}^3</math> and <math>\text{km}^3</math>.</li> </ul>

## Measurement: Measuring and Calculating

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Make comparisons between objects relation to size, length, weight and capacity.</b></p> <p>Compare length, weight and capacity.</p>	<ul style="list-style-type: none"> <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 <b>length/height</b> in any direction (m/cm); <b>mass</b> (kg/g); <b>temperature</b> (°C); <b>capacity</b> (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> </ul>	<ul style="list-style-type: none"> <li>Measure, compare, add and subtract: <b>lengths</b> (m/cm/mm); <b>mass</b> (kg/g); <b>volume/capacity</b> (l/ml)</li> <li>Measure the <b>perimeter</b> of simple 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>Estimate, compare and calculate <b>different measures, including money in pounds and pence</b> (appears also in Comparing)</li> <li>Measure and calculate the <b>perimeter</b> of a rectilinear figure (including squares) in centimetres and metres</li> </ul>	<ul style="list-style-type: none"> <li>Use all four operations to solve problems involving measure (e.g. <b>length, mass, volume, money</b>) using decimal notation including scaling.</li> <li>Measure and calculate the <b>perimeter</b> of composite rectilinear shapes in centimetres and metres</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving the calculation and conversion of <b>units of measure</b>, using decimal notation up to three decimal places where appropriate (appears also in Converting)</li> <li>Recognise that shapes with the same areas can have different <b>perimeters</b> and vice versa</li> </ul>

## Money

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<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. 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>	

## Time

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'</p>	<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, 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/half hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.</li> </ul>	<ul style="list-style-type: none"> <li>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.</li> <li>Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.</li> <li>Know the number of seconds in a minute and the number of days in each month, year and leap year.</li> <li>Compare durations of events (eg to calculate 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, covering measurements of time from a smaller unit of measure to a larger unit and vice versa</li> </ul> <p>Note: In WRM schemes, time conversions are covered in Y5: the Y6 block concentrates on metric units.</p>

## Perimeter, area and volume

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<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. 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. Estimate volume (for example using blocks to build cuboids) 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. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. 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>

## 2-D Shapes

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p> <p>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</p> <p>Combine shapes to make new ones - an arch, a bigger triangle etc.</p> <p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills</p> <p>Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</p>	<ul style="list-style-type: none"> <li>Recognise, and name common 2-D shapes (for example, rectangles including squares, circles and triangles).</li> </ul>	<ul style="list-style-type: none"> <li>Identify and describe the properties of 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, the circle on a cylinder and a triangle on a pyramid).</li> <li>Compare and sort common 2-D shapes and everyday objects.</li> </ul>	<ul style="list-style-type: none"> <li>Draw 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2-D shapes presented in different orientations.</li> </ul>	<ul style="list-style-type: none"> <li>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Uses the properties of rectangles to deduce related facts and find missing lengths and angles.</li> </ul>	<ul style="list-style-type: none"> <li>Draw 2-D shapes using given dimensions and angles.</li> <li>To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</li> <li>Compare and classify geometric shapes based on their properties and sizes.</li> </ul>

## 3-D Shapes

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p> <p>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</p> <p>Combine shapes to make new ones - an arch, a bigger triangle etc.</p> <p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills</p> <p>Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</p>	<ul style="list-style-type: none"> <li>Recognise and name common 3-D shapes (for example, cuboids including cubes, pyramids and spheres).</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and name common 3-D shapes (for example, cuboids including cubes, pyramids and spheres). Compare and sort common 3-D shapes and everyday objects on the basis of their properties and use vocabulary precisely.</li> </ul>	<ul style="list-style-type: none"> <li>Make 3-D shapes using modelling materials.</li> <li>Recognise 3-D shapes in different orientations and describe them.</li> </ul>		<ul style="list-style-type: none"> <li>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</li> </ul>	<ul style="list-style-type: none"> <li>Recognise, describe and build simple 3-D shapes, including making nets.</li> </ul>

## Angles and Lines

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<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 than or less than a right angle.</li> <li>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify acute and obtuse angles and compare and order angles up to two right angles by size.</li> <li>• Identify lines of symmetry in 2-D shapes presented in different orientations.</li> <li>• Complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul>	<ul style="list-style-type: none"> <li>• Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. 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 <math>\frac{1}{2}</math> on a straight line and a turn (total <math>180^\circ</math>) and 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>

## Position and Direction

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Understand position through words alone – for example, “The bag is under the table,” – with no pointing.</p> <p>Describe a familiar route.</p> <p>Discuss routes and locations, using words like ‘in front of’ and ‘behind’.</p> <p>Draw information from a simple map.</p> <p>Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc.</p> <p>Extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>Notice and correct an error in a repeating pattern.</p> <p>Continue, copy and create repeating patterns.</p>	<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. 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).</li> </ul>		<ul style="list-style-type: none"> <li>Describe positions on a 2-D grid as coordinates in the first quadrant.</li> <li>Plot specified points and draw sides to complete a given polygon.</li> <li>Describe movements between positions as translations of a given unit to the left/right and up/down.</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). Draw and translate simple shapes on the coordinate plane and reflect them in the axes.</li> </ul>

## Present and Interpret Data

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<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 use these to solve problems.</li> </ul>

## Solve Statistical Problems

Three and Four-Year-Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<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 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>Calculate and interpret the mean as an average.</li> </ul>