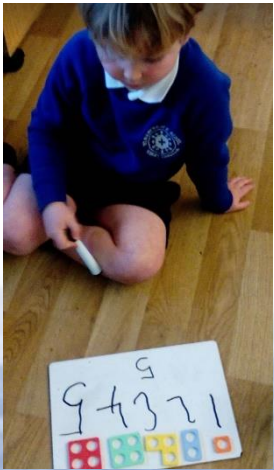


Maths Curriculum Progression



Creativity



Challenge



Community



Primary Progression – Fractions, Decimals, Percentages



A small thumbnail image of a table showing the progression of fractions, decimals, and percentages for Years 1 to 6. The table is organized into columns for each year and rows for different mathematical concepts.

Year	Fraction	Decimal	Percentage
Year 1	$\frac{1}{2}$	0.5	50%
Year 2	$\frac{1}{4}$	0.25	25%
Year 3	$\frac{1}{10}$	0.1	10%
Year 4	$\frac{1}{5}$	0.2	20%
Year 5	$\frac{1}{20}$	0.05	5%
Year 6	$\frac{1}{100}$	0.01	1%

Maths						
0-11 months	8-20 months	16-26 months	22-36 months	30-50 months	40-60 months/ELG	Key Vocabulary
Notices changes in number of objects/images or sounds in a group of 3.	Develops an awareness of number names through their enjoyment of action rhymes and songs that relate to their experience of numbers. Has some understanding that things exist, even when out of sight.	Knows that things exist, even when out of sight. Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles. Says some counting words randomly	Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'. Recites some number names in sequence. Creates and experiments with symbols and marks representing ideas of number. Begins to make comparisons between quantities. Uses some language of quantities, such as 'more' and 'a lot'. Knows that a group of things changes in quantity when something is added or taken away.	Uses some number names and number language spontaneously. Uses some number names accurately in play. Recites numbers in order to 10. Knows that numbers identify how many objects are in a set. Beginning to represent numbers using fingers, marks on paper or pictures. Sometimes matches numeral and quantity correctly. Shows curiosity about numbers by offering comments or asking questions. Compares two groups of objects, saying when they have the same number. Shows an interest in number problems. Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. Shows an interest in numerals in the environment. Shows an interest in representing numbers. Realises not only objects, but anything can be counted, including steps, claps or jumps	Recognise some numerals of personal significance. Recognises numerals 1 to 5. Counts up to 3 or 4 objects by saying one number name for each item. Counts actions or objects which cannot be moved. Counts objects to 10 and beginning to count beyond 10. Counts out up to six objects from a larger group. Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. Counts an irregular arrangement of up to 10 objects. Estimates how many objects they can see and checks by counting them. Uses the language of 'more' and 'fewer' to compare two sets of objects. Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Finds one more or one less from a group of up to five objects, then ten objects. In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. Records, using marks that they can interpret and explain. Begins to identify own mathematical problems based on own interests and fascinations. Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing	Count, number, amount, 1-20, add, take away, numeral, quantity, more, less, group, bigger, smaller.
						COEL links Representing their experiences in play Seeking challenge Taking a risk, engaging in new experiences, and learning by trial and error Finding ways to solve problems Making links and noticing patterns in their experiences Testing their ideas

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Recognise and Write	<ul style="list-style-type: none"> recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal parts of an object, shape or quantity <p>Summer 2</p>	<ul style="list-style-type: none"> recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity <p>Spring 4</p>	<ul style="list-style-type: none"> 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 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators <p>Spring 5</p>	<ul style="list-style-type: none"> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. <p>Spring 3</p>	<ul style="list-style-type: none"> identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] <p>Spring 2</p>	
Fractions: Compare		<ul style="list-style-type: none"> Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ <p>Spring 4</p>	<ul style="list-style-type: none"> recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators <p>Summer 1</p>	<ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions <p>Spring 3</p>	<ul style="list-style-type: none"> compare and order fractions whose denominators are all multiples of the same number <p>Spring 2</p>	<ul style="list-style-type: none"> use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 <p>Autumn 3</p>



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Calculations		<ul style="list-style-type: none"> write simple fractions for example, $\frac{1}{2}$ of 6 = 3 	<ul style="list-style-type: none"> add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] 	<ul style="list-style-type: none"> add and subtract fractions with the same denominator 	<ul style="list-style-type: none"> add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 	<ul style="list-style-type: none"> 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, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]
		Spring 4	Summer 1	Spring 3	Spring 3	Autumn 3
Fractions: Solve Problems			<ul style="list-style-type: none"> solve problems that involve all of the above 	<ul style="list-style-type: none"> 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 		
			Spring 5 Summer 1	Spring 3		



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Recognise and Write				<ul style="list-style-type: none">recognise and write decimal equivalents of any number of tenths or hundredthsrecognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ <p>Spring 4 Summer 1</p>	<ul style="list-style-type: none">read and write decimal numbers as fractions [for $\frac{71}{100}$]example, $0.71 = \frac{71}{100}$recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <p>Spring 3</p>	<ul style="list-style-type: none">identify the value of each digit in numbers given to three decimal places <p>Spring 1</p>
Decimals: Compare				<ul style="list-style-type: none">round decimals with one decimal place to the nearest whole numbercompare numbers with the same number of decimal places up to two decimal places <p>Summer 1</p>	<ul style="list-style-type: none">round decimals with two decimal places to the nearest whole number and to one decimal placeread, write, order and compare numbers with up to three decimal places <p>Spring 3</p>	



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Calculations & Problems				<ul style="list-style-type: none">find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths <div>Spring 4</div>	<ul style="list-style-type: none">solve problems involving number up to three decimal places <div>Summer 1</div>	<ul style="list-style-type: none">multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal placesmultiply one-digit numbers with up to two decimal places by whole numbersuse written division methods in cases where the answer has up to two decimal placessolve problems which require answers to be rounded to specified degrees of accuracy <div>Spring 1</div>



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions, Decimals and Percentages				<ul style="list-style-type: none">solve simple measure and money problems involving fractions and decimals to two decimal places <div>Spring 3 Spring 4 Summer 1</div>	<ul style="list-style-type: none">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 decimalsolve problems which require knowing percentage and decimal equivalents $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 <div>Spring 3</div>	<ul style="list-style-type: none">associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <div>Spring 1 Spring 2</div>

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

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra	<ul style="list-style-type: none"> solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ 	<ul style="list-style-type: none"> recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 	<ul style="list-style-type: none"> solve problems, including missing number problems 			<ul style="list-style-type: none"> use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of two variables. <p>Spring 3</p>

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

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Using Measures	<ul style="list-style-type: none"> compare, describe and solve practical problems for: <ul style="list-style-type: none"> lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later] measure and begin to record the following: <ul style="list-style-type: none"> lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) <p>Spring 3 Spring 4 Summer 6</p>	<ul style="list-style-type: none"> 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 compare and order lengths, mass, volume/capacity and record the results using >, < and = <p>Spring 5 Summer 4</p>	<ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) <p>Spring 4 Summer 4</p>	<ul style="list-style-type: none"> Convert between different units of measure [for example, kilometre to metre; hour to minute] estimate, compare and calculate different measures <p>Autumn 3 Spring 2 Summer 3</p>	<ul style="list-style-type: none"> convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling <p>Summer 1 Summer 4 Summer 5</p>	<ul style="list-style-type: none"> solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate 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 convert between miles and kilometres <p>Spring 4</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Money	<ul style="list-style-type: none"> recognise and know the value of different denominations of coins and notes <p>Summer 5</p>	<ul style="list-style-type: none"> recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 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 <p>Autumn 3</p>	<ul style="list-style-type: none"> add and subtract amounts of money to give change, using both £ and p in practical contexts <p>Spring 2</p>	<ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence <p>Summer 2</p>	<ul style="list-style-type: none"> use all four operations to solve problems involving measure [for example, money] <p>Summer 1</p>	

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Time	<p>sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <ul style="list-style-type: none"> recognise and use language relating to dates, including days of the week, weeks, months and years tell the time to the hour and half past the hour and draw the hands on a clock face to show these times 	<p>compare and sequence intervals of time</p> <ul style="list-style-type: none"> 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 know the number of minutes in an hour and the number of hours in a day 	<p>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <ul style="list-style-type: none"> 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 know the number of seconds in a minute and the number of days in each month, year and leap year compare durations of events [for example to calculate the time taken by particular events or tasks] 	<p>read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <ul style="list-style-type: none"> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days 	<p>solve problems involving converting between units of time</p>	<p>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</p>
	Summer 6	Summer 3	Summer 2	Summer 3	Summer 4	Year 5 Summer 4

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Perimeter, Area, Volume			<ul style="list-style-type: none"> measure the perimeter of simple 2-D shapes <p>Spring 4</p>	<ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares <p>Autumn 3 Spring 2</p>	<ul style="list-style-type: none"> 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^2) and square metres (m^2) and estimate the area of irregular shapes estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] <p>Autumn 5 Summer 5</p>	<ul style="list-style-type: none"> 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^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] <p>Spring 5</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: 2-D Shapes	<ul style="list-style-type: none"> recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] <p>Autumn 3</p>	<ul style="list-style-type: none"> identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D shapes and everyday objects <p>Spring 3</p>	<ul style="list-style-type: none"> draw 2-D shapes <p>Summer 3</p>	<ul style="list-style-type: none"> 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 <p>Summer 5</p>	<ul style="list-style-type: none"> distinguish between regular and irregular polygons based on reasoning about equal sides and angles. use the properties of rectangles to deduce related facts and find missing lengths and angles <p>Summer 2</p>	<ul style="list-style-type: none"> draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <p>Summer 1</p>
Geometry: 3-D Shapes	<ul style="list-style-type: none"> recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] <p>Autumn 3</p>	<ul style="list-style-type: none"> 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 <p>Spring 3</p>	<ul style="list-style-type: none"> make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them <p>Summer 3</p>		<ul style="list-style-type: none"> identify 3-D shapes, including cubes and other cuboids, from 2-D representations <p>Summer 2</p>	<ul style="list-style-type: none"> recognise, describe and build simple 3-D shapes, including making nets <p>Summer 1</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Angles & Lines			<ul style="list-style-type: none"> recognise angles as a property of shape or a description of a turn 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 identify horizontal and vertical lines and pairs of perpendicular and parallel lines 	<ul style="list-style-type: none"> identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry 	<ul style="list-style-type: none"> know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees identify: <ul style="list-style-type: none"> □ angles at a point and one whole turn (total 360°) □ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) □ other multiples of 90° 	<ul style="list-style-type: none"> find unknown angles in any triangles, quadrilaterals, and regular polygons recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
			Summer 3	Summer 5	Summer 2	Summer 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Position & Direction	<ul style="list-style-type: none"> describe position, direction and movement, including whole, half, quarter and three-quarter turns <p>Summer 3</p>	<ul style="list-style-type: none"> 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 anti-clockwise) <p>Spring 3 Summer 1</p>		<ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon <p>Summer 6</p>	<ul style="list-style-type: none"> identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed <p>Summer 3</p>	<ul style="list-style-type: none"> 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 <p>Autumn 4</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present and Interpret		<ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and simple tables <p>Spring 2</p>	<ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables <p>Spring 3</p>	<ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <p>Summer 4</p>	<ul style="list-style-type: none"> complete, read and interpret information in tables, including timetables <p>Autumn 3</p>	<ul style="list-style-type: none"> interpret and construct pie charts and line graphs and use these to solve problems <p>Summer 3</p>
Statistics: Solve Problems		<ul style="list-style-type: none"> ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data <p>Spring 2</p>	<ul style="list-style-type: none"> 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 <p>Spring 3</p>	<ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs <p>Summer 4</p>	<ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph <p>Autumn 3</p>	<ul style="list-style-type: none"> calculate and interpret the mean as an average <p>Summer 3</p>

