

'Learn with love, flourish with faith.'

Curriculum Subject Progression Framework

Subject: Maths

	EYFS	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	Count actions, objects and sounds Count actions, objects and sounds beyond 10 Verbally count beyond 20, recognising the pattern of the counting system	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens.	Count in steps of 2,3 and 5 from 0 and in tens from any number, forward and backwards.	Count from 0 in multiples of 4,8, 50 and 100; find 10 or 100 more or less than a given number	Count in multiples of 6,7,9,25 and 1000 Count backwards through zero to include negative numbers	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers, including through zero	
Place Value: Represent	Experiment with their own symbols and marks as well as numerals	Identify and represent numbers using objects and pictorial representations	Read and write numbers to at least 100 in numerals and in words	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations	Read, write, (order and compare) numbers to 1,000,000 and	Read, write, (order and compare) numbers to 10,000,000 and

	Link numerals and amounts (e.g. showing the right number of objects to match the numeral)	Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words	Identify, represent and estimate numbers using different representations, including the number line.	Read and write numbers up to 1000 un numerals and in words	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	determine the value of each digit Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	determine the value of each digit
Place Value: Use PV and compare	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity	Given a number, identify one more and one less	Recognise the place value of each digit in a two digit number (tens and ones) Compare and order numbers from 0 up to 100; use <, > and = signs	Recognise the place value of each digit in a three-digit number (hundreds, tens and ones) Compare and order numbers up to 1000	Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)	(Read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit	(Read, write) order and compare numbers to at least 10,000,000 and determine the value of each digit

					Order and compare numbers beyond 1000		
Place Value: Problems and Rounding			Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	Round any number to the nearest 10, 100 or 1000	Interpret negative numbers in context Round any number up to 1,000,000 to	Round any whole number to a required degree of accuracy
					practical problems that involve all of the above and with increasingly large positive numbers	the nearest 10, 100, 1000, 10000 and 100000	Use negative numbers in context, and calculate intervals across zero
						Solve number problems and practical problems that involve all of the above.	Solve number and practical problems that involve all of these above.
Addition and Subtraction: Recall, Represent, Use	Have a deep understanding of number to 10, including the composition of each number	Read, write and interpret mathematical statements involving addition (+),	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts to 100	Estimate the answer to a calculation and use inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation	Use rounding to check answers to calculations and determine, in the context of a	

	Automatically recall (without reference to rhymes, counting or other aids) number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts Explore and represent double facts within 10	subtraction (-) and equals (=) signs Represent and use number bonds and related subtraction facts within 20	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Recognise and use the relationship between addition and subtractions and use this to check calculations and solve missing number problems			problem, levels of accuracy.	
Addition and Subtraction: Calculations		Add and subtract one-digit and two-digit numbers to 20, including 0	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including *A two-digit number and ones	Add and subtract numbers mentally, including *A three-digit number and ones *a three-digit number and tens *a three-digit	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Perform mental calculations, including with mixed operations and large numbers Use their knowledge of the order of

		*A two-digit number and tens *Two two-digit numbers *Adding three one digit numbers	number and hundreds Add and subtract numbers with up to three digits, suing formal written methods of columnar addition and subtraction		Add and subtract numbers mentally with increasingly large numbers.	operations to carry out calculations involving the four operations
Addition and Subtraction: Solve Problems	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \Delta - 9$	Solve with addition and subtraction *use concrete objects and pictorial representations, including those involving numbers, quantities and measure *applying their increasing knowledge of	Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division and a combination of these including	Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why

	mental and written methods			understanding the meaning of the equals sign	
Multiplication and Division: Recall, Represent, Use	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Show that multiplication of two numbers can be done in any order (commutative) and division of one number cannot by another	Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables	Recall and use multiplication and division facts for multiplication tables up to 12 x 12 Use place value, known and derived facts to multiply and divide mentally, including; multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers Recognise and use factor pairs and commutativity in mental calculations	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Establish whether a number up to 100 is prime and recall prime numbers to 19	Identify common factors, common multiples and prime numbers Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

				Recognise and use square numbers and cube numbers and notation for squared (2) and cubed (3)	
Multiplication and Division: Calculations	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	Write and calculate mathematical statements for multiplication tables that they know, including for two digit numbers times one-digit numbers, using mental and progressing to formal written methods	Multiply two-digit and three digit numbers by a one-digit number using formal written layout Spring I	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 Multiply and divide numbers mentally drawing upon known facts Divide numbers up to 4 digits by a one-digit number using formal written method of short division and interpret remainders	Multiply multi digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divide numbers up to 4 digits by a two digit number whole number using the formal written method of long division, and interpret remainders as whole numbers, fractions, or by rounding, as appropriate for the context.

						appropriately for the context	Divide numbers up to 4 digits by a two digit number whole
						Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	number using the formal written method of short division, and interpret remainders as whole numbers, fractions, or by
						Autumn 4	rounding, as appropriate for the
						Spring I	context.
						Summer I	
							Perform mental calculations, including with mixed operations and large numbers
Multiplication and Division: Solve Problems	Explore how quantities can be distributed equally	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects,	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods,	Solve problems including missing number problems, involving multiplication and division, including positive integer	Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one-digit, integer	Solve problems involving multiplication and division including using their knowledge of factors and multiples,	Solve problems involving addition, subtraction, multiplication and division
		pictorial representations and	and multiplication and division facts,	scaling problems	scaling problems and harder	squares and cubes	Autumn 2

	arrays with the support of the teacher	including problems in contexts	correspondence problems in which n objects are connected to m objects	correspondence problems such as n objects are connected to m objects	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
Multiplication and Division: Operations combined					Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Use their knowledge of the order of operations to carry out calculations involving the four operations
Fractions: Recognise and Write	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	Recognise, find, name and write fractions third, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or a quantity	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	Count up and down in hundredths; recognise the hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	

	one of four equal parts of an object, shape or quantity		Recognise, find and write fractions of s discrete set of objects; unit fractions and nonunit fractions with small denominators		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$	
			Recognise and use fractions as numbers,; unit fractions and nonunit fractions with small denominators			
Fractions: Compare		Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Recognise and show using diagrams, equivalent fractions with small denominators	Recognise and show, suing diagrams, families of common equivalent fractions	Compare and order fractions whose denominators are all multiples of the same number	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
			Compare and order unit fractions, and			Compare and order fractions,

		fractions with the same denominators			including fractions > I
Fractions: Calculations	Write simple fractions for example $\frac{1}{2}$ of 6 = 3	Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$	Add and subtract fractions with the same denominator	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	Add and subtract fractions with different denominators and mixed numbers, suing the concept of equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$
					Divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$

olve problems nat involve all of ne above	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 Recognise and write	Read and write	Identify the value o
	Recognise and write	Read and write	Identify the value o
	decimal equivalents of any number of tenths or hundredths	decimal numbers as fractions [for example $0.71 = \frac{71}{100}$	each digit in numbers given to three decimal places
	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
		Recognise and write decimal equivalents	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Recognise and use thousandths and relate them to tenths, hundredths and decimal

Decimals: Compare	Round decimals with one decimal place to the nearest whole number number Round decimals with two decimal places to the nearest whole number to one decimal place
	Compare numbers with the same number of decimal places up to two decimal places Read, write, order and compare numbers with up to three decimal places
Decimals: Calculations and problems	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 or hundredths Multiply one-digit numbers with up to two decimal places by whole numbers

					Use written division methods in cases where the answer has up to two decimal places
					Solve problems which require answers to be rounded to specified degrees of accuracy
Fractions, Decimals and Percentages			Solve simple measure and money problems involving fractions and decimals to two decimal places	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	Associate a fraction with division and calculate decimal fraction equivalents [for example 0.375] for a simple fraction [for example 3/8]
				Solve problems which require knowing percentage	Recall and use equivalences between simple fractions, decimals and percentages,

			and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	including different contexts
Ratio and Proportion				Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
				Solve problems involving the calculation of percentages [for examples, 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
Algebra	Talk about patterns in their environment Continue, copy and create repeating patterns Extend and	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	Solve problems, including missing number problems		Use simple formulae Generate and describe linear number sequences
	create ABAB patterns with objects	7 = - 9				Express missing number problems algebraically

	Name and correct an error in a repeating pattern Explore and represent patterns within numbers up to						Find pairs of numbers that satisfy an equation with two unknowns
	10, including evens and odds						Enumerate possibilities of combinations of two variables
Measurements: Using measures	Compare length & weight using vocabulary: Big, small Long, short Tall, short Light, heavy Compare capacity in terms of full, half full & empty	Compare, describe and solve practical problems for: Lengths and heightslong/short, longer/shorter, tall/short, double/half Mass/weightheavy/light, heavier than, lighter than	Choose and use appropriate standard units to estimate and measure length/height in and direction (m/cm) mass (kg/g) Temperature °C Capacity (litres/ml) to the nearest appropriate unit,	Measure, compare, add and subtract; lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure (for example kilometre to metre; hour to minute) Estimate, compare and calculate different measures	Convert between different units of metric measure (for example, kilometre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use	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
		Capacity and volume – full/empty, more than, less	using rulers, scales, thermometers and measuring vessels			approximate equivalences between metric units and common	between standard units, converting measurements of length, mass,

		than, half, half full,, quarter Time-quicker, slower, earlier, later Measure and begin to record the following: Lengths and heights Mass/eight Capacity and volume Time (hours, minutes, seconds)	Compare and order lengths, mass, volume/capacity and record the results using the >,< and =			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	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
Measurement money	Recognise and count coins (pennies) to 5p Solve real world (money) problems with amounts to 5p	Recognise and know the value of different denominations of coins and notes.	Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins that equal	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Estimate, compare and calculate different measures, including money in pounds and pence	Use all four operations to solve problems involving measure (for example money)	

			the same amounts of money				
			Solve simple problems in a practical context involving addition and subtraction of money of the same units, including giving change				
Measurement Time	Sequence events in our day using language: morning, midday, afternoon, evening Talk about and compare day and night Know the order of the days of the week	Sequence events in order using language e.g. before and after, next, first, today, yesterday, tomorrow, afternoon, and evening Recognise and use language related to dates, including days of the week, weeks,	Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on the clock face to show these times	Tell and write the time from an analogue clock, including using Roman numerals from I to XII and I2 hour and 24 hour clocks Estimate and read time with increasing accuracy to the nearest	Read, write and convert time between analogue and digital 12 and 24 hour clocks Solve problems involving converting from hours to minutes; minutes ti seconds; years to months; weeks to days	Solve problems involving converting between units of time	Use, read and convert between standard units, converting measurements of time from smaller unit of measure to a larger unit, and vice versa
	Talk about the order of the	months and years	Know the number of minutes in an	minute; record and compare time in terms of seconds, minutes and hours;			

months of the year Read and make o'clock times on an analogue clock face	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	hour and hours in a day	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			
Measurement:			time taken by particular events or tasks Measure the	Measure and	Measure and	Recognise that
Perimeter, Area, Volume			perimeter of a simple 2D shape	calculate the perimeter of a rectilinear figure (incl squares) in centimetres and metres	calculate the perimeter of a composite rectilinear shapes in centimetres and metres	shapes with the same areas can have different perimeters and vice versa

					Find the area of rectilinear shapes by counting squares	Calculate and compare the area of rectangles (inc squares) and including using standard unites, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes.	Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles
						Estimate volume for example using I cm³ blocks to build cuboids (including cubes) and capacity (e.g. using water	Calculate, estimate and compare volume of cubes and cuboids using standard units, incl cubic centimetres (cm³) and cubic metres (m³), and extending to other units e.g. mm³ and km³
Geometry: 2D shapes	Compose and decompose shapes so that children recognise a shape can have other shapes	Recognise and name common 2D shapes e.g. rectangle, square, circle, triangle	Identify and describe the properties of 2D shapes, including the number of sides and line of	Draw 2D shapes Summer 3	Compare and classify geometric shapes, including quadrilaterals and triangles based on	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Draw 2D shapes using given dimensions and angles

	within it, just as numbers can Combine shapes to make new ones Talk about and explore some 2D shapes (circle, square. rectangle. triangle) Use informal language such as sides, corners straight, curved Select shapes appropriately for a purpose eg. Flat surface for building		symmetry in a vertical line Identify 2D shapes on the surface of 3D shapes, for example a circle on a cylinder and a triangle on a pyramid Compare and sort common 2D shapes and everyday objects		their properties and size. Identify lines of symmetry in 2D shapes presented in different orientations	Use the properties of rectangles to deduce related facts and find missing lengths 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 diameter is twice the radius
Geometry: 3D shapes	Make imaginative and complex 'small worlds' with blocks and construction kits	Recognise and name common 3D shapes e.g. cubes, cuboids, pyramids and spheres	Recognise and name common 3D shapes e/g/ cube, cuboid, pyramids and spheres	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them		Identify 3D shapes including cubes and other cuboids from 2D representations	Recognise, describe and build simple 3D shapes, including making nets

	Explore 3D	Compare and sort				
	shapes in play	common 3D				
	activities	shapes and				
	Talk about and explore some 3D shapes (sphere, cube, cuboid, cylinder) Use informal language such as solid, sides, corners straight, curved, flat, round	everyday objects				
Geometry: Angles and Lines			Recognise angles as a property of shape or a description of a turn	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles	Find unknown angles in any triangles, quadrilaterals, and regular polygons
			Identify right angles, recognise that two right angles make a half turn, three makes three quarters of a	Identify lines of symmetry in 2D shapes presented in different orientations	Draw given angles, and measure them in degrees	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite,

				turn and four makes a complete turn; identify whether angles are greater than or less than a right angle	Complete a simple symmetric figure with respect to a specific line of symmetry	Identify: Angles at a point and one whole turn (total 360°) Angles at appoint on a straight line and ½ a turn (180°)	and find missing angles.
				Identify horizontal and vertical lines and pairs of perpendicular and parallel lines		Other multiples of 90°	
Geometry: Position and direction	Understand position through words alone (e.g. 'The bag is on the table.' - with no pointing Describe a familiar route Discuss routes and locations, using words like 'in front of and 'behind'	Describe position, direction and movement, including whole, half and there-quarter turn	Order and arrange combinations of mathematical objects in patterns and sequences Use mathematical vocabulary to describe position, direction and movement, including movement in a		Describe positions on a 2D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down	Identify describe and represent the position of a shape following a reflection or translation, suing the appropriate language, and know that the shape has not changed	Describe positions on the full coordinate gird (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

	Select, rotate and manipulate shapes to develop spatial reasoning skills Continue, copy and create repeating patterns	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)		Plot specified point5s and draw sides to complete a given polygon		
Statistics: Present and Interpret	Sort objects by several different characteristics Create a simple tally chart Use a simple computer program to create a pictogram (e.g. our favourite food)	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use these to solve problems
Statistics: Solve problems	Answer questions about simple pictograms	Ask and answer simple questions by counting the number of objects in each category	Solve one step and two step questions e.g. How many more? And How many fewer? Using	Solve comparison, sum and difference problems using information presented in bar	Solve comparison, sum and difference problems using information	Calculate and interpret the mean as an average

and sorting the categories by quantity	information presented in scaled bar charts and pictograms and tables	charts, pictograms, tables and other graphs	presented in a line graph.	
Ask and answer questions about totalling and comparing categorical data				