

Maths Progression Guide

			Place Value			
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value:	* Count to and across	* Count in steps of 2, 3	* Count from 0 in	* Count in multiples of 6,	* Count forwards or	
Counting	100, forwards and	and 5 from 0, and in lens	multiples of 4, 8, 50 and	7, 9, 25 and 1000,	backwards in steps of	
	backwards beginning with	from any number, forward	100; find 10 or 100 more	* Count backwards	powers of 10 for any given	
	O or I, or from any given	and backward.	or less than a given	through zero to include	number up to 1,000,000.	
	number.		number.	negative numbers.	* Count forwards and	
	* Count numbers to 100 in				backwards with positive	
	numerals; count in				and negative whole	
	multiples of twos, fives				numbers, including	
	and tens.				through zero.	
Place Value:	* Identify and represent	* Read and write numbers	* Identify, represent and	* Identify, represent and	* Read, write, (order and	* Read, write, (order and
Represent	numbers using objects and	to at least 100 in	estimate numbers using	estimate numbers using	compare) numbers to at	compare) numbers to at
	pictorial representations.	numerals and in words.	different representations.	different representation.	least 1,000,000 and	least 10,000,000 and
	* Read and write numbers	* Identify, represent and	* Read and write numbers	* Read Roman numerals	determine the value of	determine the value of
	to 100 in numerals.	estimate numbers using	up to 1000 in numerals	to 100 (I to C) and know	each digit.	each digit.
	* Read and write numbers	different representations,	and in words.	that over time, the numeral	* Read Roman numerals	
	from 1-20 in numerals	including the number line.		system changed to include	to 1000 (M) and recognise	
	and words.			the concept of zero and	years written in Roman	
				place value.	Numerals.	
Place Value:	* Given a number, identify	* Recognise the place	* Recognise the place	* Find 1000 more or less	* Read, write, order and	* Read, write, order and
Use PV and	one more and one less.	value of each digit in a	value of each digit in a	than a given number.	compare numbers to at	compare numbers to at
Compare		two-digit number (tens,	three-digit number	* Recognise the place	least 1,000,000 and	least 10,000,000 and
		ones).	(hundreds, tens, ones).	value of each digit in a	determine the value of	defermine the value of
				four-digit number	each digit.	each digit.

		* Compare and order	* Compare and order	(thousands, hundreds,		
		numbers from o up to 100;	numbers from o up to	tens, ones).		
		use <, > and = signs.	1000.	* Order and compare		
		-		numbers beyond 1000.		
Place Value:		* Use place value and	* Solve number problems	* Round any number to	* Interpret negative	* Round any whole
Problems &		number facts to solve	and practical problems	the nearest 10, 100 or	numbers in context.	number to required degree
Rounding		problems.	involving these ideas	1000.	* Round nay number up	of accuracy.
				* Solve number and	to 1,000,000 to the	* Use negative numbers in
				practical problems that	nearest 10, 100, 1000,	context, and calculate
				involve all of the above	10000 and 100000.	intervals across zero.
				and with increasingly	* Solve number problems	* Solve number problems
				large positive numbers.	and practical problems	and practical problems
					that involve all of the	that involve all of the
					above.	above.
			Addition and Subtra	ction		
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Addition &	* Read, write and interpret	* Recall and use addition	* Estimate the answer to a	* Estimate and use inverse	* Use rounding to check	
Subtraction	mathematical statements	and subtraction facts to	calculation and use	operations to check	answers to calculations	
Recall,	involving addition (+),	20 fluently, and derive	inverse operations to check	answers to a calculation.	and defermine, in the	
Represent,	subtraction (-) and equals	and use related facts up	answers.		context of a problem, levels	
Use	(=) signs.	to 100.			of accuracy.	
	* Represent and use	* Show that addition of				
	number bonds and related	two numbers can be done				
	subtraction facts within	in any order				
	20.	(commutative) and				

Addition & Subtraction Calculations	* Add and subtract one-digit and two-digit numbers to 20, including zero.	subtraction of one number from another cannot.  * Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.  * Add and subtract numbers using concrete objects, pictorial representations, and mentally including:  A two-digit number and ones.  A two-digit number and tens.  Two two-digit numbers  Adding three one-digit numbers.	* Add and subtract numbers mentally including: A three-digit number and ones. A three-digit number and tens. A three-digit number and hundreds. * Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. * Solve problems including	* Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	* Add and subtract numbers with more than 4 digits using the formal written methods of columnar addition and subtraction where appropriate. * Add and subtract numbers mentally with increasingly large numbers.	* Perform mental calculations, including with mixed operations and large numbers.  * Use their knowledge of the order of operations to carry out calculations involving the four operations.
Subtraction	problems that involve	addition and subtraction:	missing number problems,	subtraction two-step	subtraction multi-step	subtraction multi-step
	addition and subtraction,		using number facts, place	problems in contexts,	problems in contexts,	problems in contexts,

Solve Problems	using concrete objects and pictorial representations, and missing numbers problems such as 7 = 9.	Using concrete objects and pictorial representations including those involving numbers, quantities and measures.  Applying their increasing knowledge of mental and written methods.	value and more complex addition and subtraction.	deciding which operations and methods to use and why.	deciding which operations and methods to use and why.  * Solve problems involving addition, subtraction, multiplication and division and combination of these, including understanding the meaning of the equals sign.	deciding which operations and methods to use and why.	
	Multiplication and Division						
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6	
Multiplication		* Recall and use	* Recall and use	* Recall multiplication and	* Identify multiples and	* Identify common	
& Division		multiplication facts for the	multiplication and division	division facts for	factors, including finding	factors, common multiples	
Recall,		2, 5 and 10 multiplication	facts for the 3, 4 and 8	multiplication tables up to	all factor pairs of a	and prime numbers.	
Represent,		tables, including	multiplication tables.	12 x 12.	number and common	* Use estimation to check	
Use		recognising odd and even		* Use place value, known	factors of two numbers.	answers to calculations	
		numbers.		and derived facts to	* Know and use the	and determine, in the	
		* Show that multiplication		multiply and divide	vocabulary of prime	context of a problem, an	
		of two numbers can be		mentally, including:	factors and composite	appropriate degree of	
		done in any order		multiplying by 0 and 1;	(non-prime) numbers.	accuracy.	
		(commutative) and division		dividing by 1; multiplying	* Establish whether a		
		of one number by another		together three numbers.	number up to 100 is prime		
		cannot.		* Recognise and use	and recall prime numbers		
				factor pairs and	up to 19.		

Multiplication & Division Solve Problems	* Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictoral representations and arrays with the support of the teacher.	* Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.	* Solve problems including missing number problems involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	* Solve problems involving multiplying and dividing, using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	* 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.	interpreting remainders according to the context.  * Perform mental calculations including with mixed operations and large numbers.  * Solve problems involving addition, subtraction, multiplication and division.
Multiplication & Division					* Solve problems involving addition, subtraction,	* Use their knowledge of the order of operations to
Combined					multiplication and division	carry out calculations
Operations					and a combination of	involving the four
					these, including	operations.
					understanding the meaning of the equals	
					sign.	

			Fractions, Decimals, Perce	entages		
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions:	* Recognise, find and	* Recognise, find, name	* Count up or down in	* Count up and down in	* Identify, name and	
Recognise and	name a half as one of	and write fractions 1/3,	tenths; recognise that	hundredths; recognise	write equivalent fractions	
Write	two equal parts of an	1/4, 2/4 and 3/4 of a	tenths arise from dividing	that hundredths arise	of a given fraction,	
	object, shape or quantity,	length, shape, set of	an object into 10 equal	when dividing an object	represented visually,	
	* Recognise, find and	objects or quantity.	parts and in dividing	by one hundred and	including tenths and	
	name a quarter as one of	, ,	one-digit numbers or	dividing tenths by ten.	hundredths.	
	four equal parts of an		quantities by 10.		* Recognise mixed	
	object shape or quantity.		* Recognise find and		number and improper	
			write fractions of a		fractions and convert	
			discrete set of objects:		from one form to another	
			unit fractions and non-		write mathematical	
			unit fractions with small		statements for mixed	
			denominators.		numbers bigger than I	
			* Recognise and use		(for example 3/5 + 4/5	
			fractions as numbers:		= 7/5 = 1 and 2/5)	
			unit fractions and non-			
			unit fractions with small			
			denominators.			
Fractions:		* Recognise the	* Recognise and show	* Recognise and show	* Compare and order	* Use common factors to
Compare		equivalence of 2/4 and	using diagrams	using diagrams, families	fractions whose	simplify fractions; use
ı		1/2.	equivalent fractions with	of common equivalent	denominators are all	common multiples to
			small denominators.	fractions.	multiples of the same	express fractions in the
			* Compare and order	,	number.	same denomination.
			unit fractions, and			

Fractions: Calculations	* Write simple fractions for example, ½ of 6 = 3.	* Add and subtract fractions with the same denominator within one whole for example, 1/6 + 4/6 = 5/6.	* Add and subtract gractions 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	* Compare and order fractions, including fractions which are bigger than 1.  * 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.
Fractions: Solve Problems		* Solve problems which involve all of the 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.	materials and diagrams.	* Divide proper fractions by whole numbers.

Decimals:	* Recognise and write	* Read and write decimal	* Identify the value of
Recognise and	decimal equivalents of	numbers as fractions (for	each digit in numbers
Write	any number of tenths or	example, 0.71 = 71/100)	given to three decimal
	hundredths.	* Recognise and use	places.
	* Recognise and write	thousandths and relate	
	decimal equivalents to	them to tenths,	
	1/4, ½ and ¾.	hundredths and decimal	
		equivalents.	
Decimals:	* Round decimals with	* Round decimals with	
Compare.	one decimal place to the	two decimal places to the	
	nearest whole number.	nearest whole number	
	* Compare numbers with	and to one decimal place.	
	the same number of	* Read, write and	
	decimal places up to two	compare numbers with up	
	decimal places.	to three decimal places.	
Decimals:	* Find the effect of	* Solve problems	* Multiply and divide
Calculations &	dividing a one or two-	involving numbers up to	numbers by 10, 100 and
Problems	digit number by 10 and	three decimal places.	1000 giving answers up
	100, identifying the value		to three decimal places.
	of the digits in the		* Multiply one-digit
	answer as ones, tenths		numbers with up to two
	and hundredths.		decimal places by whole
			numbers.
			* Use written methods in
			cases where the answer

Fractions, Decimals and Percentages.			Daliz and Danieli	* Solve simple measure and money problems involving gractions 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.  * Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 and 25.	has up to two decimal places.  * Solve problems which require answers to be rounded to specified degrees of accuracy.  * Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example 3/8)  * Recall and use equivalence between simple fractions, decimals and percentages, including in different contexts.
	V I	V 2	Ratio and Proportion	1	VF	V /
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio and Proportion						* Solve problems involving the relative sizes

					of two quantities where
					missing values can be
					found using integer
					multiplication and
					division facts.
					* Solve problems
					involving the calculation
					of percentages (for
					example, of
					measurements, 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			
Year I	Year 2	Year 3	Year 4	Year 5	Year 6

Algebra	* Solve one-step problems that involve addition and subtraction, using concrete objects and	* Recognise and use the inverse relationship between addition and subtraction and use this	* Solve problems including missing number problems.			* Use simple formulae.  * Generate and describe linear number sequences.  * Express missing number
	pictorial representations, and missing number problems such as 7 = - 9.	to check calculations and solve missing number problems.				problems algebraically.  * Find pairs of numbers that satisfy an equation with two unknowns.  * Enumerate possibilities
						of combinations of two variables.
			Measurement			
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement:	* Compare, describe and	* Choose and use	* Measure, compare, add	* Convert between	* Convert between	* Solve problems
Using Measures	solve practical problems	appropriate standard	and subtract: length	different units of	different units of metric	involving the calculation
	for:	units to estimate and	(m/cm/km); mass (kg/g);	measure (for example,	measure (for example,	and conversion of units
	Length and Heights (for	measure length/height in	volume/capacity (l/ml).	kilometre to metre; hour to	kilometre and metre;	of measure, using
	example, long/short,	any direction (m/cm);		minute)	centimetre and metre;	decimal notation up to
	longer/shorter,	mass (kg/g); temperature		* Estimate, compare and	centimetre and millimetre;	three decimal places
	double/half)	(degrees Celsius);		calculate different	gram and kilogram; litre	where appropriate.
	Mass / weight (for	capacity (1/ml) to the		measures.	and millilitre)	* Use, read, write and
	example, heavy/light,	nearest appropriate unit,			* Understand and use	convert between standard
	heavier than, lighter than)	using rulers, scales,			approximate equivalences	units, converting
	Capacity and Volume (for	thermometers and			between metric units and	measurements of length,
	example, full/empty, more	measuring vessels.			common imperial units	mass, volume and time
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	than/less than, half, half	* Compare and order			such as inches, pounds	measure to a larger unit,
	full, quarter)	length, mass, volume.			and pints.	and vice versa, using
	Time (for example,	Capacity and record the			* Use all four operations	decimal notation to up to
	quicker, slower, earlier,	results.			to solve problems	three decimal places.
	later)	resums.			!	* Convert between miles
					involving measures using decimal notation	and kilometres.
	* Measure and begin to					and kilometres.
	record the following:				including scaling.	
	Length and heights					
	Mass/weight					
	Capacity and volume					
	Time (hours, minutes,					
	seconds)					
Measurement:	* Recognise and know the	* Recognise and use	* Add and subtract	* Estimate, compare and	* Use all four operations	
Money	value of different	symbols for pounds (£)	amounts of money to give	calculate different	to solve problems	
	denominations of coins	and pence (p); combine	change, using both £ and	measures, including	involving measure (for	
	and notes.	amounts to make a	p in practical contexts.	money in pounds and	example money).	
		particular value.		pence.		
		* Find different				
		combinations of coins				
		that equal the same				
		amount of money.				
		* Solve simple problems				
		in a practical context				
		involving addition and				
		subtraction of money in				

		the same unit, including giving change.				
Measurement:	* Sequence events in	* Compare and sequence	* Tell and write the time	* Read, write and convert	* Solve problems	* Use, read, write and
Time	chronological order using	intervals of time.	from an analogue clock,	time between analogue	involving converting	convert between standard
	language (for example,	* Tell and write the time	including using Roman	and digital 12 and 24-	between units of time.	units of measurements o
	before and after, next,	to five minutes including	numerals from I to XII,	hour clocks.	·	time from a smaller unit
	first, today, yesterday,	quarter past/to the hour	and 12-hour and 24-hour	* Solve problems		of measure to a larger
	tomorrow, morning,	and draw the hands on a	clocks.	involving converting from		unit, and vice versa.
	afternoon, evening)	clock to show these times.	* Estimate and read time	hours to minutes; minutes		
	* Recognise and use	* Know the number of	with increasing accuracy	to seconds; years to		
	language relating to	minutes in an hour and	to the nearest minute;	months; weeks to days.		
	dates, including days of	the number of hours in a	record and compare	-		
	the week, weeks, months	day.	times in terms of seconds,			
	and years.		minutes and hours; use			
	* Tell the time to the		vocabulary such as			
	hour and half past and		oʻclock, a.m./p.m.,			
	draw the hands on a		morning, afternoon, noon			
	clock face to show these		and midnight.			
	limes.		* Know the number of			
			seconds in a minute and			
			the number of days in			
			each month, year and			
			leap year.			
			* Compare durations of			
			evens (for example, to			
			calculate the time taken			

			by particular events or tasks).					
Measurement:			* Measure the perimeter	* Measure and calculate	* Measure and calculate	* Recognise that shapes		
Perimeter, Area,			of simple 2-D shapes.	the perimeter of a	the perimeter of	with the same areas can		
Volume			• 1	rectilinear figure	composite rectilinear	have different perimeters		
				(including squares) in	shapes in centimetres and	and vice versa.		
				centimetres and metres.	metres.	* Recognise when it is		
				* Find the area of	* Calculate and compare	possible to use formulae		
				rectilinear shapes by	the area of rectangles	for areas and volumes of		
				counting squares.	(including squares), and	shapes.		
					including standard units,	* Calculate the area of		
					square centimetres and	parallelograms and		
					square metres and	triangles.		
					estimate the area of	* Calculate, estimate and		
					irregular shapes.	compare volume of cubes		
					* Estimate volume (for	and cuboids using		
					example using lcm cubed	standard units including		
					blocks to build cuboids,	cubic centimetres and		
					including cubes, and	cubic metres and		
					capacity, including water)	extending to other units		
						including cubic		
						millimetres and cubic		
			C			kilometres.		
	Geometry							
	Year I	Year 2	Year 3	Year 4	Year 5	Year 6		

Geometry: 2-D Shapes	* Recognise and name common 2-D shapes (for example rectangle, including squares, circles and triangles).	* 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 a 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid). * Compare and sort common 2-D shapes and	* Draw 2-D shapes	* 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.	* 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.	* 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 a circle, including radius, diameter and circumference and know that the diameter is twice
Geometry: 3-D Shapes Geometry: Angles & Lines	* Recognise and name common 3-D shapes (for example cuboids, including cubes, pyramids and spheres).	everyday objects.  * 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.	* Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.  * Recognise angles as a property of shape or a description of a turn.	* Identify acute and obtuse angles and compare and order	* Identify 3-D shapes, including cubes, and other cuboids, from 2-D representations.  * Know angles are measured in degrees: estimate and compare	the radius.  * Recognise, describe and build simple 3-D shapes, including making nets.  * Find unknown angles in any triangles, quadrilaterals, and

			* Identify right angles, recognise that two right angles make a half-turn, three make three-quarters of a turn and four a complete turn.	angles up to two right angles by size.  * Identify lines of symmetry in 2-D shapes presented in different orientations.	acute, obtuse and reglex angles.  * Draw right angles and measure them in degrees.  * Identify: Angles at a point and	* Recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles.
			* Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	* Complete a simple symmetric rigure with respect to a specific line of symmetry.	ones which turn. Angles at a point on a straight line and ½ a turn. Other multiples of 90	
Geometry: Position & Direction	* Describe position, direction and movement, including whole, half, quarter and three- quarter turns.	* 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		* 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 polygon.	* 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.	* Describe positions on the full coordinate grid (all four quadrants). * Draw and translate simple shapes on the coordinate plane, and reflect them in axes.

		(clockwise and anti- clockwise).				
		Orockwicor.	Statistics			
	Year	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present and Interpret		* 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.
Geometry: Solve Problems		* 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.	* 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.	* Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	* Solve comparison, sum and difference problems using information presented in a line graph.	* Calculate and interpret the mean as an average.