Mathematics progression document September 2023

	22 – 36 months	30 to 50 months	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Place Value and Number								
Counting	Select a small number of objects from a group when asked.	Recite numbers past 5.	Count objects, actions, and sounds.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			Count backwards through zero to include negative numbers	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	Use negative numbers in context, and calculate intervals across zero
	Recite some number names in sequence.	Say one number name for each item in order: 1, 2, 3, 4, 5.	Count beyond ten.	Count, read and write 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 or backward	Count from 0 in multiples of 4, 8, 50 and 100.	Count in multiples of 6, 7, 9, 25 and 1 000	Count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	
		Know that the last number reached when counting a small set of objects tells you how many there are in		Given a number, identify one more and one less		Find 10 or 100 more or less than a given number	Find 1000 more or less than a given number		

		total ('cardinal principle').							
Comparing numbers	Begins to make comparison between quantities. Uses some language of quantities, such as 'more' and 'a lot'.	Compare quantities using language: 'more than', 'fewer than'.	Compare numbers.	Use the language of: equal to, more than, less than (fewer), most, least	Compare and order numbers from 0 up to 100; use <, > and = signs	Compare and order numbers up to 1000	Order and compare numbers beyond 1000 (*compare numbers with the same number of decimal places up to two decimal places* (copied from fractions))	Read, write, order, and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in reading and writing numbers)	Read, write, order, and compare numbers up to 10 000 000 and determine the value of each digit (appears also in reading and writing numbers)
Identifying, representing, and estimating numbers		Fast recognition of up to 3 objects, without having to count them individually ('subitising').	Subitise.	Identify and represent numbers using objects and pictorial representations including the number line	Identify, represent, and estimate numbers using different representations, including the number line	Identify, represent, and estimate numbers using different representations	Identify, represent, and estimate numbers using different representations		
		Show 'finger numbers' up to 5.	Link the number symbol (numeral) with its cardinal number value.						

		Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.							
		Experiment with their own symbols and marks as well as numerals.							
Reading and writing numbers including roman numerals.	Creates and experi-ments with symbols and marks represe-nting the idea of number.	Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	Link the number symbol (numeral) with its cardinal number value.	Read and write numbers from 1 to 20 in numerals and words.	Read and write numbers to at least 100 in numerals and in words	Read and write numbers up to 1 000 in 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	Read, write, order, and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in comparing numbers)	Read, write, order, and compare numbers up to 10 000 000 and determine the value of each digit (appears also in understanding place value)

		Experiment with their own symbols and marks as well as numerals.				(*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))		Read roman numerals to 1 000 (m) and recognise years written in roman numerals.	
Understanding place value.			Understand the 'one more than/one less than' relationship between consecutive numbers.		Recognise the place value of each digit in a two-digit number (tens, ones)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	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 (appears also in reading and writing numbers)	Read, write, order, and compare numbers up to 10 000 000 and determine the value of each digit (appears also in reading and writing numbers)
			Explore the composition of numbers to 10.				(*find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the*	(*recognise and use thousandths and relate them to tenths, hundredths, and decimal equivalents*	*Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers are up*

							answer as units, tenths, and hundredths (copied from fractions))	(copied from fractions))	*to th decimal places* (copied from fractions))
Rounding							Round any number to the nearest 10, 100 or 1 000 (*round decimals with one decimal place to the nearest whole number* (copied from fractions))	Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 (*round decimals with two decimal places to the nearest whole number and to one decimal place* (copied from fractions))	Round any whole number to a required degree of accuracy (*solve problems which require answers to be rounded to specified degrees of accuracy* (copied from fractions))
Problem solving		Solve real world mathematical problems with numbers up to 5.			Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all the above and with increasingly large positive numbers	Solve number problems and practical problems that involve all the above	Solve number and practical problems that involve all the above

	Addition and subtraction								
Number bonds				Represent and use number bonds and related subtraction facts within 20	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100				
Mental calculations			Automatically recall number bonds for numbers 0-10.	Add and subtract one-digit and two-digit numbers to 20, including zero	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 mentally with increasingly large numbers	Perform mental calculations, including with mixed operations and large numbers
				Read, write, and interpret mathematical statements involving addition (+),	Show that addition of two numbers can be done in any order (commutative) and subtraction				Use their knowledge of the order of operations to carry out calculations

				subtraction (-) and equals (=) signs (appears also in written methods)	of one number from another cannot				involving four operations
Written methods				Read, write, and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in mental calculation)		Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	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)	
Inverse operations, estimating and checking					Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	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 problem, levels of accuracy	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Problem solving	Knows that a group of things changes in		Subitise. Link the number symbol (numeral)	Solve one-step problems that involve addition and	Solve problems with addition and subtraction:	Solve problems, including missing number problems, using	Solve addition and subtraction two-step problems in	Solve addition and subtraction multi-step	Solve addition and subtraction multi-step problems in

	quantity when something is added or taken away.		with its cardinal number value.	subtraction, using concrete objects and pictorial representations, and missing number 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 (*solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* (copied from measurement))	number facts, place value, and more complex addition and subtraction	contexts, deciding which operations and methods to use and why	problems in contexts, deciding which operations and methods to use and why	cont deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication, and division

	Multiplication and division								
Multiplication and division facts				*Count in multiples of twos, fives, and tens* (copied from number and place value)	*Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* (copied from number and place value)	*Count from 0 in multiples of 4, 8, 50 and 100* (copied from number and place value)	*Count in multiples of 6, 7, 9, 25 and 1 000* (copied from number and place value)	*Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* (copied from number and place value)	*Count in multiples of twos, fives, and tens* (copied from number and place value)
					Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12 × 12		
Mental calculations					Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit	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	Multiply and divide numbers mentally drawing upon known facts	Perform mental calculations, including with mixed operations and large numbers	

					numbers, using mental and progressing to formal written methods (appears also in written methods)				
				Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		Recognise and use factor pairs and commutativity in mental calculations (appears also in properties of numbers)	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	*Associate a fraction with division and calculate decimal fraction equivalents (e.g., 0.375) for a simple fraction (e.g., $^3/_8$)* (copied from fractions)	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
Written calculations					Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	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	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	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 multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

						mental and progressing to formal written methods (appears also in mental methods)			
								Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

									Use division methods in cases where the answer has up to two decimal places (copied from fractions (including decimals))
Properties of numbers: multiplies, factors, primes, square and cube numbers.							Recognise and use factor pairs and commutativity in mental calculations (repeated)	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	Identify common factors, common multiples, and prime numbers *Use common factors to simplify fractions; use common multiples to express fractions in the same denomination* (copied from fractions)

								number up to 100 is prime and recall prime numbers up to 19	
								Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	*Calculate, estimate, and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3* (copied from measures)
Order of operations									Use their knowledge of the order of operations to carry out calculations involving the four operations

Inverse operation, estimating and checking						*Estimate the answer to a calculation and use inverse operations to check answers* (copied from addition and subtraction)	*Estimate and use inverse operations to check answers to a calculation* (copied from addition and subtraction)		Use [illegible] to check answers to calculations and determine, in the context of a problem, levels of accuracy
Problem solving				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	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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 adding, including 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 addition, subtraction, multiplication, and division
								Solve problems involving addition, subtraction, multiplication and division	

								and a combination of these, including understanding the meaning of the equals sign	
								Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	*Solve problems involving similar shapes where the scale factor is known or can be found* (copied from ratio and proportion)
	Fractions including decimals and percentages								
Counting in fractional steps					*Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (non-statutory guidance)*	Count up and down in tenths	Count up and down in hundredths		

Recognising fractions				Recognise, find, and name a half as one of two equal parts of an object, shape, or quantity	Recognise, find, name, and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity	Recognise, find, and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Recognise and use thousandths and relate them to tenths, hundredths, and decimal equivalents (appears also in equivalence)	
				Recognise, find, and name a quarter as one of four equal parts of an object, shape, or quantity		Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.		Recognise and use thousandths and relate them to tenths, hundredths, and decimal equivalents (appears also in equivalence)	
						Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			

Comparing fractions						Compare and order unit fractions, and fractions with the same denominators		Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions >1
Comparing decimals							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	Identify the value of each digit in numbers given to three decimal places
Rounding including decimals							Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	Solve problems which require answers to be rounded to specified degrees of accuracy
Equivalency including fractions, decimals, and					Write simple fractions e.g., $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.	Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions	Identify, name, and write equivalent fractions of a given fraction, represented visually, including	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

								tenths and hundredths	
							Recognise and write decimal equivalents of any number of tenths or hundredths	Read and write decimal numbers as fractions (e.g., 0.71 = $^{71}/_{100}$) Recognise and use thousandths and relate them to tenths, hundredths, and decimal equivalents	Associate a fraction with division and calculate decimal fraction equivalents (e.g., 0.375) for a simple fraction (e.g., $^{3}/_{8}$)
							Recognise and write decimal equivalents to $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$	Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with	Recall and use equivalences between simple fractions, decimals, and percentages, including in different contexts.

								denominator 100 as a decimal fraction	
Adding and subtracting fractions						Add and subtract fractions with the same denominator within one whole (e.g., $^{5}/_{7} + {}^{1}/_{7} = {}^{6}/_{7}$)	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and multiples of the same number Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g., $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1{}^{1}/_{5}$)	Add and subtract fractions with different denominators and mixed numbers, using the Concept of equivalent fractions
								Multiply proper fractions and mixed numbers by whole	Multiply simple pairs of proper fractions, writing the answer in its simplest form

								numbers, supported by materials and diagrams	(e.g. $^{1}/_{4}$ $^{1}/_{2}$ $^{1}/_{8}$) Multiply one-digit numbers with up to two decimal places by whole numbers
									Divide proper fractions by whole numbers (e.g., $^{1}/_{3} \div 2 = {}^{1}/_{6}$)
Multiplication and division of fractions									Multiply one-digit numbers with up to two decimal places by whole numbers
							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		Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places

									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
									Associate a fraction with division and calculate decimal fraction equivalents (e.g., 0.375) for a simple fraction (e.g., $^{3}/_{8}$)
									Use written division methods in cases where the answer has up to two decimal places
Problem solving						Solve problems that involve all the above	Solve problems involving increasingly harder	Solve problems involving numbers up to	

							fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	three decimal places	
							Solve simple measure and money problems involving fractions and decimals to two decimal places.	Solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25.	
						Solve problems that involve all the above	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities,	Solve problems involving numbers up to three decimal places	

							including non-unit fractions where the answer is a whole number		
	Algebra								
Equations				*Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and* ***missing number problems*** *such as* $7 = \square - 9$ (copied from addition and subtraction)	*Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* (copied from addition and subtraction)	Solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.* (copied from addition and subtraction) *Solve problems, including* ***missing number*** *problems, involving multiplication and division, including integer scaling* (copied from Multiplication and division)		*Use the properties of rectangles to deduce related facts and find* ***missing lengths and angles*** (copied from geometry: properties of shapes)	Express missing number problems algebraically

					Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from addition and subtraction)				Find pairs of numbers that satisfy number sentences involving two unknowns
				Represent and use number bonds and related subtraction facts within 20 (copied from addition and subtraction)					Enumerate all possibilities of combinations of two variables
Formulae						*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (copied from nsg measurement)*			Use simple formulae *Recognise when it is possible to use **formulae** for area and volume of shapes* (copied from measurement)

Sequences				*Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon, and evening* (copied from measurement)	*Compare and sequence intervals of time* (copied from measurement) *Order and arrange combinations of mathematical objects in patterns* (copied from geometry: position and direction)				Gene describe linear number sequences
	Measurement								
Comparing and estimating	Begin to use the langu age of size.	Make comparisons between objects relating to size, length, weight, and capacity.	Compare length, weight, and capacity.	Compare, describe, and solve practical problems for: * Lengths and heights [e.g., Long/short, longer/shorter, tall/short, double/half] * Mass/weight [e.g., Heavy/light, heavier	Compare and order lengths, mass, volume/capacity and record the results using >, < and =		Estimate, compare and calculate different measures, including money in pounds and pence (also included in measuring)	Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular	Calculate, estimate, and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3.

				than, lighter than] * Capacity and volume [e.g., Full/empty, more than, less than, half, half full, quarter] Time [e.g., Quicker, slower, earlier, later]				shapes (also included in measuring)	
				Sequence events in chronological order using language [e.g., Before and after, next, first, today, yesterday, tomorrow, morning, afternoon, and evening]	Compare and sequence intervals of time	Compare durations of events, for example to calculate the time taken by particular events or tasks			
						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)			
Measuring and calculating				Measure and begin to record the following: * **Lengths and heights** * **Mass/weigh t** * **Capacity and volume** * **Time** (hours, minutes, seconds**)**	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	Measure, compare, add, and subtract **lengths** (m/cm/mm); **mass** (kg/g); **volume/capacit y** (l/ml)	Estimate, compare and calculate **different measures,** including **money in pounds and pence** (appears also in comparing)	Use all four operations to solve problems involving measure (e.g., **Length, mass, volume, money**) using decimal notation including scaling.	Solve problems involving the calculation and conversion of **units of measure**, using decimal notation up to three decimal places where appropriate (appears also in converting)
						Measure the **perimeter** of simple 2-d shapes	Measure and calculate the **perimeter** of a rectilinear	Measure and calculate the **perimeter** of composite	Recognise that shapes with the same areas can have different

							figure (including squares) in centimetres and metres	rectilinear shapes in centimetres and metres	**peri**[illegible]nd vice versa
				Recognise and know the value of different denominations of **coins and notes**	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	Add and subtract amounts of **money** to give change, using both £ and p in practical contexts			
							Find the area of rectilinear shapes by counting squares	Calculate and compare the area of squares and rectangles including using	Calculate the area of parallelograms and triangles

								standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes *Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* (copied from multiplication and division)	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 [e.g., Mm^3 and km^3]. Recognise when it is possible to use formulae for area and volume of shapes
Telling the time	Understands some talk about immediate, past and future.	Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then…'		Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	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.	Tell and write the time from an analogue clock, including using roman numerals from i to xii, and 12-hour and 24-hour clocks	Read, write, and convert time between analogue and digital 12 and 24-hour clocks (appears also in converting)		

	Anticipates specific time-based events such as mealtimes or home time.			Recognise and use language relating to dates, including days of the week, weeks, months, and years	Know the number of minutes in an hour and the number of hours in a day. (appears also in converting)	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 comparing and estimating)			
							Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in converting)	Solve problems involving converting between units of time	

Converting					Know the number of minutes in an hour and the number of hours in a day. (appears also in telling the time)	Know the number of seconds in a minute and the number of days in each month, year, and leap year	Convert between different units of measure (e.g., Kilometre to metre, hour to minute)	Convert between different units of metric measure (e.g., Kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	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
							Read, write, and convert time between analogue and digital 12 and 24-hour clocks (appears also in converting)	Solve problems involving converting between units of time	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in measuring and calculating)

							Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in telling the time)	Understand and use equivalences between metric units and common imperial units such as inches, pounds, and pints	Convert between miles and kilometres
	Geometry								

Identifying shapes and their properties	Notices simple shapes and patterns in pictures. Beginning to categories objects according to properties such as shape or size. Begin to use the language of size.	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'. Select shapes appropriately: flat surfaces for a building, a triangular	Select, rotate, and manipulate shapes in order to develop spatial reasoning skills.	Recognise and name common 2-d and 3-d shapes, including: * 2-d shapes [e.g., Rectangles (including squares), circles and triangles] * 3-d shapes [e.g., Cuboids (including cubes), pyramids and spheres].	Identify and describe the properties of 2-d shapes, including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3-d shapes, including the number of edges, vertices, and faces Identify 2-d shapes on the surface of 3-d shapes, [for example, a circle on a cylinder and a triangle on a pyramid]		Identify lines of symmetry in 2-d shapes presented in different orientations	Identify 3-d shapes, including cubes and other cuboids, from 2-d representations	Recognise, describe, and build simple 3-d shapes, including making nets (appears also in drawing and constructing) Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

		pattern for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc.							
Drawing and constructing						Draw 2-d shapes and make 3-d shapes using modelling materials; recognise 3-d shapes in different orientations and describe them	Complete a simple symmetric figure with respect to a specific line of symmetry	Draw given angles, and measure them in degrees (°)	Draw 2-d shapes using given dimensions and angles Recognise, describe, and build simple 3-d shapes, including making nets (appears also in identifying shapes and their properties)

Comparing and classifying			Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.		Compare and sort common 2-d and 3-d shapes and everyday objects		Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Angles						Recognise angles as a property of shape or a description of a turn		Know angles are measured in degrees: estimate and compare acute, obtuse, and reflex angles	

						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 acute and obtuse angles and compare and order angles up to two right angles by size	Identify: * Angles at a point and one whole turn (total 360°) * Angles at a point on a straight line and ½ a turn (total 180°) * Other multiples of 90°	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			

Position, direction, and movement		Understand position through words alone – for example, "The bag is under the table," – with no pointing. .	Draw information from a simple map.	Describe position, direction, and movement, including half, quarter, and three-quarter turns	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)		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	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 the axes.
		Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'.					Plot specified points and draw sides to complete a given polygon		

Pattern		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. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern.	Continue, copy, and create repeating patterns.		Order and arrange combinations of mathematical objects in patterns and sequences				

	Statistics								
Interrupting, constructing, and presenting data		Experiment with their own symbols and marks, as well as numerals.			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
					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				

Solving problems						Solve one-step and two-step questions [e.g., '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
	Ratio and proportion								
Connected to previous learning, particularly in fractions,									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 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.