Freeman Maths Topic and Progression Map

School Values	Curious	Achieve	Resilient	Independent		Nurturing	Gracious
What do these values look like in Maths?	Asking questions about mathematical concepts. Enjoys learning new knowledge and skills. Desire to learn more and improve.	Recognise and celebrate own success. Sets clear goals and challenges. Make expected or better progress.	Have a strong sense of self-belief. Respond to challenge positively. Show determination to succeed.	Attempt new skills and challenges positively. Take ownership of learning. Make decisions. Consistently retrieve/ remember key skills and knowledge. Make connections between areas and processes within Mathematics.		Be supportive to peers	Cope with success and difficulty positively.
Topics / Skills	**Early Years**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Number and Place Value **Counting**	Recites numbers in order to 10. Knows that numbers identify how many objects are in a set. Sometimes matches numeral and quantity correctly. Realises not only objects, but anything can be counted, including steps, claps or jumps Recognise numerals 1-5 Recognise some numerals of personal significance Counts up to 3 or 4 objects by saying one number name for each item.	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. given a number, identify one more and one less	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; find 10 or 100 more or less than a given number	count backwards through zero to include negative numbers count in multiples of 6, 7, 9, 25 and 1 000 find 1 000 more or less than a given number	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	use negative numbers in context, and calculate intervals across zero

		Counts objects or actions which cannot be moved. Counts objects to 10, and beginning to count beyond 10 Count up to 6 objects from a larger group Counts an irregular arrangement of up to 10 objects **<u>Early Learning Goal</u>** Count reliably with numbers from one to 10, place them in order and say which number is one more or one less than a given number.						
	Comparing Numbers	Compares two groups of objects, saying when they have the same number. Uses the language of 'more' and 'fewer' to compare two sets of objects	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 1 000	order and compare numbers beyond 1 000 *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 number	Shows and interest in representing numbers. Beginning to represent numbers using fingers, marks on paper or pictures Estimates how many objects they can see and checks by counting them.	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		

	Records, using marks that they can interpret and explain						
Reading and Writing numbers (inc Roman Numerals)	Sometimes matches numeral and quantity correctly. Recognise numerals 1-5 Recognise some numerals of personal significance Selects the correct numeral to represent 1 to 5 objects, then 1 to 10 objects	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 *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 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 Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
Understanding Place Value			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) *find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths* (copied from Fractions)	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) *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* (copied from Fractions)	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) *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 to three 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	Shows an interest in number problems They solve problems, including doubling, halving and sharing (also in multiplication and division)		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 of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of 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 Calculation		add and subtract one digit and two-digit numbers to 20, including zero. read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	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 use their knowledge of the order of operations to carry out calculations involving the four operations

	(appears also in Written Methods)	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot					
Written Methods	Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Find one more or one less from a group of up to five objects, then ten objects. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.	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 Answers		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	In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number	solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers,	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 multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations snd methods to use and why

			problems such as 7 = □ - 9	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)				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) recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	*count from 0 in multiples of 4, 8, 50 and 100* (copied from Number and Place Value) recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	*count in multiples of 6, 7, 9, 25 and 1 000* (copied from Number and Place Value) recall multiplication and division facts for multiplication tables up to 12 × 12	*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)	
	Mental Calculation			show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Written	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 recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	perform mental calculations, including with mixed operations and large numbers *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)

					Methods)			
	Written Calculation	Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. They solve problems, including doubling, halving and sharing.		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 mental and progressing to formal written methods (appears also in Mental Methods)	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 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	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 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 written division methods in cases where the answer has up to two decimal places* (copied from Fractions (including decimals))

	Properties of Number (Multiples, Factors, Primes Squares and Cubes)					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 (nonprime) numbers recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	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) *calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3* (copied from Measures)
	Order of Operations							use their knowledge of the order of operations to carry out calculations involving the four operations
	Inverse Operations, Estimating and Checking Answers				*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 estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
	Problem Solving	They solve problems, including doubling, halving and sharing. .	solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and	solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder	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

			and arrays with the support of the teacher	multiplication and division facts, 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 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	**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 and name a quarter as one of four equal parts of an object, shape or quantity	recognise, find, name and write fractions one third, one quarter, two quarters and three quarters (as fractions) 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 tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. recognise and use	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)	

				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
Equivalence (Including Fractions, Decimals and Percentages)			write simple fractions e.g. ½ 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 recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to 1/4; 1/2; 3/4	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and 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 recognise the per cent	use common factors to simplify fractions; use common multiples to express fractions in the same denomination associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

						symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100 as a decimal fraction	
Addition and Subtraction of 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
Multiplication and Division of Fractions						multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	multiply simple pairs of proper fractions, writing the answer in its simplest form (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÷2 =1/6)

	Multiplication and Division of Decimals						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 one-digit numbers with up to two decimal places by whole numbers 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 of the above	solve problems involving increasingly harder fractions calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole	solve problems involving numbers up to three decimal places solve problems which require knowing	

						number solve simple measure and money problems involving fractions and decimals to two decimal places.	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.	
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 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.
Algebra	**Equations**		*solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and*	*recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number***	solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.*		*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 find pairs of numbers that satisfy number

			missing number problems *such as* *7 = □ - 9* (copied from Addition and Subtraction) *represent and use number bonds and related subtraction facts within 20* (copied from Addition and Subtraction)	*problems.* (copied from Addition and Subtraction) *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* (copied from 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)			sentences involving two unknowns 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 measuremen)*		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)				generate and describe linear number sequences
Measurement	**Comparing and Estimating**	Orders two or three items by length or height. Children use everyday language to talk about size, weight, capacity, position, distance, time and	compare, describe and solve practical problems for: * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g.	compare and order lengths, mass, volume/capacity and record the results using >, < and = 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	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 and square metres and estimate the area of	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed and cubic metres, and extending to other

		money to compare quantities and objects and to solve problems.	heavy/light, heavier 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] sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]		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)		irregular shapes (also included in measuring) estimate volume (e.g. using 1 cm cubed blocks to build cubes and cuboids) and capacity (e.g. using water)	units such as mm cubed and km cubed
	Measuring and Calculating		measure and begin to record the following: * **lengths and heights** * **mass/weight** * **capacity and volume** * **time** (hours, minutes, seconds**)** recognise and know the value of different denominations of **coins and notes**	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 recognise and use symbols for pounds **(£) and pence (p)**; combine amounts to make a particular value find different combinations of coins	measure, compare, add and subtract: **lengths** (m/cm/mm); **mass** (kg/g); **volume/capacity** (l/ml) measure the **perimeter** of simple 2-D shapes 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** (appears also in Comparing) measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares	use all four operations to solve problems involving measure (e.g. **length, mass, volume, money**) using decimal notation including scaling. measure and calculate the **perimeter** of composite rectilinear shapes in centimetres and metres calculate and compare the area of squares and rectangles including using standard units, square centimetres and square metres and estimate the area of irregular shapes *recognise and use square numbers and*	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) recognise that shapes with the same areas can have different **perimeters** and vice versa calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using

				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			*cube numbers, and the notation for squared and cubed* (copied from Multiplication and Division)	standard units, including cubic centimetres and cubic metres, and extending to other units recognise when it is possible to use formulae for area and volume of shapes
	Telling the Time	uses everyday language related to time Orders and sequences familiar events measures short periods of time in simple ways	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. recognise and use language relating to dates, including days of the week, weeks, months and years	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks 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)	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) 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) read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	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

						solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	solve problems involving converting between units of time understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	three decimal places 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) convert between miles and kilometres
Geometry: Properties of Shape	**Identifying Shapes and Their Properties**	Shows an interest in shape and space by playing with shapes or making arrangements with objects. Uses shapes appropriately for tasks Beginning to talk about the shapes of everyday objects e.g. round and tall. Beginning to use mathematical names for solid 3D shapes and flat 2D shapes and mathematical terms to describe shapes. Selects a particular named shape. Uses familiar objects and common shapes	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

		to create and recreate patterns and build models.						
	Drawing and Constructing	Shows and interest in shape and space by playing with shapes or making arrangements with them. Uses familiar objects and common shapes to create and recreate patterns and build models.			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			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 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	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles identify: * angles at a point and one whole turn (total 360 degrees) * angles at a point on a straight line and ½ a turn (total 180 degrees)	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		* other multiples of 90 degrees	
Geometry: Position and Direction	**Position, Direction and Movement**	Uses positional language Can describe their position such as 'behind' or 'next to'	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 plot specified points and draw sides to complete a given 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) and translate simple shapes on the coordinate plane, and reflect them in the axes.
	Pattern	Uses familiar objects and common shapes to create and recreate patterns and build models. They recognise, create and describe patterns.		order and arrange combinations of mathematical objects in patterns and sequences				
Statistics	**Interpreting, Constructing and Presenting Data**			interpret and construct simple pictograms, tally charts, block diagrams and simple tables ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	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 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