Areas of study	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. - Verbally count beyond 20, recognising the pattern of the counting system Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count numbers to 100 in numerals; count in multiples of 2, 5 and 10. identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals - read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less. use the language of: equal to, more than, less than (fewer), most, least.	count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward. read and write numbers to at least 100 in numerals and words. identify, represent and estimate numbers using different representations, including the number line. recognise the place value of each digit in a two-digit number (tens, ones) partition numbers in different ways compare and order numbers from 0 up to 100; use < > and = signs - find 1 or 10 more or less than a given number use place value and number facts to solve problems.	count from 0 in multiples of 4, 8, 50 and 100; find 1, 10 or 100 more or less than a given number read and write numbers up to 1000 in numerals and in words. identify, represent and estimate numbers using different representations recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 partition numbers in different ways round numbers to at least 1000 to the nearest 10 or 100. solve number problems and practical problems involving these ideas.	count in multiples of 6,7,9,25 and 1000 - count backwards through zero to include negative numbers read and write numbers to 10 000 identify, represent and estimate numbers using different representations read Roman numerals to 100 (1 to C) and know that over time, the numeral system changed to include the concept of zero and place value find 0.1, 1, 10, 100 or 1000 more or less than a given number recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones) - order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve all of the above and with increasingly large positive numbers	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. count forwards and backwards with positive and negative whole numbers, including through zero. read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit read Roman numbers to 1000 (M) and recognise years written in Roman numerals interpret negative numbers in context. - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number solve number and practical problems that involve all of the above	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. round and whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero identify, represent and estimate numbers using the number line order and compare numbers including integers, decimals and negative numbers find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number

Areas of study	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction	Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts	read, write and interpret mathematical statements involving, +, - and = signs represent and use number bonds and related subtraction facts within 20. add and subtract one digit and two digit numbers to 20, including zero. solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations solve missing number problems such as 7 = □ - 9	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a 2 digit number and ones a 2 digit number and tens two 2 digit numbers adding three 1 digit numbers recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving	recall/use addition and subtraction facts for 100 estimate the answer to a calculation and use inverse operations to check answers - add and subtract numbers mentally, including: a 3 digit number and ones a 3 digit number and tens a 3 digit number and hundreds - add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction - solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	estimate and use inverse operations to check answers to a calculation recall and use addition and subtraction facts for 100. add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - add and subtract numbers mentally with increasingly large numbers solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve addition and subtraction problems involving missing numbers	use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy add and subtract whole numbers and decimals using formal written methods 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 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving all four operations, including those with missing numbers

			numbers, quantities and measures applying their increasing knowledge of mental and written methods.				
Areas of study	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Multiplication and Division **Multiplication and Division cont…**	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	recall and use doubles of all numbers to 10 and corresponding halves. 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.	recall and use multiplication and division facts for to 2, 5 and 10 times tables, including recognise odd and even numbers derive and use doubles of simple two-digit numbers (in which the ones total less than 10) derive and use halves of simple two-digit even numbers (numbers in which the tens are even) show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot calculate mathematical statements for multiplication and division within the multiplication tables and write them using the x, ÷ and = signs - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and	recall and use multiplication and division facts for the 3,4 and 8 multiplication tables derive and use doubles of all numbers to 100 and corresponding halves 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 methods solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects and connected to m objects.	recall multiplication and division facts for multiplication tables up to 12 x12 use partitioning to double or halve any number, including decimals to one decimal place 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 multiply two-digit and three-digit numbers by a one-digit number using formal written layout divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders	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 establish whether a numbers 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}) multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers mentally drawing upon known facts - divide numbers up to 4 digits by a one-digit number using the	identify common factors, common multiples and prime numbers use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication multiply one-digit numbers with up to two decimal places by whole numbers divide numbers up to 4 digits by a two-digit whole number using the formal written method of long or short division, and interpret remainders as whole number remainders, fractions, or

			division facts, including problems in contexts.		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.	formal written method of short division and interpret remainders appropriately multiply and divide whole numbers and those involving decimals, by 10, 100 and 1000 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 solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	by rounding perform mental calculations, including with mixed operations and large numbers use written division methods in cases where the answer has up to two decimal places solve problems involving all four operations, including those with missing numbers use knowledge of the order of operations to carry out calculations involving the four operations
Areas of study	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	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	-recognise, find, name and write fractions 1/3, ½, 2/4, and ¾ of a length, shape, set of objects or quantity recognise the equivalence of 2/4 and ½ - write simple	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing onedigit numbers or quantities by 10	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten recognise and show, using diagrams, families	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. recognise mixed numbers and improper fractions and convert	use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1	1000 giving answers up to three decimal places multiply one-digit numbers with up to two decimal places by whole numbers

Fractions, Decimals and Percentages **Fractions, Decimals and Percentages cont…**	an object, shape or quantity	fractions for example ½ of 6 = 3	recognise, find and write fractions of a discrete set of objected; unit fractions and no-unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators -recognise and show, using diagrams, equivalent fractions with small denominators – compare and order unit fractions, and fractions with the same denominators add and subtract fractions with same denominator within one whole. solve problems that involve all of the above	of common equivalent fractions add and subtract fractions with the same denominator solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number recognise and write decimal equivalents of any number of tents or hundredths recognise and write decimal equivalents to ¼, ½, 1/3 round decimals with one decimal place to the nearest whole number	from one form to the other and write mathematical statements > 1 as a mixed number e.g. 2/5 + 4/5 = 6/5 = 11/5 compare and order fractions whose denominators are all multiples of the same number add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams compare numbers with the same number of decimal places up to two decimal places 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 solve simple measure and money problems involving fractions and decimals to two decimal places	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 (e.g. ¼ x ½ = 1/8) - divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6) identify the value of each digit in numbers give to three decimal places round decimals with 3 decimal places to the nearest whole number or one or two decimal places. multiply and divide numbers by 10, 100 and 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 round decimals with two decimal places to the nearest whole number and to one decimal place	use written division methods in cases where the answer has up to two decimal places solve problems which require answers to be rounded to specified degrees of accuracy associate a fraction with division and calculate decimal fraction equivalents for a simple fraction recall and use equivalences between simple fractions, decimals and percentages including in different contexts find simple percentages of amounts solve problems involving the calculation of percentages and the use of percentages for comparison.

						read, write, order and compare numbers with up to three decimal places solve problems involving numbers up to three 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 or 25	
Areas of study	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Ration 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 unequal sharing and grouping using knowledge of

							fractions and multiples solve problems involving similar shapes where the scale factor is known or can be found
Algebra							use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of two variables.
Areas of study	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		compare, describe and solve practical problems for: lengths and heights mass and weight capacity and volume time	choose and use appropriate standard units to estimate and measure length/height in any direction; mass; temperature; capacity to the nearest appropriate	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) - continue to estimate and measure temperature to the nearest degree using thermometers	convert between different units of measure (e.g. km to m, hour to minute) estimate, compare and calculate different measures, including pound and pence -	convert between different units of metric measure understand and use approximate equivalences between metric units and common imperials units	solve problems involving calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

Measurement		measure and begin to record the following: - lengths and heights mass and weight capacity and volume time recognise and know the value of different denominations of coins and notes sequence events in chronological order using language recognise and use language relating to dates, including days of the week, weeks, months and years tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	unit, using rulers, scales, thermometers and measuring vessels. compare and order lengths, mass, volume/capacity and record the results using <, > and = recognise and use symbols for pounds and pence; 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 and measures compare and sequence intervals of time tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times know the number of minutes in an hour and the number of hours in a day	add and subtract amounts of money to give change, using both £ and p in practical contexts - tell and write the time from an analogue clock, including using Roman numerals 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 and hours; use vocabulary such as o'clock/a.m./p.m., morning, afternoon noon and midnight know the number of seconds in a minute and the number of days in each month, year and leap year compare durations of events measure the perimeter of simple 2D shapes	order temperatures including those below 0 - read, write and convert time between analogue and digital 12 and 24 hour clocks solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days write amounts of money using decimal notation - measure and calculate the perimeter of rectilinear figure in cm and m find the area of rectilinear shapes by counting squares	such as inches, pounds and pints use all four operations to solve problems involving measure, using decimal notation, including scaling - solve problems involving converting between units of time measure and calculate the perimeter of composite rectilinear shapes in cm and m - calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. estimate volume (e.g. using $1cm^3$ blocks to build cuboids and capacity	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. convert between miles and kilometres recognise that shapes with the same areas can have different perimeters and vice versa - recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units

Areas of study	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Properties of Shape		recognise and name common 2D shapes (e.g. rectangles (including squares), circles and triangles recognise and name common 3D shapes (e.g. cuboids (including cubes), pyramids and spheres)	identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line identify 2D shapes on the surface of 3D shapes - compare and sort common 2D shapes and everyday objects recognise and name common 3D shapes - compare and sort common 3D shapes and everyday objects	draw 2D shapes - make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them recognise angles as a property of shape or a description of a turn identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of perpendicular and parallel lines	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify lines of symmetry in 2D shapes presented in different orientations identify acute and obtuse angles and compare and order angles up to two angles by size identify lines of symmetry in 2D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry	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 identify 3D shapes, including cubes and other cuboids, from 2D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees identify angles at a point and one whole turn (total 360) identify angles at a point on a straight line and ½ a turn (180) identify other multiples of 90 degrees	draw 2D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise, describe and build simple 3D shapes, including making nets - find unknown angles in any triangles, quadrilaterals, and regular polygons recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		describe position, direction and movement including whole, half, quarter and three-quarter turns.	order and arrange combinations of mathematical objects in patterns and sequences		describe positions on a 2D grid as coordinates in the first quadrant	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate	describe positions on the full coordinate grid (all four quadrants)

Geometry: Position and Direction			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 anticlockwise)		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	language, and know that the shape has not changed describe positions on the first quadrant of a coordinate grid	draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Areas of study	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Statistics			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 categories by quantity ask and answer questions about totalling and comparing categorical data	interpret and present data using bar charts, pictograms and tables solve one-step and twostep questions (e.g. how many more? and how many fewer?) using information presented in scaled bar charts and pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	complete, read and interpret information in tables, including timetables solve comparison, sum and difference problems using information presented in a line graph	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as average