	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Place Value	Counting (1-5): The one- to one principle (one number name per object). The Stable order principle (numbers have to be said in order). The Cardinal principle (number assigned to the final group is the number of objects in that group). The abstraction principle (anything can be counted including objects that cannot be touched). The Order- Irrelevance principle (the order we count objects in is irrelevant, there will still be the same number). Comparing groups (comparing groups of identical objects, comparing groups of unidentical objects). Counting numbers to 10. Comparing groups up to 10. Counting to 20.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count numbers to 100 in numerals; count in multiples of twos, fives, and tens. 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.	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backwards. Read and write numbers to at least 100 in numerals and in 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). Compare and order numbers from 0 up to 100; using <, > and = signs. Use place value and number facts to solve problems.	Count from 0 in multiples of 4, 8, 50, and 100; find 10 or 100 more or less than a given number. Identify, represent and estimate numbers using different representations. Read and write numbers up to 1, 000 in numerals and words. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1, 000. Solve number problems and practical problems involving these ideas.	Count in multiples of 6, 7, 9, 25, and 1, 000. Count backwards through zero to include negative numbers. Identify, represent and estimate numbers using different representations. 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. Find 1, 000 more or less than a given number. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones). Order and compare numbers beyond 1, 000. Round any number to the nearest 10, 100, or 1, 000. 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 numerals to 1, 000 (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, 1, 000, 10, 000, and 100, 000. Solve number problems 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 any whole number to a required degree of accuracy. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Addition and Subtraction	Sorting into groups. Changes within 5 (one more, one less). Number bonds to 5. Combining two groups to find the whole. Number bonds to 10 (tens frame). Number bonds to 10 (part- whole model). Adding by counting on. Subtracting by counting back.	Read, write and interpret mathematical statements, involving addition (+), subtraction (-), and equals (=) 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, and missing number problems.	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. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: A two- digit number and ones, A two- digit number and tens, Two two- digit numbers Adding three one- digit numbers. Solve problems with addition and subtraction: Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	Estimate the answer to a calculation and use inverse operations to check answers. Add and subtract numbers mentally including: A three- digit number and ones, A three- digit number and tens, A three- digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	Estimate and use inverse operations to check answers to a calculation. 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.	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.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
			Applying their increasing knowledge of mental and written methods.				

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Multiplication and Division	Doubling. Halving and sharing. Odd and even numbers.	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 the 2, 5, and 10 multiplication tables, including recognising odd and even numbers. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division, (÷), and equal (=) signs. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.	Recall and use multiplication and division facts for the 3, 4, and 8 multiplication tables. 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. 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.	Recall multiplication and division facts for the multiplication tables for up to 12 × 12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; diving 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. Solve problems involving multiplying and adding, including 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.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors, and composite (non-prime) numbers. Establish whether a number up 10 100 is prime and recall prime numbers up to 19. Recognise and use square numbers and cube numbers, the notation for squared (^{2}) and cubed (^{3}). Multiply numbers up to 4 digits by a one- digit number using 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 formal written method of short division and interpret remainders appropriately for the context.	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. 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 to the context. Divide numbers up to 4-digits by a two- digit number using the formal written method of short division where appropriate, interpret remainders according to the context. Perform mental calculations, including with mixed operations and large numbers.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
						Multiply and divide whole numbers and those involving decimals by 10, 100, and 1, 000. Solve problems involving multiplication and division including using their knowledge of factors, 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.	Solve problems involving addition, subtraction, multiplication and division. Use their knowledge of the order of operations to carry out calculations involving the four operations.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Fractions, Decimals and Percentages		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, and name fractions 1/3, ¼, 2/4, and ¾ of a length, shape, set of objects or quantity. Recognise the equivalence of 2/4 and ½. Write simple fractions for example, ½ of 6 = 3.	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one- digit numbers or quantities by 10. Recognise, find, and write fractions of a discrete set of objects; unit fractions, and non- 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 denominator. Add and subtract fractions with the same denominator within one whole. Solve problems that involve all of the above.	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by 10. Recognise and show, using diagrams, families of common equivalent fractions. Add and subtract fractions with the same denominator. Solve problems involving increasing 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 tenths or hundredths. Recognise and write decimal equivalents to ¼, ½, and ¾. Round decimals and one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number. 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. Read and write decimal numbers as fractions. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions >1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers. Identify the value of each digit in numbers given to three decimal places. Multiply and divide numbers by 10, 100, and 1, 000 giving answers up to three decimal places. Multiply one- digit numbers with up to two decimal places by whole numbers. Use written division methods in cases where

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
					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 measures and money problems involving fractions and decimals to two decimal places.	Round decimals with two decimal places to the nearest whole number and to one decimal place. Read, write, order, and compare numbers with up to three decimal places. Solve problems involving number 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, as a decimal. Solve problems which require knowing percentages and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	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. Recall and use equivalences between simple fractions, decimals, and percentages, including in different contexts.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
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, 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 or grouping using knowledge of fractions and multiples.
Algebra		Solve one- step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 9 = 7 + ?	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Solve problems, including missing number problems.			Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations and variables.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Measurement	Time (my day). Length, height and distance. Weight. Capacity.	Compare, describe, and solve practical problems for: ✓ Lengths and height (long, short, longer, shorter, tall, short, double, half) ✓ Mass and weight (heavy, light, heavier than, lighter than). ✓ Capacity and volume (full, empty, more than, less than, half, half full, half empty, quarter). ✓ Time (quicker, slower, earlier, later). Measure and begin to record the following: Length and height. ✓ Mass and weight ✓ Capacity and volume. ✓ Time (hours, minutes, seconds). Recognise and know the value of different denominations of coins and notes. Sequence events in chronological order using appropriate language. Recognise and use language relating to dates, including days of the week, weeks, months and years.	Choose and use appropriate standard units of estimate and measure (cm, m, kg, g, °C, l, ml) to the nearest appropriate 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 (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amount of money. Solve simple problems in a practical context involving addition, and subtraction of money of the same unit, including giving change. Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/quarter to the hour, and draw the hands on a clock face to show these times.	Measure, compare, add and subtract lengths (m, cm, mm), mass (kg, g), volume capacity (l, ml). 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 roman numerals, and twelve and twenty-four 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.	Convert between different units of measure (km to m, hour to minute). Estimate, compare, and calculate different measures. Estimate, compare and calculate different measures, including money in pounds and pence. 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. Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m. Find the area of rectilinear shapes by counting squares.	Convert between different units of metric measures (km and m, cm and m, cm and mm, g and kg, l and ml). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds, and pints). Use all four operations to solve problems involving measure (length, mass, volume, money) using decimal notation, including scaling. Use all four operations to solve problems involving measure (money). Solve problems involving converting between units of time. Measure and calculate the perimeter of composite and 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.	Solve problems involving calculation and conversion of units of measure, using decimal notation up to three decimal places, where appropriate. Use, read, write, and convert between standard units, converting measurements of length, mass, volume, and time from a smaller units of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. Convert between miles and kilometres. Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa. 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.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
		Tell the time to the hours, and half past 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.			Estimate volume (for example, using 1cm ^{3} blocks to build cuboids and capacity using water).	Calculate the area of parallelograms and triangles. Calculate, estimate, and compare volume of cubes and cuboids using standard units (cm ^{3}) and (m ^{3}) and extending to other units (mm ^{3}) and (km ^{3}).

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Geometry	Spatial awareness. 2D shapes. 3D shapes. Exploring patterns: ✓ Making simple patterns. ✓ Exploring more complex patterns.	Recognise and name common 2D shapes (rectangles, squares, circle and triangle). Recognise and name common 3D shapes (cuboids, cubs, pyramids and spheres). Describe position, direction and movement, including whole, half, quarter, three quarter turns.	Identify and describe the properties of 2D shapes, including the number of sides and lines of symmetry in a vertical line. Identify 2D shapes on the surface of 3D shapes. Compare and sort 2D shapes and everyday objects. Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement in a straight line, and distinguishing between rotation as a turn.	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 the angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular lines 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, compare and order angles up to two right angles by size. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to specific lines of symmetry. Describe positions on a 2D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left, right, up, down. Plot specified points and draw sides to complete a given polygon.	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 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°). ✓ Angles at a point on a straight line ½ a turn total (180°). ✓ Other multiples of 90°. Identify, describe, and represent the position of a shape following a reflection or translation, using the appropriate language and know that	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 on a point, are on a straight line, or are vertically opposite, and find missing angles. 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.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
						the shape has not changed.	

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
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 the 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 two-step questions: 'How many more? How many less?' 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.	Compare, 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 pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.