	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	*Count to and across 100, forwards and backwards beginning with 0 or 1, or from any given number *Count in multiples of twos, fives and tens *Count, read and write numbers to 100 in numerals *Given a number, identify one more, one less *Read and write numbers from 1 to 20 in numerals and words *Identify and represent numbers using objects and pictorial representations, including the number line and 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 or backward *Read and write numbers to at least 100 in numerals and words *Compare and order numbers from 0 up to 100; use < > and = signs *Recognise the place value of each digit in a two digit number (tens, ones) *Identify, represent and estimate numbers using different representations, including the number line *Use place value and number facts to solve problems	Count from 0 in multiples of 4, 8, 50 and 100 Read and write numbers to 1000 in numerals and in words Compare and order numbers up to 1000 Find 10 or 100 more or less than a given number Recognise the place value of each digit in a three-digit number (hundreds, tens, and ones) Identify, represent and estimate numbers using different representations Solve number problems and practical problems involving Y3 place value	Count backwards through zero to include negative numbers Count in multiples of 6, 7, 9, 25 and 100 Order and compare numbers beyond 1000 Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones) Read Roman numerals to 100 (I to C) Round any number to the nearest 10, 100 or 1000 Solve number problems and practical problems involving Y4 place value and with increasingly large positive numbers	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 Read, write, order and compare numbers to at least 1 000 000 Determine the value of each digit in numbers up to 1 000 000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Solve number problems and practical problems involving Y5 place value	Use negative numbers in context, and calculate intervals across zero Read, write, order and compare numbers to at least 10 000 000 Determine the value of each digit in numbers up to 10 000 000 Round any whole number to a required degree of accuracy Solve number problems and practical problems involving Y6 place value
Addition, subtraction, multiplication and division (calculations)	*Represent and use number bonds and related subtraction facts within 20 *Add and subtract one-digit and two-digit numbers to 20, including zero *Read, write and interpret mathematical statements involving addition (+), subtractions (-) and equals (=) signs *Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9	*Recall and use addition and subtractions facts to 20 fluently; and derive and use related facts up to 100 *Add and subtract numbers 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 using concrete objects and pictorial representations, including: •A two-digit number and ones •A two-digit number and tens •Two two-digit numbers •Adding three one-digit numbers	*Add and subtract numbers mentally including: •A three-digit number and ones •A three-digit number and tens •A three-digit number and hundreds *Add and subtract numbers with up to three digits, using the formal written methods of columnar addition and subtraction *Estimate the answer to a calculation and use inverse operations to check answers Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction * Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	*Add and subtract numbers with up to four digits, using the formal written methods of columnar addition and subtraction where appropriate *Estimate and use inverse operations to check answers to a calculation Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why *Recall multiplication and division facts for multiplication tables up to 12 X 12 * 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	*Add and subtract numbers mentally with increasingly large numbers *Add and subtract numbers with up to four digits, using the formal written methods of columnar addition and subtraction where appropriate *Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy *Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why *Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers	*Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy *Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why *Identify common factors, common multiples and prime numbers *Perform mental calculations, including with mixed operations and large numbers *Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition, subtraction, multiplication and division (calculations)		*Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems *Solve problems with addition and subtraction: •Using concrete objects and pictorial representations, including those involving numbers, quantities and measures •Applying their increasing knowledge of mental and written methods *Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers *Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals sign *Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	*Write and calculate mathematical statements for multiplication and division using the multiplication tables that children 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 integer scaling problems and correspondence problems in which n objects are connected to m objects	*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 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	*Know and use the vocabulary of prime numbers, prime factors and composite (non prime) numbers *Establish whether a 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 and cubed *Multiply and divide numbers mentally drawing upon known facts *Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 *Multiply numbers up to 4 digits by a one-digit or two-digit number using a formal written method, including long multiplication for two-digit numbers * Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates	*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 *Divide numbers up to 4 digits by two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context *Solve problems involving addition, subtraction, multiplication and division *Use their knowledge of the order of operations to carry out calculations involving the four operations
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 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity *Write simple fractions (e.g. ½ of 6 = 3) *Recognise the equivalence of 2/4and 1/2	*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	*Count up and down in hundredths; recognise that hundredths arise from dividing an object by a hundred equal parts and in dividing tenths by ten *Recognise and show, using diagrams, families of common equivalent fractions *Add and subtract fractions with the same denominator *Recognise and write decimal equivalents to ¼ ½ ¾ *Recognise and write decimal equivalents of any number of tenths or hundredths *Round decimals with one decimal place to the nearest whole number	*Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number (2/5 + 4/5=6/5=1 1/5) *Identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths *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	*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 (1/4 x ½ = 1/8) * Divide proper fractions by whole numbers (1/3 *2 = 1/6)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions (continued)			*Compare and order unit fractions and fractions with the same denominators *Add and subtract fractions with the same denominator within one whole (5/7+1/7=6/7)	*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 problems involving harder fractions to calculate quantities and fractions to divide quantities including non-unit fractions where the answer is a whole number *Solve simple measure and money problems involving fractions and decimals to two decimal places	*Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams *Read and write decimal numbers as fractions (0.71 = 71/100) *Recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents *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 numbers up to 3 decimal places *Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred and as a decimal *Solve problems which require knowing percentage 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	*Associate a fraction with division to calculate decimal fraction equivalents *Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 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 the answer has up to two-decimal places *Solve problems which require answers to be rounded to specified degrees of accuracy *Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
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 (e.g. measures 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

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra						*Express missing number problems algebraically *Use simple formulae Generate and describe linear number sequences *Find pairs of numbers that satisfy an equation with two unknowns *Enumerate possibilities of combinations of two variables

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement	*Compare, describe and solve practical problems for: •Lengths and heights (long/shirt, longer/shorter, tall/short, double/half) •Mass/weight (heavy/light, heavier than, lighter than) •Capacity and volume (full/empty, more than, less than, half, half full, quarter) •Time (quicker, slower, earlier, later) *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 *Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times *Sequence events in chronological order using language (before and after, next, first, today, yesterday, tomorrow morning, afternoon, evening) *Recognise and use language relating to dates, including days of the week, weeks, months and years	*Compare and order lengths, mass, volume/capacity and record the results using < > and = *Choose and use appropriate standard units to estimate and measure length/height in any direction (m,cm); mass (kg/g); temperature (Celsius); 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 that equal the same amounts of money *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 *Compare and sequence intervals of time *Know the number of minutes in an hour and the number of hours in a day	*Compare lengths (m/cm/mm) *Compare mass (kg/g) *Compare volume / capacity (l/ml) *Measure lengths (m/cm/mm) *Measure Mass (kg/g) *Measure volume/capacity (l/ml) *Tell and write the time from an analogue clock; 12-hour clocks *Tell and write the time from an analogue clock; 24-hour clocks *Tell and write the time from an analogue clock, including using Roman Numerals from I to XII *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, (eg: to calculate the time taken by particular events or tasks) *Measure the perimeter of simple 2-D shapes *Add and subtract amounts of money to give change, using both £ and p in practical contexts *Add and subtract lengths (m/cm/mm) *Add and subtract volume / capacity (l/ml)	*Compare different measures, including money in pounds and pence *Estimate different measures, including money in pounds and pence *Read, write and convert time between analogue and digital 12 hour clocks *Read, write and convert time between analogue and digital 24 hour clocks *Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *Convert between different units of measurement (eg: km to m; hour to minute) *Measure and calculate the perimeter of a rectilinear shape (including squares) in centimetres and metres *Find the area of rectilinear shapes by counting squares *Calculate different measures, including money in pounds and pence	*Solve problems involving converting between units of time *Convert between different units of metric measure (eg: k 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 *Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres *Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes *Estimate volume (eg: using 1cm3 blocks to build cuboids (including cubes) and capacity (eg: using water) *Use all four operations to solve problems involving measure (money) using decimal notation, including scaling *Use all four operations to solve problems involving measure (eg: length) using decimal notation, including scaling *Use all four operations to solve problems involving measure (eg: volume) using decimal notation, including scaling	*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 of up to three decimal places *Convert between miles and kilometres *Recognise that shapes with the same areas can have different perimeters and vice versa *Calculate the area of parallelograms and triangles *Recognise when it is possible to use the formulae for the area of shapes *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 (eg: mm3 and km3) *Recognise when it is possible to use the formulae for the volume of shapes *Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of shape	*Recognise and name common 2-D shapes (e.g. rectangles (including squares), circles and triangles) *Recognise and name common 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres)	*Compare and sort common 2-D shapes and everyday objects *Compare and sort common 3-D shapes and everyday objects *Identify and describe the properties of 2-D shapes, including the number of ides and line of 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 (e.g. circle on a cylinder and a triangle on a pyramid)	*Identify horizontal, vertical lines and pairs of perpendicular and parallel lines *Draw 2-D shapes *Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them *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	*Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes *Identify lines of symmetry in 2-D shapes presented in different orientations *Complete a simple symmetric figure with respect to a specific line of symmetry	*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 *Identify 3-D shapes including cubes and other cuboids, from 2-D representations *Identify: •Angles at a point and one whole turn (total 360 degrees) •Angles at a point on a straight line and $\frac{1}{2}$ a turn (180 degrees) •Other multiples of 90 degrees *Draw given angles and measure them in degrees	*Compare and classify geometric shapes based on their properties and sizes *Describe simple 3-D shapes *Draw 2-D shapes using given dimensions and angles *Recognise and build simple 3-D shapes, including making nets *Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles *Illustrate and name parts of a circles, including radius, diameter and circumference and know that the diameter is twice the radius
position and direction	*Describe position, directions and movement, including half, quarter and three-quarter turns	*Order and arrange combinations of mathematical objects in patterns and sequences *Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anti clockwise)		*Describe movements between positions as translations of a given unit to the left/right and up/down *Describe positions on a 2-D grid as co-ordinates in the first quadrant *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 changes	*Draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes *Describe positions on the full co-ordinate grid (all four quadrants)
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 an present data using bar charts, pictograms and tables *Solve one-step and two-step questions (eg: 'How many more?' and 'How many fewer?') using information presented in scaled bar charts, 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 an average