Year 1	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Autumn	*count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* *given a number, identify one more and one less* 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 read and write numbers from 1 to 20 in numerals and words	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs add and subtract one-digit solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.	count reliably in twos share objects equally by counting how many in each group	recognise, find and name a half as one of two equal parts of an object, shape or quantity	compare, describe and solve practical problems for: - ***lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)*** - ***time (quicker, slower, earlier, later)*** measure and begin to record the following: - ***lengths and heights*** - **time (hours),** recognise and know the value of different denominations of coins and notes sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening recognise and use language relating to dates, including days of the week, weeks, months and years tell the time to the hour	Recognise and name common 2D shapes including squares and circles	
Spring	count in multiples of twos, and tens	represent and use number bonds and related subtraction facts within 20	solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	compare, describe and solve practical problems for: - **mass or weight (e.g. heavy/ light, heavier than, lighter than)** measure and begin to record the following: - **time (minutes)** - **mass/weight** 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 name common 2-D shapes, including rectangles, squares, circles and triangles	
Summer	*count, read and write numbers to 100 in numerals;* Count in multiples of five	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9. (Repeat from Phase 1,2 – deeper)	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.	as phase 1 and 2 but deeper	compare, describe and solve practical problems for: - **capacity/volume (full/empty, more than, less than, quarter)** measure and begin to record the following: - **capacity and volume**	recognise and name 3-D shapes including cuboids, pyramids and spheres.	describe position, directions and movements, including half, quarter and three-quarter turns.

Year 2		Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
							Properties of shape	Position and direction
Autumn		count in steps of 2, from 0, and in tens from any number, forward or backward 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 compare and order numbers from 0 up to 100; use <, > and = signs read and write numbers to at least 100 in numerals use place value and number facts to solve problems	solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers. *applying their increasing knowledge of mental and written methods* recall and use addition and subtraction facts to 20 fluently. add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - two-digit number and ones - two-digit number and tens	recall and use multiplication and division facts for the 2, and 10 multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods,	recognise, find, name and write fractions $^1/_3$, $^1/_4$,	compare and order lengths, record the results using >, < and = 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. compare and sequence intervals of time	identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid	order and arrange combinations of mathematical objects in patterns
	Spring	count in steps of 2 and 5 from 0 read and write numbers to at least 100 in numerals and in words Use place value and number facts to solve problems	using concrete objects and pictorial representations, including those involving numbers and measures add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -adding three one-digit numbers -show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Statistics: ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	Calculate mathematical statements for multiplication using the multiplication (×), and equals (=) signs recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	recognise, find, name and write fractions $^1/_3$, $^1/_4$, $^2/_4$ and $^3/_4$ of a length, shape, set of objects or quantity	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); using rulers recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change tell and write the time 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	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	use mathematical vocabulary to describe position, direction and movement, including movement in a straight line
	Summer	count in steps of 2,3 and 5	using concrete objects and pictorial representations, including those involving numbers, quantities and measures recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.	Calculate mathematical statements for multiplication and division within the multiplication tables and write then using the multiplication, division and equals sign Show that division of one number by another can not be done in any order. Solve problems involving multiplication and division facts, including problems in context.	Write simple fractions e.g., ½ of 6 = 3 and recognise the equivalence of $^2/_4$	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 rules, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using < > and = Tell and write the time to five minutes.	Compare and sort common 2-D and 3-D shapes and everyday objects.	Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

Year 3	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry Properties of shape
Autumn	count from 0 in multiples of 4; 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, ones) identify, represent and estimate numbers using different representations	add and subtract numbers mentally, including: a three-digit number and ones three-digit number and hundreds estimate the answer to a calculation and use inverse operations to check answers Statistics: interpret and present data using bar charts, pictograms and tables	recall and use multiplication and division facts for the 3, 4 multiplication tables write and calculate mathematical statements for multiplication and division using the multiplication tables that they know using mental strategies	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts recognise, find and write fraction of a discrete set of objects: unit fractions compare and order unit fractions, and fractions with the same denominators	measure, compare 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 tell and write the time from an analogue clock, and 12-hour use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight Statistics: Statistics: interpret and present data using bar charts, pictograms and tables	draw 2-D shapes and make 3-D shapes using modelling materials; identify right angles, identify horizontal and vertical lines
Spring	count from 0 in multiples of 4, 50 and 100; find 10 or 100 more or less than a given number compare and order numbers up to 1000 read and write numbers up to 1000 in numerals and in words	add and subtract numbers mentally, Including a three-digit number and tens add and subtract numbers with up to three digits,		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 fractions as numbers: unit fractions recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions	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 know the number of seconds in a minute, year and leap year	recognise angles as a property of shape identify right angles, recognise that two right angles make a half-turn,
Summer	Count from 0 in multiples of 4, 8, 50 and 100	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 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 strategies and formal methods	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. add and subtract fractions with the same denominator within one whole. (e.g. 5 /7 + 1 /7 = 6 /7)	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 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, for example to calculate the time taken by particular events or tasks	recognise 3-D 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.

Year 4	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Autumn	Count in multiples of 25 and 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, and ones) identify, represent and estimate numbers using different representations round any number to the nearest 10, 100	estimate and use inverse operations to check answers to a calculation statistics: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	use place value, known and derived facts to multiply and divide mentally	recognise and show, using diagrams find the effect of dividing a one- or two-digit number by 10 and 100 add and subtract fractions with the same denominator round decimals with one decimal place to the nearest whole number	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres estimate, compare and calculate different measures, including money in pounds and pence statistics: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	compare and classify geometric shapes, based on their properties and sizes identify acute and obtuse angles complete a simple symmetric figure with respect to a specific line of symmetry	describe positions on a 2-D grid as coordinates in the first quadrant
Spring	Count in multiples of 6, 25 and 1000 count backwards through zero to include negative numbers order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000	add and subtract numbers with up to 4 digits	recall 2/3/4/5/6/8 multiplication and division facts for multiplication tables use place value, known and derived facts to multiply and divide mentally, including: - multiplying by 0 and 1 - multiply two-digit and three-digit numbers by a one-digit number	recognise and show, using diagrams, families of common equivalent fractions recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. 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 solve simple measure and money problems involving fractions	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	compare and classify geometric shapes, including quadrilaterals based on their properties and sizes identify lines of symmetry in 2- D shapes presented in different orientations	describe movements between positions as translations of a given unit to the left/right and up/ down
Summer	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.	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. Interpret and present discrete and continuous data using appropriate graphical Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs Estimate and use inverse operations to check answers to a calculation	multiplication and division facts for multiplication tables up to 12 × 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 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.	count up and down in hundredths recognise and write decimal equivalents of any number of tenths or hundredths identifying the value of the digits in the answer as ones, tenths and hundredths compare numbers with the same number of decimal places up to two decimal places recognise and write decimal equivalents to 1 2 ; 1 4 ; 3 4 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.	solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. Estimate, compare and calculate different measures, including money in pounds and pence	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size	plot specified points and draw sides to complete a given polygon

Year 5	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Autumn	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit 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 that involve all of the above	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Statistics: complete, read and interpret information in tables, including timetables.	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 multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 solve problems involving addition, subtraction, multiplication and division	compare and order fractions whose denominators are all 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 the same denominator round decimals	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangle (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 converting between units of time Statistics: complete, read and interpret information in tables, including timetables.	identify 3-D shapes, including cubes and other cuboids, from 2-D representations 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^o)	
Spring	count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero	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 Statistics: solve comparison, sum and difference problems using information presented in a line graph	know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers multiply numbers up to 4 digits by a one- or two-digit number using written methods recognise and use square numbers, and the notation for squared (^{2}) multiplication and division and a combination of these, including understanding the meaning of the equals sign	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths add and subtract fractions with the same denominator and multiples of the same number 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 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 hundred, and as a decimal solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5	use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	draw given angles, and measure them in degrees (^{o}) identify angles at a point on a straight line and ½ a turn (total 180^o) and other multiples of 90^o	

		Summer	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	establish whether a number up to 100 is prime and recall prime numbers up to 19 multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication. 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 and divide whole numbers and those involving decimals by 10, 100 and 1000 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams read, write, order and compare numbers with up to three decimal places solve problems involving number up to three decimal places solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.	understand and use equivalences between metric units and common imperial units such as inches, pounds and pints estimate volume (e.g. using 1 cm 3 blocks to build cubes and cuboids) and capacity (e.g. using water) Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.	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, 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.

Year 6	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Autumn	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	form mental calculations, including with mixed operations and 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 use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy Algebra: use simple formulae	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 for the context perform mental calculations, including with mixed operations and large numbers. solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Algebra: use simple formulae Algebra: generate and describe linear number sequences RP: solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts RP: solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison Statistics: calculate and interpret the mean as an average	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, 1 writing the answer in its simplest form (e.g. /4 × 1 /2 = 1 /8) associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3 /8) 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 multiply one-digit numbers with up to two decimal places by whole numbers 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.	solve problems involving the 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 unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places 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	draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at 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)

	Spring	uses negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above.	use their knowledge of the order of operations to carry out calculations involving the four operations Algebra: express missing number problems algebraically Algebra: find pairs of numbers that satisfy number sentences involving two unknowns	use their knowledge of the order of operations to carry out calculations involving the four operations identify common factors, common multiples and prime numbers express missing number problems algebraically Algebra: find pairs of numbers that satisfy number sentences involving two unknowns Algebra: enumerate all possibilities of combinations of two variables. RP: solve problems involving ratio and proportion RP: solve problems involving similar shapes where the scale factor is known or can be found RP: solve problems involving unequal sharing and grouping using knowledge of fractions and multiples Statistics: interpret and construct pie charts and line graphs and use these to solve problems	divide proper fractions by whole numbers (e.g. 1 /3 ÷ 2 = 1 /6) use written division methods in cases where the answer has up to two decimal places	convert between miles and kilometres calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm 3) and cubic metres (m 3), and extending to other units such as mm3 and km 3 .	recognise, describe and build simple 3-D shapes, including making nets	draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
	Summer	solve number and practical problems that involve all of the above.	solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why Algebra: use simple formulae Algebra: find pairs of numbers that satisfy an equation with two unknowns.	solve problems involving addition, subtraction, multiplication and division RP: solve problems involving ratio and proportion RP: solve problems involving similar shapes where the scale factor is known or can be found RP: solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. solve problems which require answers to be rounded to specified degrees of accuracy	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	compare and classify geometric shapes based on their properties and sizes find unknown angles in any triangles, quadrilaterals, and regular polygons.	