Number: Number and Place Value				
	Year 3	Year 4	Year 5	Year 6
Counting	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	count backwards through zero to include negative numbers count in multiples of 6, 7, 9, 25 and 1 000 find 1000 more or less than a given number	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	use negative numbers in context, and calculate intervals across zero
Comparing Numbers	compare and order numbers up to 1,000	order and compare numbers beyond 1,000 *compare numbers with the same number of decimal places up to two decimal places* (copied from Fractions)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers)
Identifying, Representing And Estimating Numbers	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		
Reading And Writing Numbers	read and write numbers up to 1000 in numerals and in words		read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
Roman Numerals	*tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks* (copied from Measurement)	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	

Number: Number and Place Value				
	Year 3	Year 4	Year 5	Year 6
Rounding		round any number to the nearest 10, 100 or 1 000 *round decimals with one decimal place to the nearest whole number* (copied from Fractions)	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 *round decimals with two decimal places to the nearest whole number and to one decimal place* (copied from Fractions)	round any whole number to a required degree of accuracy *solve problems which require answers to be rounded to specified degrees of accuracy* (copied from Fractions)
Problem Solving	solve number problems and practical problems involving these ideas.	solve number and practical problems that involve all of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above

	Number: Addition and Subtraction			
	Year 3	Year 4	Year 5	Year 6
Mental Calculation	add and subtract numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds		add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers
Order Of Operations				use their knowledge of the order of operations to carry out calculations involving the four operations
Written Methods	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
Inverse Operations, Estimating And Checking Answers	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
Problem Solving	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division

Number: Multiplication and Division				
	Year 3	Year 4	Year 5	Year 6
Understanding Multiplication And Division	*Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)* *Understand that division is the inverse of multiplication and vice versa* *Understand how multiplication and division statements can be represented using arrays* *Understand division as sharing and grouping and use each appropriately*	*Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)* Recognise and use factor pairs and commutativity in mental calculations	*Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)* Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	*Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)*
Multiplication And Division Facts	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* *Derive and use doubles of all multiples of 50 to 500*	Recall multiplication and division facts for multiplication tables up to 12 × 12 *Use partitioning to double or halve any number, including decimals to one decimal place*	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 (^{2}) and cubed (^{3}) *Use partitioning to double or halve any number, including decimals to two decimal places*	Identify common factors, common multiples and prime numbers *Use partitioning to double or halve any number*

Number: Multiplication and Division				
	Year 3	**Year 4**	**Year 5**	**Year 6**
Mental Methods	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 methods	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	Multiply and divide numbers mentally drawing upon known facts Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	Perform mental calculations, including with mixed operations and large numbers
Written Methods	Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, progressing to formal written methods	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	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
	Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, progressing to formal written methods	*Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context*	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	Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Use written division methods in cases where the answer has up to two decimal places
Estimating and Checking	*Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	*Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	*Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	Use estimation *and inverse* to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Number: Multiplication and Division				
	Year 3	Year 4	Year 5	Year 6
Problem Solving	Solve problems, including missing number problems, involving multiplication and division *(and interpreting remainders)*, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, *division (including interpreting remainders)*, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Solve problems involving addition, subtraction, multiplication and division

Number: fractions (including decimals and percentages)				
	Year 3	**Year 4**	**Year 5**	**Year 6**
Understanding Fractions	*Show practically or pictorially that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as 3 ÷ 4)* *Understand that finding a fraction of an amount relates to division*	*Understand that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as 3 ÷ 4)*		
Fractions Of Objects, Shapes And Quantities	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 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 including those with a range of numerators and denominators* Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten	Recognise mixed numbers and improper fractions and convert from one form to the other Read and write decimal numbers as fractions (e.g. 0.71 = $\frac{71}{100}$)	
Counting, Comparing And Ordering Fractions	*Count on and back in steps of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$* Compare and order unit fractions and fractions with the same denominators *(including on a number line)*	*Count on and back in steps of unit fractions* *Compare and order unit fractions and fractions with the same denominators (including on a number line) (continued from Year 3)*	*Count on and back in mixed number steps such as $1\frac{1}{2}$* Compare and order fractions whose denominators are all multiples of the same number *(including on a number line)*	Compare and order fractions, including fractions >1 *(including on a number line)*

Number: fractions (including decimals and percentages)			
	Year 3	Year 4	Year 5	Year 6
Equivalence	Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths 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 Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
Calculating With Fractions	Add and subtract fractions with the same denominator within one whole *(using diagrams)* (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	Add and subtract fractions with the same denominator *(using diagrams)*	Add and subtract fractions with the same denominator and denominators that are multiples of the same number *(using diagrams)* Write mathematical statements >1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	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 *(using diagrams)* (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)

Number: fractions (including decimals and percentages)				
	Year 3	Year 4	Year 5	Year 6
Percentages			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	*Find simple percentages of amounts*
Solving Problems Involving Fractions, Decimals And Percentages	Solve problems that involve all of the above	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 Solve simple measure and money problems involving fractions and decimals to two decimal places	*Solve problems involving fractions* Solve problems involving number up to three decimal places Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with a denominator of a multiple of 10 or 25	*Solve problems involving fractions* Solve problems which require answers to be rounded to specified degrees of accuracy Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison

Ratio and proportion				
	Year 3	Year 4	Year 5	Year 6
				Solve problems involving the relative sizes of two quantities where missing values can be found 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				
	Year 3	Year 4	Year 5	Year 6
	solve problems, *including **missing number** problems, using number facts, place value, and more complex addition and subtraction.* (copied from Addition and Subtraction)	*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)*	*use the properties of rectangles to deduce related facts and find **missing lengths and angles*** (copied from Geometry: Properties of Shapes)	Express missing number problems algebraically 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

Measures				
	Year 3	Year 4	Year 5	Year 6
Length	Measure, add and subtract lengths (m/cm/mm) Compare lengths (m/cm/mm)	Estimate and calculate lengths Compare lengths	*Use, read and write standard units of length to a suitable degree of accuracy* Understand and use approximate equivalences between metric and common imperial units such as inches	Use, read and write standard units of length using decimal notation to three decimal places
Perimeter	*Understand that perimeter is a measure of distance around the boundary of a shape* Measure the perimeter of simple 2-D shapes	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Recognise that shapes with the same areas can have different perimeters and vice versa
Area		*Understand that area is a measure of surface within a given boundary* Find the area of rectilinear shapes by counting squares	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	Calculate the area of parallelograms and triangles Recognise when it is possible to use the formulae for area and volume of shapes
Mass	Measure and begin to record mass/weight, *using non-standard and then standard units (kg and g) within children's range of counting competence* Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than)	Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit using scales Compare and order mass and record the results using >, < and =	Measure, add and subtract mass (kg/g) Compare mass (kg/g)	Estimate and calculate mass Compare mass

Measures				
	Year 3	Year 4	Year 5	Year 6
Capacity / Volume	Measure, add and subtract volume/capacity (l/ml)	Estimate and calculate volume/capacity	Estimate *(and calculate)* volume (for example, using 1 cm³ blocks to build cuboids (including cubes)) and capacity (for example, using water) *Understand the difference between liquid volume, including capacity and solid volume*	Use, read and write standard units of volume using decimal notation to three decimal places Calculate and estimate volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³) and extending to other units (for example, mm³ and km³)
	Compare volume/capacity (l/ml)	Compare volume/capacity	Understand and use approximate equivalences between metric and common imperial units such as pints	Compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³) and extending to other units (for example, mm³ and km³)
Temperature	*Continue to estimate and measure temperature to the nearest degree (°C) using thermometers*	*Order temperatures including those below 0°C*	*Continue to order temperatures including those below 0°C*	*Calculate differences in temperature, including those that involve a positive and negative temperature*
Conversion		Convert between different units of measure (e.g. kilometre to metre; hour to minute)	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	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 three decimal places Convert between miles and kilometres

Measures				
	Year 3	Year 4	Year 5	Year 6
Time	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 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 Compare durations of events (for example to calculate the time taken by particular events or tasks)	Convert between different units of time, e.g. hour to minute Read, write and convert time between analogue and digital 12 and 24-hour clocks	*Convert between units of time in a problem solving context* *Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks*	Use, read and write standard units of time
Money	*Continue to recognise and use symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds and pence* *Recognise that ten 10p coins are equivalent to £1 and that each coin is $\frac{1}{10}$ of £1* Add and subtract amounts of money to give change, using both £ and p in practical contexts	*Write amounts of money using decimal notation* *Recognise that one hundred 1p coins are equivalent to £1 and that each coin is $\frac{1}{100}$ of £* Estimate, compare and calculate money in pounds and pence		

Measures				
	Year 3	Year 4	Year 5	Year 6
Problem Solving (measures and money)	*Solve problems involving money and measures and simple problems involving passage of time*	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *and problems involving money and measures*	Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation including scaling Solve problems involving converting between units of time	Solve problems involving the calculation and conversion of units of measure *(including money and time)*, using decimal notation up to three decimal places where appropriate

Geometry				
	Year 3	Year 4	Year 5	Year 6
Properties Of Shape	Draw 2-D shapes and describe them	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	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Compare and classify geometric shapes based on their properties and sizes Draw 2-D shapes using given dimensions and angles
	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	*Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines*	Use the properties of rectangles to deduce related facts and find missing lengths and angles	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Compare and classify geometric shapes based on their properties and sizes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Recognise, describe and build simple 3-D shapes, including making nets
Co-ordinates (including reflection and rotation)	*Describe positions on a square grid labelled with letters and numbers*	Describe positions on a 2-D grid as coordinates in the first quadrant Plot specified points and draw sides to complete a given polygon Describe movements between positions as translations of a given unit to the left/right and up/down	*Describe positions on the first quadrant of a coordinate grid* *Plot specified points and complete shapes* Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Geometry				
	Year 3	Year 4	Year 5	Y
Angles and Rotation	Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles 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 and $1/2$ a turn (total 180°) - other multiples of 90°	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles Find unknown angles in any triangles, quadrilaterals, and regular polygons

Statistics				
	Year 3	Year 4	Year 5	Year 6
Present and interpret data	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use these to solve problems
Solve problems using data	Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Solve comparison, sum and difference problems using information presented in *all types of graph including* a line graph	*Solve comparison, sum and difference problems using information presented in all types of graph*
Averages				Calculate and interpret the mean as an average