Place Value

COUNTING	use negative numbers in context, and calculate intervals across zero
COMPARING NUMBERS	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
READING & WRITING 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)
UNDERSTANDING PLACE VALUE	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *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* (copied from Fractions)
ROUNDING	round any whole number to a required degree of accuracy *solve problems which require answers to be rounded to specified degrees of accuracy*
PROBLEM SOLVING	solve number and practical problems that involve all of the above

Addition & Subtraction

MENTAL CALCULATION	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
ESTIMATING & CHECKING ANSWERS	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
PROBLEM SOLVING	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

Multiplication & Division

MULTIPLICATION & DIVISION FACTS	recall multiplication and division facts to 12 x 12.
MENTAL CALCULATION	perform mental calculations, including with mixed operations and large numbers *associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)*
WRITTEN CALCULATION	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 short division where appropriate for the context 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 *use written division methods in cases where the answer has up to two decimal places*
PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE & CUBE NUMBERS	identify common factors, common multiples and prime numbers *use common factors to simplify fractions; use common multiples to express fractions in the* same denomination *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 such as mm3 and km3*
ORDER OF OPERATIONS	use their knowledge of the order of operations to carry out calculations involving the four operations
ESTIMATING & CHECKING ANSWERS	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
PROBLEM SOLVING	solve problems involving addition, subtraction, multiplication and division *solve problems involving similar shapes where the scale factor is known or can be found*

Algebra

EQUATIONS	express missing number problems algebraically find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two variables
FORMULAE	use simple formulae *recognise when it is possible to use **formulae** for area and volume of shapes*
SEQUENCES	generate and describe linear number sequences

Fractions (including decimals & percentages)

COMPARING FRACTIONS	compare and order fractions, including fractions >1
COMPARING DECIMALS	identify the value of each digit in numbers given to three decimal places.
ROUNDING INCLUDING DECIMALS	solve problems which require answers to be rounded to specified degrees of accuracy
EQUIVALENCE	use common factors to simplify fractions; use common multiples to express fractions in the same denomination associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
ADDITION & SUBTRACTION OF FRACTIONS	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
MULTIPLICATION & DIVISION OF DECIMALS	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8) multiply one-digit numbers with up to two decimal places by whole numbers divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6) multiply one-digit numbers with up to two decimal places by whole numbers multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places 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 associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) use written division methods in cases where the answer has up to two decimal places
RATIO & 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 [for example, of measures, and 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.

Geometry: Position & Direction

POSITION, DIRECTION & MOVEMENT	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: Properties of shape

IDENTIFYING SHAPES & THEIR PROPERTIES	recognise, describe and build simple 3-D shapes, including making nets illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
DRAWING & CONSTRUCTING	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets
COMPARING & CLASSIFYING	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
ANGLES	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

Measurement

COMPARING & ESTIMATING	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 such as mm3 and km3
MEASURING & CALCULATING	solve problems involving the calculation and conversion of **units of measure**, using decimal notation up to three decimal places where appropriate (appears also in Converting) recognise that shapes with the same areas can have different **perimeters** and vice versa calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [e.g. mm3 and km3] recognise when it is possible to use formulae for area and volume of shapes
CONVERTING	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 solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate convert between miles and kilometres

Statistics

INTERPRETING DATA	interpret and construct pie charts and line graphs and use these to solve problems
SOLVING PROBLEMS	calculate and interpret the mean as an average