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| **Number: Place Value** |
| **Counting*** 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

**Comparing Numbers*** read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit

**Reading and Writing Numbers (including Roman Numerals)*** read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
* read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

**Understanding Place Value*** read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
* *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents – (copied from Fractions)*

**Rounding*** round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
* *round decimals with two decimal places to the nearest whole number and to one decimal place – (copied from Fractions)*

**Problem Solving*** solve number problems and practical problems that involve all of the above
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| **Number: Addition and Subtraction** |
| **Mental Calculation*** add and subtract numbers mentally with increasingly large numbers

**Written Methods*** 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*** use rounding 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.
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| **Number: Multiplication and Division** |
| **Multiplication and Division Facts** * *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 – (copied from Number and Place Value)*

**Mental Calculation** * multiply and divide numbers mentally, drawing upon known facts
* multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000

**Written Calculation*** 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
* 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

**Properties of numbers: Multiples. Fatprs, Primes, Square and Cube Numbers*** identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers
* 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)

**Problem Solving*** solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
* 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
 |
| **Number - Fractions** |
| **Recognising Fractions*** recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

**Comparing Fractions*** compare and order fractions whose denominators are all multiples of the same number

**Comparing Decimals*** read, write, order and compare numbers with up to three decimal places

**Rounding Including Decimals** * round decimals with two decimal places to the nearest whole number and to one decimal place

**Equivalence (Including Fractions, Decimals and Percentages)*** identify, name and write equivalent fractions of a given fraction, represented visually,including tenths and hundredths
* read and write decimal numbers as fractions [for example, 0.71 =71⁄100]
* recognise and use thousandths and related them to tenths, hundredths and decimals equivalents.
* 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 fraction.

**Addition and Subtraction of Fractions*** add and subtract fractions with the same denominator and denominators that are 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[for example,2⁄5+4⁄5=6⁄5= 11⁄5]

**Multiplication and Division of Fractions*** multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

**Problem Solving*** 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 and those fractions with a denominator of a multiple of 10 or 25.
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| **Algebra** |
| **Equations*** *use the properties of rectangles to deduce related facts and find missing lengths and angles – (copied from Geometry: Properties of shapes)*
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| **Measurement** |
| **Comparing and Estimating** * 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 [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

**Measuring and Calculating*** use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
* 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
* *recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) – (copied from Multiplication and Division)*

**Telling the time*** solve problems involving converting between units of time

**Converting*** convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
* solve problems involving converting between units of time
* understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
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| **Geometry: Properties of Shapes** |
| **Identifying shapes and their properties** * identify 3-D shapes, including cubes and other cuboids, from 2-D representations

**Drawing and Contructing*** draw given angles, and measure them in degrees (°)

**Comparing and classifying*** 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.

**Angles*** 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°)
* angles at a point on a straight line and ½ a turn (total 180°)
* other multiples of 90°
 |
| **Geometry: Position and Direction** |
| **Position, direction and movement*** 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.
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| **Statistics** |
| **Interpreting, constructing and presenting data*** complete, read and interpret information in tables, including timetables.

**Solving Problems*** solve comparison, sum and difference problems using information presented in a line graph.
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