

Number- Place Value

-  Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
-  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, including through zero
-  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
-  Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.



Number

Addition & subtraction



Add and subtract whole numbers with more than 4 digits, including using formal written methods



Add and subtract numbers mentally with increasingly large numbers



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



Number

Multiplication & division

-  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, prime factors and composite numbers
-  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 for two-digit numbers
-  Multiply and divide numbers mentally drawing upon known facts

continued...



Number: Multiplication & division contd...

-  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 and cubed
-  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

 Compare and order fractions whose denominators are all multiples of the same number

 Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

 Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements greater than 1 as a mixed number

 Add and subtract fractions with the same denominator and denominators that are multiples of the same number

 Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

 Read and write decimal numbers as fractions



Number: Fractions contd...

 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

 Read, write, order and compare numbers with up to three decimal places

 Solve problems involving number up to three decimal places

 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

 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 fractions with a denominator of a multiple of 10 or 25



Measurement



Convert between different units of metric measure



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 and square metres and estimate the area of irregular shapes



Estimate volume and capacity



Solve problems involving converting between units of time



Use all four operations to solve problems involving measure using decimal notation, including scaling



Geometry

-  Identify 3D shapes, including cubes and other cuboids, from 2D representations
-  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
-  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; angles at a point on a straight line and a turn; other multiples of 90
-  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



Statistics

 Solve comparison, sum and difference problems using information presented in a line graph

 Complete, read and interpret information in tables, including timetables

