

Number - fractions (including decimals and percentages)

- ❖ Read, write, compare and order numbers with 3 decimal places.
- ❖ Compare and order fractions whose denominators are all multiples of the same number.
- ❖ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
- ❖ Recognise mixed numbers and improper fractions and convert from one to another.
- ❖ 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.
- ❖ Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths.
- ❖ Read and write decimal numbers as fractions.
- ❖ Round decimals with 2 decimal places to the nearest whole number and to one decimal place.
- ❖ Solve problems involving number up to 3 decimal places.
- ❖ Recognise the per cent symbol % and understand that it relates to 'number of parts per hundred' and write percentages as a fraction with denominator 100, and as a decimal.
- ❖ Solve problem involving knowing the percentage and decimal equivalents of $\frac{1}{2}$ and $\frac{1}{4}$.
- ❖ Solve problems involving knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and fractions with a denominator of a multiple of 10 or 25.

Number - multiplication and division

- ❖ Identify all multiples and factors, including finding all factor pairs and common factors of two 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.
- ❖ Multiply up to 4-digits by 1 digit or 2-digit numbers using a formal written method (long multiplication).
- ❖ Multiply and divide numbers mentally using known facts.
- ❖ Divide numbers up to 4 digits by a 1 digit number using the formal written method of short division and interpret remainders.
- ❖ Multiply and divide whole numbers and decimals by 10, 100 and 1,000.
- ❖ Recognise and use square numbers and cube numbers, and the correct notation.
- ❖ Solve problems involving \times and \div using their knowledge of factors, multiples, squares and cubes.
- ❖ Solve problems using $+$, $-$, \times , \div and understand the equals sign.
- ❖ Solve problems involving \times and \div including scaling by simple fractions and problems involving simple rates.

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Number - number and place value

- ❖ Read, write, order and compare numbers up to 1,000,000 and know the place value of each digit.
- ❖ Count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000.
- ❖ Interpret negative numbers and count forwards and backwards with positive and negative whole numbers 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 using all of the above.
- ❖ Read Roman numerals to 1,000 and recognise years written in Roman numerals.

Number - addition and subtraction

- ❖ Add and subtract numbers with more than 4-digits using formal written methods (columnar addition and subtraction).
- ❖ Add and subtract numbers mentally with increasingly larger numbers.
- ❖ Use rounding to check answers to calculations.
- ❖ Solve addition and subtraction multi-step problems in contexts, deciding on the operations and the methods to use.

Measurements

- ❖ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).
- ❖ 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 (cm^2) and square metres (m^2) and estimate the area of irregular shapes.
- ❖ Estimate 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 - properties of shapes

- ❖ 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.
- ❖ Draw given angles, and measure them in degrees ($^\circ$).
- ❖ Identify:
 - angles at a point and one whole turn (total 360°)
 - angles at a point on a straight line and a turn (total 180°)
 - other multiples of 90°
- ❖ 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.

Statistics

- ❖ Solve comparison, sum and difference problems using information presented in a line graph.
- ❖ Complete, read and interpret information in tables, including timetables.

Geometry - position and direction

- ❖ 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.