

Year 5 – National Curriculum Coverage

Chapter 1 – Numbers to 1 million

- 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.
- Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
- To round numbers to the nearest 100, 1000, 10 000 and 100 000 using number lines.

Chapter 2 –Whole Numbers: Addition and Subtraction

- Add and subtract whole numbers with more than 4 digits. Add and subtract numbers mentally with increasingly large numbers.
- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).
- 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.

Chapter 3 – Whole Numbers: Multiplication and 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 (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.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- Multiply and divide numbers mentally drawing upon known facts.
- Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.
- Solve problems involving multiplication and division.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context.

Chapter 4 – Whole Numbers: Word Problems

- Solve problems involving multiplication and division.

Chapter 5 - Graphs

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

Chapter 6 - Fractions

- Recognise mixed numbers and improper fractions and convert from one form to the other.
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
- Compare and order fractions whose denominators are all multiples of the same number.
- 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, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$].

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

Chapter 7 – Decimals

- Read and write decimal numbers as fractions [for example, $0.71 = 71/100$].
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
- Read, write, order and compare numbers with up to three decimal places.
- Solve problems involving numbers up to three decimal places.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.

Chapter 8 - 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.
- Solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25.

Chapter 9 - Geometry

- Estimate and compare acute, obtuse and reflex angles.
- Know angles are measured in degrees.
- Draw given angles, and measure them in degrees ($^{\circ}$).
- Identify angles at a point on a straight line and a $1/2$ a turn (total 180°).
- Identify angles at a point and one whole turn (total 360°); identify 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.

Chapter 10 – Position 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.

Chapter 11 - 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.
- 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.
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- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.

Chapter 12 – Area and Perimeter

- 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.
- Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Chapter 13 - Volume

- Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water].
- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
- Use all four operations to solve problems involving measure [for example, length, mass, volume, money].
- 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.

Chapter 14 – Roman Numerals

- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.