

Maths National Curriculum Objectives Key Stages 1&2

Year 5		
Place Value	Addition and subtraction	Multiplication and division
- 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 0 - round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 - solve number problems and practical problems that involve all of the above - read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	- 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	- 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 - 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 - 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 1,000 - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) - 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

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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 > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$] - 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 [for example, $0.71 = \frac{71}{100}$] - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - round decimals with 2 decimal places to the nearest whole number and to 1 decimal place - read, write, order and compare numbers with up to 3 decimal places - solve problems involving number up to 3 decimal places - recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction - 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		
Geometry-property of shapes	Measurment	
- 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	- 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), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes	

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- draw given angles, and measure them in degrees ($^{\circ}$) - identify: - angles at a point and 1 whole turn (total 360°) - angles at a point on a straight line and half 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	- estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] - solve problems involving converting between units of time - use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
Geometry-position and direction	Statistics
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	- solve comparison, sum and difference problems using information presented in a line graph - complete, read and interpret information in tables, including timetables