

Mathematics Curriculum - Year 5

Number		Fractions (including decimals & percentages)	Measurement
<p>Number & Place Value:</p> <ul style="list-style-type: none"> ▪ 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 <p>Addition & Subtraction:</p> <ul style="list-style-type: none"> ▪ 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 	<p>Multiplication & Division:</p> <ul style="list-style-type: none"> ▪ 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 ▪ 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 1000 ▪ 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 	<ul style="list-style-type: none"> ▪ 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, $\frac{2}{5} + \frac{4}{5} = 1\frac{1}{5}$) ▪ 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 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 numbers 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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{3}{5}$, $\frac{1}{8}$ and those fractions with a denominator of a multiple of 10 or 25 	<ul style="list-style-type: none"> ▪ 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 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
		Statistics	Geometry
		<ul style="list-style-type: none"> ▪ solve comparison, sum and difference problems using information presented in a line graph ▪ complete, read and interpret information in tables, including timetables 	<p>Properties of Shapes:</p> <ul style="list-style-type: none"> ▪ 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 ▪ identify: angles at a point and one whole turn (total 360 degrees); angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180 degrees); other multiples of 90 degrees ▪ 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 <p>Position & Direction:</p> <ul style="list-style-type: none"> ▪ 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