

Year 5 End of Year Expectations: Mathematics



Year 5 Mathematics			
Number and Place Value			
Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages
<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, 1 000, 10 000 and 100 000. ❖ Solve number problems and 	<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 	<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 (nonprime) numbers. ❖ Establish whether a number up to 100 is prime & 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 & 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. 	<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 & write mathematical statements > 1 as a mixed number [$2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$]. ❖ 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, $0.71 = 71/100$]. ❖ 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 & compare numbers with up to three decimal places. ❖ Solve problems involving number up to three decimal places. ❖ Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', write

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<p>practical problems that involve all of the above.</p> <ul style="list-style-type: none">❖ Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	<p>and methods to use and why.</p>	<ul style="list-style-type: none">❖ 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.	<p>percentages as a fraction with denominator 100, & as a decimal.</p> <ul style="list-style-type: none">❖ Solve problems which require knowing percent & 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.
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Year 5 Mathematics			
Geometry and Measures			
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics
<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 & 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 (cm²) and square metres (m²) and estimate the area of irregular shapes. ❖ Estimate volume [for example, using 1 cm³ 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. 	<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°) angles at a point on a straight line & 1/2 a turn (total 180°) ❖ and 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. 	<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. 	<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.