

Maths

Age related expectations Assessment Grid for Maths: Year 5

	Number & Place Value	Addition & Subtraction	Multiplication & Division	Fractions	Measurement	Geometry: Shape Properties	Geometry: Position & Direction	Statistics
Year 5: Emerging	<p>Interpret negative numbers in context.</p> <p>Count forwards and backwards with positive and negative whole numbers, including through zero.</p> <p>Round any number up to 1 000 000 to the nearest 10, 100, 1000 and 100,000.</p>	<p>Adds and subtracts whole numbers with more than 4 digits.</p> <p>Use rounding to check accuracy of answers to calculations.</p>	<p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers.</p> <p>Know what a prime and a composite number is.</p> <p>Multiply and divide whole numbers and those with decimals by 10, 100 and 1000</p> <p>Multiply and divide numbers mentally using known facts.</p>	<p>Compare and order fractions whose denominators are all multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction shown visually - including tenths and hundredths.</p> <p>Read and write decimals as fractions, eg. $0.89 = \frac{89}{100}$.</p> <p>Recognise the percentage symbol (%) - knowing it is part of 100.</p> <p>Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place.</p>	<p>Convert between different units of metric measure, eg. Kilometre and metre, centimetre and millimetre, gram and kilogram, litre and millilitre.</p> <p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>Calculate and compare the area of rectangles and squares using standard units (cm^2 and m^2)</p>	<p>Know angles are measured in degrees; use this to estimate and compare acute, reflex and obtuse angles.</p>	<p>Identify, describe and represent the position of a shape following a reflection, using appropriate language, knowing that the shape has not changes.</p>	
Year 5: Meeting	<p>Read Roman Numerals up to 500 (D)</p> <p>Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.</p> <p>Count forwards or backwards in steps of/powers of 10 for any given number up to 1,000,000</p> <p>Read Roman Numerals up to 1000 (M)</p> <p>Starting to solve problems based on the above.</p>	<p>Adds and subtracts whole numbers with more than 4 digits: using formal, columnar methods (in line with school's calculation policy).</p> <p>Use rounding to check accuracy of answers to calculations - considering the context of a problem.</p> <p>Add and subtract numbers mentally with increasingly larger numbers; $10\ 962 - 4900 = 6062$</p> <p>Solve addition and subtraction problems (multi-step) - determining the operation to be used, methods to be used and why.</p>	<p>Establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>Divide numbers up to 4 digits by a 1 digit number using formal, written method, showing remainders.</p> <p>Recognise and use squared and cubed numbers with correct notation (2) (3)</p> <p>Multiply numbers up to 4 digits by a 1 or 2 digit number using a formal, written method - including long multiplication for a 2 digit number.</p> <p>Solve problems: *involving multiplication and division where larger numbers are used by decomposing them into their factors. *involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign *involving multiplication and division including scaling by simple fractions and problems involving simple rates</p>	<p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statement >1 as a mixed number $\frac{1}{3} + \frac{4}{3} = \frac{5}{3} = 1 \frac{2}{3}$</p> <p>Add and subtract fractions with the same denominator and denominators which are multiples of the same number.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Read, write, order and compare numbers with up to 3 decimal places.</p> <p>Solve worded problems using numbers up to 3 decimal places.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by diagrams.</p> <p>Solve problems which require knowledge of fraction and decimal equivalents of $\frac{1}{2}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.</p>	<p>Understand and use equivalencies between metric units and common imperial units such as inches, pounds and pints.</p> <p>Estimate the area of irregular shapes.</p> <p>Estimate the volume and capacity of objects - eg. Using 1cm^3 blocks to build a cuboid.</p> <p>Solve problems involving converting between units of time.</p> <p>Use all four operations to solve problems involving measure e.g. length, mass, volume, money decimal notation, including scaling.</p>	<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p> <p>Draw given angles and measure them in degrees ($^\circ$)</p> <p>Distinguish between regular and irregular polygons based on equal sides and angles.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>Identify: *angles at a point and one whole turn *angles at point on a straight line and $\frac{1}{2}$ a turn *other multiples of 90°</p>	<p>Identify, describe and represent the position of a shape following a translation, using appropriate language, knowing that the shape has not changes.</p>	<p>Complete, read and interpret information in tables, including timetables in context.</p> <p>Solve comparison, sum and difference problems using information presented in a line graph.</p>
Year 5: Deepening	<p>Have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects.</p> <p>Link working across zero for positive and negative numbers e.g to work time between AC and DC in history</p> <p>Calculate number problems algebraically e.g $2x - 3 = 5$</p>		<p>Divide whole numbers (up to 4 digits) by 2 digit numbers, in line with school calculation policy</p> <p>Recognise the symbol for square root and work out using trial and improvement methods, square roots to 1dp for numbers up to 100</p>	<p>Using the school environment as a stimulus, create their own fractional problems using the skills above</p>	<p>Use knowledge of measurement to create plans of areas around school such as classroom, field and outside play area.</p> <p>Relate imperial measures still used regularly in our society to their metric equivalents e.g miles to km and lbs to kg</p> <p>Use a range of time tables to work out journey times on a fictional journey around the world e.g how long would it take to reach the rainforests in the amazon?</p>	<p>Investigate angles in other polygons using knowledge of triangles and quadrilaterals</p>	<p>Identify and describe translations of shapes in the school environment e.g in the buildings and other constructions</p>	<p>Apply the skills above to other areas of the curriculum</p> <p>Collect own data on personal project and present information in formats of their choosing, charts, graphs and tables</p>