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	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 and 100,000.	Adds and subtracts whole numbers with more than 4 digits. Use rounding to check accuracy of answers to calculations.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers. Know what a prime and a composite number is. Multiply and divide whole numbers and those with decimals by 10, 100 and 1000 Multiply and divide numbers mentally using known facts.	Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction shown visually – including tenths and hundredths. Read and write decimals as fractions, eg. $0.89 = {}^{89}/_{100}$. Recognise the percentage symbol (%) – knowing it is part of 100. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place.	Convert between different units of metric measure, eg. Kilometre and metre, centimetre and millimetre, gram and kilogram, litre and millilitre. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles and squares using standard units (cm^2 and m^2)	Know angles are measured in degrees; use this to estimate and compare acute, reflex and obtuse angles.	Identify, describe and represent the position of a shape following a reflection, using appropriate language, knowing that the shape has not changes.	
Year 5: Meeting	Read Roman Numerals up to 500 (D) 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 Read Roman Numerals up to 1000 (M) Starting to solve problems based on the above.	Adds and subtracts whole numbers with more than 4 digits: using formal, columnar methods (in line with school's calculation policy). Use rounding to check accuracy of answers to calculations – considering the context of a problem. Add and subtract numbers mentally with increasingly larger numbers; 10 962 – 4900 = 6062 Solve addition and subtraction problems (multi-step) – determining the operation to be used, methods to be used and why.	Establish whether a number up to 100 is prime and recall prime numbers up to 19 Divide numbers up to 4 digits by a 1 digit number using formal, written method, showing remainders. Recognise and use squared and cubed numbers with correct notation (^{2}) (^{3}) 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. 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	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statement >1 as a mixed number $^1/_3 + {}^4/_3 = {}^5/_3 = 1\,{}^2/_3$ Add and subtract fractions with the same denominator and denominators which are multiples of the same number. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Read, write, order and compare numbers with up to 3 decimal places. Solve worded problems using numbers up to 3 decimal places. Multiply proper fractions and mixed numbers by whole numbers, supported by diagrams. Solve problems which require knowledge of fraction and decimal equivalents of $\frac{1}{2}$, $^2/_5$, $^4/_5$ and those with a denominator of a multiple of 10 or 25.	Understand and use equivalencies between metric units and common imperial units such as inches, pounds and pints. Estimate the area of irregular shapes. Estimate the volume and capacity of objects – eg. Using $1cm^3$ blocks to build a cuboid. Solve problems involving converting between units of time. Use all four operations to solve problems involving measure e.g. length, mass, volume, money decimal notation, including scaling.	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Draw given angles and measure them in degrees (°) Distinguish between regular and irregular polygons based on equal sides and angles. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Identify: *angles at a point and one whole turn *angles at point on a straight line and ½ a turn *other multiples of 90°	Identify, describe and represent the position of a shape following a translation, using appropriate language, knowing that the shape has not changes.	Complete, read and interpret information in tables, including timetables in context. Solve comparison, sum and difference problems using information presented in a line graph.
Year 5: Advancing	Have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects. Link working across zero for positive and negative numbers e.g to work time between AC and DC in history Calculate number problems algebraically e.g $2x – 3 = 5$		Divide whole numbers (up to 4 digits) by 2 digit numbers, in line with school calculation policy Recognise the symbol for square root and work out using trial and improvement methods, square roots to 1dp for numbers up to 100	Using the school environment as a stimulus, create their own fractional problems using the skills above	Use knowledge of measurement to create plans of areas around school such as classroom, field and outside play area. Relate imperial measures still used regularly in our society to their metric equivalents e.g miles to km and lbs to kg 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?	Investigate angles in other polygons using knowledge of triangles and quadrilaterals	Identify and describe translations of shapes in the school environment e.g in the buildings and other constructions	Apply the skills above to other areas of the curriculum Collect own data on personal project and present information in formats of their choosing, charts, graphs and tables