Year 5 Maths Objectives

1. Number (Year 5)	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name
5.1.1 Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit																															
5.1.2 Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.																															
5.1.3 Interpret negative numbers in context, count forwards and backwards with positive and negative numbers including through zero.																															
5.1.4 Round any number up to 1,000,000 to the nearest 10, 100, and 1000																															
5.1.5 Round any number up to 1,000,000 to the nearest 10000 or 100000																															
5.1.6 Solve number problems and practical problems that involve all of the above																															
5.1.7 Read Roman numerals to 1000 and recognise years written in Roman numerals																															
5.1.8 Mentally: subtract any 2-digit numbers; 2-digit number from any 3-digit.																															
5.1.9 Mentally:subtract two 3-digit numbers; 1000's from any 4 or 5-digit number																															
5.1.10 Mentally: add 2-digit numbers; 2-digit number to any 3-digit.																															
5.1.11 Mentally: add two 3-digit numbers; 1000's to any 4 or 5-digit number.																															
5.1.12 Add whole numbers with more than 4 digits including using formal written methods (columnar addition).																															
5.1.13 Subtract whole numbers with more than 4 digits including using formal written methods (columnar subtraction).																															
5.1.14 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.																															
5.1.15 Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.																															
5.1.16 Multiply and divide numbers mentally drawing upon known facts. (12x12)																															
5.1.17 Multiply whole numbers and those involving decimals by 10, 100 and 1000.																															
5.1.18 Divide whole numbers and those involving decimals by 10, 100 and 1000.																															
5.1.19 Identify multiples and factors including finding all factor pairs of a number and common factors of two numbers up to 100.																															
5.1.20 Recognise and use square numbers and cube numbers, and the notation for square^2 and cubed^3.																															
5.1.21 Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes																															
5.1.22 Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers																															
5.1.23 Establish whether a number up to 100 is prime and recall prime numbers up to 19.																															
5.1.24 Multiply numbers up to 4-digits by a 1-digit using formal written methods.																															
5.1.25 Multiply 2-digit number using a formal written method, including long multiplication for 2-digit numbers.																															
5.1.26 Divide numbers up to 4-digits by a 1-digit number using the formal written method of short division.																															
5.1.27 Interpet remainders appropriately for the context.																															

5.1.28 Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understadnig the use of the equals sign																														
5.1.29 Compare and order fractions whose denominators are all multiples of the same number.																														
5.1.30 Convert fractions with different denominators to have a common denominator.																														
5.1.31 Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.																														
5.1.32 Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements.																														
5.1.33 Add and subtract fractions with the same denominator and denominators that are multiples of the same number																														
5.1.34 Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams																														
5.1.35 Read and write decimal numbers as fractions, e.g. 0.71 = 71/100.																														
5.1.36 Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates																														
5.1.37 Read, write, order and compare numbers with up to three decimal places.																														
5.1.38 Count up and down in thousandths; recognise that thousandths arise from dividing an object into 1000 equal parts and in dividing numbers or quantities by 1000.																														
5.1.39 Recgonise and use thousandths and relate them to tenths, hundredths and decimal equivalents																														
5.1.40 Round decimals with two decimal places to the nearest whole number and to one decimal place.																														
5.1.41 Solve problems involving number up to three decimal places																														
5.1.42 Recognise the percent 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.																														
5.1.43 Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fracgions with a denoinator of a multiple of 10 or 25																														
5.1.44 Use all four operations to solve problems involving measure (length, mass, volume, money) using decimal notation, including scaling																														
2. Measure	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name
5.2.1 Measure and calculate the perimeter of composite rectilinear shapes in cm and m.																														
5.2.2 Calculate & compare the area of rectangles (including squares, & including using standard units, square centimetres (cm^2) and square metres (m^2)																														
5.2.3 Estimate the area of irregular shapes.																														
5.2.4 Calculate & compare the area of rectangles (including squares) including using standard units, square centimetres (cm^2) and square metres (m^2) & estimate the area of irregular shapes.																														
5.2.5 Convert between different units of metric measure (e.g. km/m; cm/m; cm/mm; g/kg; l/ml).																														
5.2.6 Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.																														
5.2.7 Solve problems involving converting between units of time.																														

5.2.8 Estimate volume (e.g. using 1 cm^3 blocks to build cubes, including cuboids) & capacity (e.g. using water).																															
5.2.9 Use all four operations to solve problems involving measure																															
3. Geometry, position and direction	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name
5.3.1 Identify 3D shapes, including cubes and other cuboids, from 2D representations																															
5.3.2 Use the properties of rectangles to deduce related facts & find missing lengths & angles.																															
5.3.3 Distinguish between regular and irregular polygons based on reasoning about equal sides and angles																															
5.3 4 Know angles are measured in degrees; estimate & compare acute, obtuse & reflex angles.																															
5.3.5 Draw given angles & measure them in degrees																															
Identify:																															
5.3.6 -Angles at a point on a straight line & ½ a turn (total 180°)																															
5.3.7 -Angles at a point & one whole turn (total 360°)																															
5.3.8 -Other multiples of 90°																															
5.3.9 Identify describe and represent the position of a shape folloeing a refelction or translation, using the appropriate language, and know that the shape has not changed																															
5.3.10 Reflect a shape and re-plot																															
5.3.11 Translate a shape and re-plot																															
5.3.12 Describe the properties of the reflected and/or translated shape – evidencing that the shape and size has not changed																															
4. Statistics	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name
5.4.1 Solve comparison, addition and difference problems using information presented in a line graph																															
5.4.2 Complete, read and interpret information in tables, including timetables																															
5.4.3 Know how to construct a table from a set of given information																															
5.4.4 Know how to construct a table using only the relevant information																															
5.4.5 Construct own table and timetable making decision about labelling																															
5. Greater Depth Statements	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name	name
5.5.1 Have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects																															
5.5.2 Divide whole numbers (up to 4 digits) by 2-digit numbers, using preferred method																															
5.5.3 Use rounding as a strategy for quickly assessing what approximate answers ought to be before calculating																															
5.5.4 Link working across zero for positive and negative numbers to work time between BC and AD in history																															

5.5.5 Recognise the symbol for square root (√) and work out square roots for numbers up to 100																															
5.5.6 Calculate number problems algebraically, e.g. 2x – 3 = 5																															
5.5.7 Use knowledge of measurement to create plans of areas around school, such as classroom , field, outside play area, etc.																															
5.5.8 Relate imperial measures still used regularly in our society to their metric equivalents, eg, miles to Km and lbs to Kg																															
5.5.9 Use a range of timetables to work out journey times on a fictional journey around the world, eg, how long would it take to reach the rainforests in the Amazon																															
5.5.10 Collect own data on personal project and present information in formats of their choosing, charts, graphs and tables																															