Mathematics Overview- Year 5

	Number and Place Value, approximation and estimation/rounding	Addition, Subtraction, Multiplication & Division (Calculation)	Fractions, Decimals and Percentages	Measurement	Geometry – Properties of Shape & Position and Direction	Statistics
1	• Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	• **Add and subtract numbers mentally with increasingly large numbers** • **Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)** • Use rounding to check answers to calculations and determine, in the context of the problem, levels of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	• Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number (e.g. $^2/_5 + ^4/_5 = ^6/_5 = 1\ ^1/_5$) • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths (e.g. fraction wall) • **Compare and order fractions whose denominators are all multiples of the same number** •	• Solve problems involving converting between units of time	• Use the properties of rectangles to deduce related facts and find missing lengths and angles	• **Complete comparison, sum and difference problems using information in tables**
2	• **Read, write, order and compare numbers to at least 1,000,000**	• **Identify multiples and factors, including finding all factor pairs of a number** • **Find common factors of two numbers**	• Add and subtract fractions with the same denominator • Add and subtract fractions with denominators that are multiples of the same number	• **Convert between different units of metric measure** • Understand and use equivalences between metric units and common imperial units, such as inches, pounds and pints	• **Distinguish between regular and irregular polygons based on reasoning about equal sides and angles**	• **Complete comparison, sum and difference problems using information in timetables**
3	• **Determine the value of each digit in numbers up to 1,000,000**	• Know and use the vocabulary of: ➢ prime numbers, ➢ prime factors and; ➢ composite numbers • Establish whether a number up to 100 is prime and recall prime numbers up to 19 • Recognise and use square and cube numbers, and the notation for squared and cubed	• Multiply proper fractions and mixed number fractions by whole numbers, supported by materials and diagrams • **Read and write decimal numbers as fractions** (e.g. $0.71 = ^{71}/_{100}$) • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	• **Measure and calculate the perimeter of composite rectilinear shapes in cm and m** • **Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres and square metres**	• Identify 3D shapes including cubes and other cuboids, from 2D representations	• **Complete comparison, sum and difference problems using information in timetables**
4	• Round any whole number up to 1,000,000 to the nearest 10 • Round any whole number up to 1,000,000 to the nearest 100	• Multiply and divide numbers mentally drawing upon known facts • Multiply and divide whole	• Round decimals with two decimal places to the nearest whole number • Round decimals with two	• Estimate the area of irregular shapes (I've made this a separate non-bold bullet) Estimate volume (e.g. using	• Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.	• Solve comparison, sum and difference problems using information presented in a line graph

	• Round any whole number up to 1,000,000 to the nearest 1000 • Round any whole number up to 1,000,000 to the nearest 10,000 • Round any whole number up to 1,000,000 to the nearest 100,000 • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	numbers and those involving decimals by 10 • Multiply and divide whole numbers and those involving decimals by 100 • Multiply and divide whole numbers and those involving decimals by 1000	decimal places to one decimal place	1cm cubes to build cuboids (including cubes)) and capacity (e.g. using water)	• Identify**:** ➢ Angles at a point and one whole turn (total 360°) ➢ Angles at a point on a straight line and half a turn (total 180°) ➢ Other multiples of 90°	
5	• **Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero**	• 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 • 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	• **Read, write, order and compare numbers with up to three decimal places** • Solve problems involving numbers up to three decimal places	• Use all four operations to solve problems involving measure (e.g. length, mass)	• **Draw given angles and measure them in degrees** (°)	• Solve comparison, sum and difference problems using information presented in a line graph
6	• Solve number problems and practical problems that involve all of the below (except 'read Roman numerals')	• (i.e. rounding up or down) • **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 – (e.g. miles per hour; eggs in a recipe)**	• Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred' • Write percentages as a fraction with denominator 100 • Write percentages as a decimal • **Solve problems which require knowing percentage and decimal equivalents of $^1/_2$, $^1/_4$, $^1/_5$, $^2/_5$, $^4/_5$ and those fractions with a denominator of a multiple of 10 or 25**	• Use all four operations to solve problems involving measure (e.g. volume, and money)	• 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	• Solve comparison, sum and difference problems using information presented in a line graph