

Year 5	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Milestone 1	- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10,000 and 100,000 - solve number problems and practical problems that involve all of the above	- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Statistics - Statistics: complete, read and interpret information in tables, including timetables.	- 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 - multiply and divide numbers mentally drawing upon known facts - multiply and divide whole numbers and those involving decimals by 10, 100 - solve problems involving addition, subtraction, multiplication and division	- compare and order fractions whose denominators are all multiples of the same number - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) - add and subtract fractions with the same denominator round decimals	- convert between different units of metric measure (e.g. kilometre and metre; centimetre 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 rectangle (including squares) and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes - solve problems involving converting between units of time Statistics - Statistics: complete, read and interpret information in tables, including timetables.	- 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 - identify: angles at a point and one whole turn (total 360°)	
Milestone 2	- 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 through zero	- 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 - solve problems involving addition, subtraction, Statistics - statistics: solve comparison, sum and difference problems using information presented in a line graph	- know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - multiply numbers up to 4 digits by a one- or two-digit number using - recognise and use square numbers, and the notation for squared (²) - multiplication and division and a combination of these, including understanding the meaning of the equals sign	- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - add and subtract fractions with the same denominator and multiples of the same number - read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) - 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 - recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction - solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$	use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	- draw given angles, and measure them in degrees (°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90°	
Milestone 3	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	- solve addition and subtraction multi- step problems in contexts, deciding which operations and methods to use and why. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	- establish whether a number up to 100 is prime and 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 - 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 and 1000 - recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)	- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - read, write, order and compare numbers with up to three decimal places - solve problems involving number up to three decimal places - solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.	- understand and use equivalences between metric units and common imperial units such as inches, pounds and pints - estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water) - Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.	- 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	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.

	• 5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. • 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. • 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. • 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. • 5NPV–5 Convert between units of measure, including using common decimals and fractions.		• Solve problems involving addition, subtraction, multiplication and division and a combination of these • 5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. • 5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. • 5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. • 5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context	• 5F–1 Find non-unit fractions of quantities • 5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. • 5F–3 Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.		• 5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size. • 5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.	
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