

Maths Year 5

Expected

- Read, write, order and compare numbers to at least 1000000 and determine the value of each digit
- Round any number up to 1000000 to the nearest 10, 100, 100, 10,000 and 100,000
- Interpret negative numbers in context
- Count forwards and backwards with positive and negative whole numbers, including through zero
- Count forwards and backwards in steps of powers of 10 for any given number up to 1 000 000
- Solve number problems and practical problems that involve all of the above
- Read Roman numerals to 1000 (m) and recognise years written in Roman numerals
- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - solve multi-step problems
- Add and subtract whole numbers with more than 4 digits mentally
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- Know the vocabulary of prime numbers, prime factors, composite (non-prime) numbers
- Establish whether a number up to 100 is prime and recall prime numbers 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
- multiply and divide numbers mentally drawing upon known facts
- 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)
- 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.
- Compare and order fractions whose denominators are all multiples of the same number
- Read and write decimal numbers as fractions
- Read, write, order and compare numbers with up to three decimal places
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- Solve problems which require knowing percentage and decimal equivalents of a half, quarter, a fifth, two fifths and four fifths and those fractions with a denominator of a multiple of 10 or 25
- Recognise mixed numbers and improper fractions and convert them from one form to the other and write mathematical statements > 1 as a mixed numbers
- Add and subtract fractions with the same denominators and with denominators that are multiples of the same number
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place
- Solve problems involving number up to 3 decimal places
- Recognise the % 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
- Convert between different units of metric measure (k/m) (cm/ml) (g/kg) (l/ml)
- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- Calculate and compare the area of rectangles (including squares) and including using standard units, square cm and square m and estimate the area of irregular shapes
- Estimate and identify the volume and capacity
- Solve problems involving converting between units of time
- Use all four operations to solve problems involving measure (length, mass, volume, money) using decimal notation, including scaling
- Draw given angles and measure them in degrees

	<ul style="list-style-type: none"> • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles, including finding missing lengths and angles • Identify angles at a point, straight line and a quarter turn • Identify 3D shapes from 2D representations • Know that angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • Use the properties of rectangles to deduce related facts and find missing lengths and angles • Identify and describe and represent the position of shapes after reflection and translation, using the appropriate language and that the shape has not changed • Complete, read and interpret information in tables, including timetables • Solve comparison, sum and difference problems using information presented in line graphs
Greater Depth:	<ul style="list-style-type: none"> • Work in a systematic, logical way to find patterns, generalise and justify mathematical thinking • Reason and represent place value in different ways using mathematical language • 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. • 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. • Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.