

Information for Parents/Carers

MATHEMATICS - A YEAR 5 MATHEMATICIAN

Number, place value, approximation and estimation/rounding

I can count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.

I can read, write, order and compare numbers to at least 1,000,000.

I can determine the value of each digit in numbers up to 1,000,000.

I can read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.

I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100000.

I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.

I can solve number problems and practical problems with the above.

Calculations

I can add and subtract numbers mentally with increasingly large numbers.

I can add and subtract whole numbers with more than 4 digits, including using formal written methods.

I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

I can identify multiples and factors, including finding all factor pairs of a number and common factor pairs of two numbers.

I use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

I can establish whether a number up to 100 is prime and recall prime numbers up to 19.

I recognise and use square numbers and cube numbers, and the notation for squared and cubed.

I can multiply and divide numbers mentally drawing on known facts.

I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

I can multiply numbers up to 4 digits by a 1-digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.

I can divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context.

I can solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.

I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.

I can solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates.

Fractions, decimals and percentages

I can recognise mixed numbers and improper fractions and convert from one form to the other.

I can write mathematical statements >1 as a mixed number.

I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.

I can compare and order fractions whose denominators are multiples of the same number.

I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.

I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

I can read and write decimal numbers as fractions.

I recognise and can use thousandths and relate them to tenths, hundredths and decimal equivalents.

I can round decimals with 2 decimal places to the nearest whole number and 1 decimal place.

I can read, write, order and compare numbers with up to 3 decimal places.

I can solve problems involving numbers up to 3 decimal places.

I recognise the percent symbol and understand that percent relates to 'number parts per hundred'.

I can write percentages as a fraction with denominator hundred, and as a decimal.

I can 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 fractions with a denominator or a multiple of 10 or 25.

Measurement

I can solve problems involving converting between units of time.

I can convert between different units of metric measure.

I understand and use approximate equivalences between metric units and common imperial units, such as inches, pounds and pints.

I can measure and calculate the perimeter of composite rectilinear shapes in cm and m.

I can calculate and compare the area of rectangles (incl. squares), and including using standard units (cm^2 and cm^3) to estimate the area of irregular shapes.

I can estimate volume and capacity.

I can use all four operations to solve problems involving money using decimal notation, including scaling.

Geometry – properties of shapes

I can use the properties of rectangles to deduce related facts and find missing lengths and angles.

I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

I can identify 3D shapes, including cubes and other cuboids, from 2D representations.

I know angles are measured in degrees.

I can estimate and compare acute, obtuse and reflex angles.

I can identify angles at a point and one whole turn.

I can identify angles at a point on a straight line and $\frac{1}{2}$ a turn.

I can identify other multiples of 90° .

I can draw given angles and measure them in degrees.

Geometry – position and direction

I can 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.

Statistics

I can complete, read and interpret information in tables, including timetables.

I can solve comparison, sum and difference problems using information presented in a line graph.

Exceeding Year 5 Expectations

I have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects.

I can divide whole numbers (up to 4 digits) by 2-digit numbers, using my preferred method.

I can use rounding as a strategy for quickly assessing what approximate answers ought to be before calculating.

I can link working across zero for positive and negative numbers, for example, to work out time intervals

between BC and AD in history

I can recognise the symbol for square root ($\sqrt{\quad}$) and work out square roots for numbers up to 100.

I can calculate number problems algebraically, for example, $2x - 3 = 5$

I can use my knowledge of measurement to create plans of areas around school, such as the classroom, field, outside play area, etc.

I can relate the imperial measures still used regularly in our society to their metric equivalents, for example, miles to Km and lbs to Kg.

I can use a range of timetables to work out journey times on a fictional journey around the world, for example, "How long would it take to reach the rainforests in the Amazon?"

I can collect my own data on a personal project and present information in formats of my choosing using charts, graphs and tables.