

MATHEMATICS TARGETS (Full)

A YEAR 5 MATHEMATICIAN

GROUP RECORD

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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 a digit up to two decimal places.							
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 change the order of a calculation to support my mental strategies.							
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 or 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.							

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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 know that a half is 0.5 and 50%, a quarter is 0.25 and 25%, a tenth is 0.1 and 10%, $\frac{3}{4}$ is 0.75 and 75%.							
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 find fractions, decimals and percentages of amounts.							
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.							

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Geometry – properties of shapes							
I can use the properties of rectangles to deduce related facts and find missing lengths and angles and can express this in algebraic forms. EG: $A=L \times W$							
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.							
I can use a protractor accurately							
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.							

MATHEMATICS TARGETS

EXCEEDING YEAR 5 EXPECTATIONS

GROUP RECORD

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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 ($\sqrt{}$) 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.						

