**MATHEMATICS TARGETS - A YEAR 5 MATHEMATICIAN**

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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 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 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. |

**MATHEMATICS TARGETS - A YEAR 5 MATHEMATICIAN**

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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 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 ½, ¼, 1/5, 2/5, 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 (cm2 and cm3) 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. |

**MATHEMATICS TARGETS - A YEAR 5 MATHEMATICIAN**

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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. |
| 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 ½ a turn. |
| I can identify other multiples of 90º. |
| 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. |

**Mathematics Targets**

**Exceeding Year 5 Expectations**

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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 (√) 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. |