**Assessment criteria for Maths**

| **Learning Objective** | **Key Milestone indicators** |
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| To know and use numbers | Counting | * Read numbers up to 10 000 000.
* Use negative numbers in context and calculate intervals across zero.
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| Representing | * Write numbers up to 10 000 000.
* Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
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| Comparing | Order and compare numbers up to 10 000 000. |
| Place value | * Round any whole number to a required degree of accuracy.
* Determine the value of each digit in any number.
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| Solving problems | Solve number and practical problems. |
| To add and subtract | Checking | Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. |
| Using Number Facts | Add and subtract negative integers. |
| Complexity  | Solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why. |
| Methods | * Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)
* Add and subtract numbers mentally with increasingly large numbers.
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| To multiply and divide | Methods | * Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method for multiplication.
* Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole numbers, fractions, or by rounding, as appropriate for the context.
* Divide numbers up to 4 digits by a two-digit number using the formal written method of short division, where appropriate, interpreting remainders according to the context.
* Perform mental calculations, including with mixed operations and large numbers.
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| Checking | Estimate and use inverse operations and rounding to check answers to a calculation. |
| Complexity | * 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.
* Use knowledge of the order of operations to carry out calculations involving the four operations.
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| Using multiplication and division facts | * Identify common factors, common multiples and prime numbers.
* Establish whether a number up to 100 is prime and recall prime numbers up to 19.
* 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).
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| To use fractions | Solvingproblems | * Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
* Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
* Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
* Multiply simple pairs of proper fractions, writing the answer in its simplest form.
* Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.
* Divide proper fractions by whole numbers.
* Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
* Solve problems involving the calculation of percentages and the use of percentages for comparison.
* Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
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| Recognisingfractions | * Compare and order fractions whose denominators are all multiples of the same number.
* Compare and order fractions, including fractions > 1.
* Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.
* Round decimals with two decimal places to the nearest whole number and to one decimal place.
* Read, write, order and compare numbers with up to three decimal places.
* Identify the value of each digit in numbers given to three decimal places.
* Solve problems involving numbers up to three decimal places.
* 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 100, and as a decimal.
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| Equivalence | * Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
* Read and write decimal numbers as fractions.
* Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
* Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
* Associate a fraction with division and calculate decimal fraction equivalents.
* Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
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| To understand theproperties ofshapes | * 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.
* Draw given angles, and measure them in degrees (°).
* Identify:
	+ Angles at a point and one whole turn (total 360°)
	+ Angles at a point on a straight line and a turn (total 180°)
	+ Other multiples of 90°
* 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.
* Draw 2-D shapes using given dimensions and angles.
* Recognise, describe and build simple 3-D shapes, including making nets.
* Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
* Illustrate and name parts of circles, including radius, diameter and circumference, and know that the diameter is twice the radius.
* Recognise angles where they meet at a point, are on a straight line or are vertically opposite, and find missing angles.
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| To describeposition, directionand movement | * 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.
* Describe positions on the full coordinate grid (all four quadrants).
* Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
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| To use measures | * Convert between different units of metric measure.
* 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), using standard units (square centimetres (cm2) and square metres (m2)) and estimate the area of irregular shapes.
* Estimate volume and capacity.
* Solve problems involving converting between units of time.
* Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.
* Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
* Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.
* Convert between miles and kilometres.
* Recognise that shapes with the same area can have different perimeters and vice versa.
* Recognise when it is possible to use formulae for area and volume of shapes.
* Calculate the area of parallelograms and triangles.
* Calculate, estimate and compare the volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units.
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| To use statistics | * Solve comparison, sum and difference problems using information presented in a line graph.
* Complete, read and interpret information in tables, including timetables.
* Interpret and construct pie charts and line graphs and use these to solve problems.
* Calculate and interpret the mean as an average.
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| To use algebra | * Use simple formulae.
* Generate and describe linear number sequences.
* Express missing number problems algebraically.
* Find pairs of numbers that satisfy an equation with two unknowns.
* Enumerate possibilities of combinations of two variables.
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**Assessment criteria for Reading**

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| **Learning Objective** | **Key Milestone indicators** |
| To read words accurately | Apply knowledge of root words, prefixes and suffixes. |
| To understand texts | * Recommend books to peers, giving reasons for choices.
* Identify and discuss themes and conventions in and across a wide range of writing.
* Make comparisons within and across books.
* Learn a wide range of poetry by heart.
* Prepare poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience.
* Check that the book makes sense, discussing understanding and exploring the meaning of words in context.
* Ask questions to improve understanding.
* Draw inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.
* Predict what might happen from details stated and implied.
* Summarise the main ideas drawn from more than one paragraph, identifying key details that support the main ideas.
* Identify how language, structure and presentation contribute to meaning.
* Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader.
* Retrieve and record information from non-fiction.
* Participate in discussion about books, taking turns and listening and responding to what others say.
* Distinguish between statements of fact and opinion.
* Provide reasoned justifications for views.
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**Assessment criteria for Writing**

**Composition**

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| **Learning Objective** | **Key Milestone indicators** |
| To write withpurpose | * Identify the audience for writing.
* Choose the appropriate form of writing using the main features identified in reading.
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| To use imaginativedescription | * Use the techniques that authors use to create characters, settings and plots.
* Create vivid images by using alliteration, similes, metaphors and personification.
* Interweave descriptions of characters, settings and atmosphere with dialogue.
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| To organise writingappropriately | * Guide the reader by using a range of organisational devices, including a range of connectives.
* Choose effective grammar and punctuation.
* Ensure the correct use of tenses throughout a piece of writing.
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| To use paragraphs | * Write paragraphs that give the reader a sense of clarity.
* Write paragraphs that make sense if read alone.
* Write cohesively at length.
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| To use sentencesappropriately | * Write sentences that include: Relative clauses, modal verbs, relative pronouns, brackets, parenthesis, mixture of active and passive voice, a clear subject and object, hyphens, colons and semi colons, bullet points.
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**Transcription**

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| **Learning Objective** | **Key Milestone indicators** |
| To present neatly | Write fluently and legibly with a personal style. |
| To spell correctly | * Use prefixes appropriately.
* Spell correctly some words with silent letters.
* Spell the vast majority of words correctly.
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| To punctuate accurately | * Indicate grammatical and other features by using commas to clarify meaning or avoid ambiguity in writing, and by using hyphens to avoid ambiguity.
* By using brackets, dashes or commas to indicate parenthesis, using semi-colons, colons or dashes to mark boundaries between independent clauses, using a colon to introduce a list, and punctuating bullet points consistently.
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**Analysis and Presentation**

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| **Learning Objective** | **Key Milestone indicators** |
| To analyse writing | Use and understand grammatical terminology when discussing writing and reading* Year 5: relative clause, modal verb, relative pronoun, parenthesis, bracket, dash, determiner, cohesion, ambiguity.
* Year 6, active and passive voice, subject and object, hyphen, synonym, colon, semi-colon, bullet points.
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| To present writing | Perform compositions, using appropriate intonation and volume. |