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| **Number** | **Geometry and Measure** | **Algebra** |
| **Statistics** | **Probability** | **Ratio and Proportion** |

**CURRICULUM OVERVIEW 2024 – 2025 YEAR 8**

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| **YR 8** | **Autumn 1** | **Autumn 2** | **Spring 1** |
| **Content** | **Unit 1 Number properties and calculations**  **Unit 2: Shapes and measures in 3D** | **Unit 3: Statistics**  **Unit 4: Expressions and equations** | **Unit 5: Decimal Calulations**  **Unit 6: Angles** |
| **Key new knowledge** | **Number properties and calculations**   * Add and subtract larger numbers. * Multiply larger numbers. * Use brackets. * Add and subtract with negative numbers. * Multiply and divide negative numbers. * Work with ratios. * Find equivalent ratios. * Solve simple word problems involving ratio. * Understand the relationship between ratio and proportion. * Use proportion to solve simple problems.   **Shapes and measures in 3D**   * Recognise and name 3D shapes. * Count faces edges and vertices. * Deduce properties of 3D shapes from 2D representations. * Identify nets of 3D solids including cubes and cuboids. * Draw nets of 3D solids using a ruler and protractor. * Calculate the surface area of cubes and cuboids. * Find the volume of a cube or cuboid by counting cubes. * Know the formula for calculating the volume of a cube or cuboid. * Solve problems involving units of length, area and capacity. * Convert between cm3 and litres.   **Unit Test 1 and 2** | **Statistics**   * Design a data collection sheet. * Group data into equal class intervals. * Interpret complex bar charts. * Draw bar charts for more than one set of data. * Interpret pie charts.   **Expressions and equations**   * Simplify expressions by collecting like terms. * Find outputs and inputs of function machines. * Construct functions. * Solve simple equations and check the solution is correct. * Understand the difference between an expression and an equation, and identify the unknown in an equation. * Use brackets with numbers and letters. | **Decimal Calulations**   * Add and subtract decimal numbers. * Multiply decimals. * Round decimals. * Order decimals. * Solve problems involving decimals.   **Angles**   * Use a protractor to measure and draw obtuse and reflex angles. * Estimate the size of reflex angles. * Use vertically opposite angles. * Work out the size of unknown angles in a triangle. * Accurately draw triangles using a ruler and protractor. * Accurately draw a net of a 3D shape. * Investigate the sides of a right-angled triangle. |

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| **Year 7** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Content** | **Unit 7: Number Properties**  **Consolidation** | **Unit 8: Sequences**  **Unit 9: Fractions, decimals and percentages** | **Unit 10: Probability** |
| **Key new knowledge** | **Number Properties**   * Calculate squares and square roots, mentally and using a calculator. * Calculate cubes and cube roots, mentally and using a calculator. * Do calculations involving brackets and square numbers. * Use the brackets keys on a calculator. * Use index notation. * Find the factor pairs of any whole number. * Use the lowest common multiple (LCM) and highest common factor (HCF) to solve problems. * Find the factor pairs of any whole number. * Use the lowest common multiple (LCM) and highest common factor (HCF) to solve problems. | **Sequences**   * Recognise, describe and continue number sequences. * Find and use pattern and term-to-term rules. * Use the term-to-term rule to work out terms in a sequence. * Recognise an arithmetic sequence. * Describe sequences arising in real life. * Describe and continue special sequences. * Recognise a geometric sequence. * Generate terms of a sequence using the position-to-term rule. * Find the 𝑛�th term of a simple sequence.   **Fractions, decimals and percentages**   * Compare fractions. * Simplify fractions. * Identify equivalent fractions. * Calculate with fractions mentally. * Calculate fractions of quantities. * Multiply a fraction by a whole number. * Add and subtract fractions. * Write a number as a fraction of another number. * Change between fractions and percentages. * Calculate percentages. * Compare proportions using percentages. * Write one number as a percentage of another number. | **Probability**   * Use the language of probability. * Use a probability scale with words and numbers. * Write probabilities as fractions, decimals and percentages. * Find all the possible outcomes of an event. * Use equally likely outcomes to calculate probabilities. * Learn and use probability notation. * Calculate the probability of an event not happening. * Find all the possible outcomes of two simple events. * Use data from an experiment to estimate probabilities. * Collect data from an experiment, and make calculations based on results. * Compare and interpret probabilities. |