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| Subject: **Mathematics** |
| Group/ Year: **Year 11** |

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| **Progress Pathway** |  | | | | | |
| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | |
| **Basic foundation content** | **Using Number**  ***Types of Number and Sequences***   * Use factors, multiples, primes and prime factorisation * Recognise arithmetic and geometric sequences * Recognise and use other sequences   **Using Number**   * ***Indices and Roots*** * Workout powers and roots * Use the rules of indices * Calculate with numbers in standard index form   **Graphs**   * ***Gradients and Lines*** * Find and use equations of straight lines | **Graphs**  ***Using Graphs***   * Reflect shapes in a given line * Construct and interpret speed, distance and time graphs * Construct and interpret real-life graphs   **Algebra**  ***Expanding and Factorising***   * Expand a single bracket and binomials * Factorise into a single bracket   **Algebra**  ***Changing the Subject***   * Review solving linear equations * Change the subject of a formula, including perimeter, area and volume formulae * Volume of a pyramid | **Algebra**  ***Functions***   * Find inputs and outputs * Show algebraic expressions are equivalent   **Reasoning**  ***Multiplicative Reasoning***   * Review scale and enlargement * Work with direct and inverse proportion * Calculate with pressure and density * Determine whether a problem requires additive or multiplicative reasoning | **Reasoning**  ***Algebraic Reasoning***   * Review simplification of complex expressions and finding the nth term rule * Justify eg. Why a number is/isn't in a given sequence   **Revision and Communication**  ***Transforming and Constructing***   * Revisit transformations of shapes, linking to types of symmetry * **Revision and Communication** * ***Listing and Describing*** * Work with organised lists * Sample spaces and probability * Complete and use Venn diagrams * Work with plans and elevations * Use data to compare distributions | **Revision and Communication**  ***Show that...***   * Illustrate equivalence, numerically and algebraically * Justify answers * Use the language of angles rules * Use the conditions for congruent triangles   **Revision**   * Number work, including multi-step problem solving * Forming and solving equations and inequalities * Working with formulae that students are expected to know eg. Area and volume formulae * Probability * etc. | ***GCSE/Functional Skills/Entry Level examinations*** | |

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| Progress Pathway |  | | | | | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Additional foundation content** | **Graphs**  ***Non-linear Graphs***   * Plot and read from quadratic curves * Understand and find roots * Plot cubic and reciprocal graphs | **Algebra**  ***Expanding and Factorising***   * Factorise quadratics of the form x²+ bx + c * Solve quadratic equations * Simplify complex algebraic expressions including algebraic fractions | **Algebra**  ***Functions***   * Solve problems using the kinematics formulae   **Reasoning**  ***Geometric Reasoning***   * Review angle facts, focusing on the language of reasons and chains of reasoning * Review Pythagoras' theorem and using trigonometrical ratios | **Reasoning**  ***Algebraic Reasoning***   * Work with complex indices   **Revision and Communication**  ***Transforming and Constructing***   * Perform standard constructions using ruler and protractor or ruler and compasses * Solve loci problems |  |  |