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

|  |  |
| --- | --- |
| **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*** |

|  |  |
| --- | --- |
| 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
 |  |  |