"Our curriculum is designed to help students truly master mathematics, so they can apply their skills in unfamiliar situations whenever needed. Topics from the same content areas have been grouped together to form mastery half terms. More time is spent teaching fundamentals to avoid reteaching in later years."

Autumn 1: Algebra

Skills	- Generate terms of a linear sequences - Generate terms of a non-linear sequences - Identify different types of linear and non-linear sequences - Find a given term in a linear sequence - Generalise the position to term rule for a linear sequence (n^{th} term) - Derive equations and inequalities from contexts - Solve linear equations with an unknown on one side (revise from Year 7) - Solve linear equations with an unknown on both sides - Solve equations involving fractional terms and brackets - Forming and solving inequalities with unknown on one side - Forming and solving inequalities with an unknown on both sides - Represent the solution to an equation or inequality on a number line
Knowledge	- Recall the key features of a linear sequence - Understand the differences between linear and non-linear sequences - Appreciate how the nth term rule relates to the nth position of a sequence - Understand the meaning and conventions of the equals sign and inequality signs - Classify expressions, equations, inequalities and identities - Use the language of solve, solution and unknown - Interpret the solution to an equation based on the context from which it is derived - Interpret relationships expressed as inequalities
Rationale	This module gives learners the opportunity to develop and formalise the algebra they have become familiar with in Year 7. It has an increased level of challenge and complexity. This module begins by studying sequences. In the autumn term of year 7 students were introduced to algebraic notation and met sequences in the form of geometric patterns. In this unit, sequences are derived from the same geometric patterns and other contexts. Students start with the term to term rules, before expressing the position to term rules algebraically. Different types of sequences are explored including linear, non-linear, arithmetic and geometric. In year 7 students explored the nature of equality and solved equations with one unknown where the unknown appeared on one side. In Unit 2 learners formalise methods for solving equations. Learners use inverse operations to transform equations with one and two steps and encounter equations involving a single bracket. Equations are derived from familiar contexts and the solutions to these equations are interpreted within that context. In unit 3, inequalities are derived from the same contexts that were met in the previous unit. Solutions are built up by substituting numbers that satisfy the inequality. This develops an understanding that the solution to an inequality has a range of values. The unit continues with more formal strategies for solving inequalities. The same strategies for solving equations are developed in the context of inequalities.