The Sutton Academy

Knowledge Rich Curriculum Plan

Year 10 Foundation – Algebra 1

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this…*	Assessment
To learn how to simplify algebraic expressions	• Students will know how to collect like terms • Students will know how to simplify algebraic expressions involving multiplication, including where the index laws need to be applied • Students will know how to simplify algebraic expressions involving division, including where the index laws need to be applied. • Students will know how to simplify algebraic expressions where the index law for brackets is required e.g. Simplify $(2x^2)^3$ • Students will know how to simplify more complex algebraic expressions using the index laws	**Algebraic Expression –** A collection of variables and/or integers without an equals sign. It cannot be solved. **Simplify –** make (something) simpler or easier to do or understand. **Co-efficient –** a number placed before and multiplying the variable in an algebraic expression	• Students should be able to add and subtract negative numbers • Students should be able to use the index laws for multiplication with numerical bases	
To learn how to expand single brackets	• Students will know how to expand single brackets where they need to multiply the bracket by a positive or negative integer, by an algebraic expression or by a combination of both • Students will know how to apply the index laws when expanding brackets • Students will know how to expand and simplify expressions in the form a(x + b) + c(x + d) including where there are powers of x, algebraic terms outside the brackets and the rules of negatives need to be applied	**Expand –** in maths, expand means multiply out	• Students will need to know how to multiply algebraic expressions • Students will need to know how to collect like terms • Students will need to know how to calculate with negative numbers	
To learn how to expand double brackets	• Students will know how to expand double brackets and simplify answers by collecting 'like terms'.		• Students will need to know how to collect like terms • Students will need to know how to calculate with negative numbers	
To learn how to form algebraic expressions	• Students will know how to form expressions representing a worded situation. • Students will know how to form expressions to represent area and perimeter.	**Perimeter –** the distance around the outside of a shape **Area –** the amount of space inside a 2D shape	• Students will need to know how to calculate perimeter and area	
To learn how to factorise expressions into a single bracket	• Students will know how to factorise algebraic expressions into single brackets	**Factorise –** put back into brackets by bringing common factors outside **Highest Common Factor** – the largest number that both or all of the numbers can be divided by	• Students need to know how to find the HCF of two numbers	

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this…*	Assessment
To learn how to substitute into formulae	• Students will know how to substitute positive and negative integers into formulae. • Students will know how to substitute positive and negative numbers into worded formulae. • Students will know how to substitute positive and negative numbers into kinematics formulae.	**Substitution**: the action of replacing someone or something with another person or thing. In algebra “substitution" means putting numbers where the letters are in an algebraic expression	• Students need to be able to calculate with negative numbers • Students need to able to use BIDMAS	