

Y11 Unit 4 Overview- Algebra

Target grade for tests:

You will learn about:

- The language of algebra.
- Sequences.
- Solving equations.

You will be able to:

- Understand and use the concepts and vocabulary of expressions, equations, formulae and terms.
- Use and interpret algebraic notation, including: ab in place of $a \times b$, $3y$ in place of $y + y + y$ and $3 \times y$, a^2 in place of $a \times a$, a^3 in place of $a \times a \times a$, a/b in place of $a \div b$, brackets.
- Simplify and manipulate algebraic expressions by collecting like terms and multiplying a single term over a bracket.
- Where appropriate, interpret simple expressions as functions with inputs and outputs.
- Substitute numerical values into formulae and expressions.
- Use conventional notation for priority of operations, including brackets.
- Generate terms of a sequence from a term-to-term rule.
- Solve linear equations in one unknown algebraically.



Lesson Overview					Key Words	
<p><u>ALGEBRAIC PROFICIENCY: TINKERING</u></p> <ul style="list-style-type: none"> • Know the meaning of expression, term, formula, equation, function • Know basic algebraic notation (the rules of algebra) • Use letters to represent variables • Identify like terms in an expression • Simplify an expression by collecting like terms • Know how to multiply a (positive) single term over a bracket • Substitute positive numbers into expressions and formulae • Given a function, establish outputs from given inputs • Given a function, establish inputs from given outputs • Use a mapping diagram (function machine) to represent a function • Use an expression to represent a function • Use the order of operations correctly in algebraic situations <p><u>SEQUENCES</u></p> <ul style="list-style-type: none"> • Use a term-to-term rule to generate a linear sequence • Use a term-to-term rule to generate a non-linear sequence • Find the term-to-term rule for a sequence • Describe a number sequence • Solve problems involving the term-to-term rule for a sequence • Solve problems involving the term-to-term rule for a non-numerical sequence <p><u>SOLVING EQUATIONS</u></p> <ul style="list-style-type: none"> • Choose the required inverse operation when solving an equation • Identify the correct order of undoing the operations in an equation • Solve one-step equations when the solution is a whole number or fraction • Solve two-step equations (including the use of brackets) when the solution is a whole number or fraction • Solve three-step equations (including the use of brackets) when the solution is a whole number or fraction • Check the solution to an equation by substitution 					<p>Refer to http://studymaths.co.uk/glossary.php for definitions of the key words</p> <p>Algebra, algebraic, algebraically Expression, Term, Formula (formulae), Equation, Function, Variable Mapping diagram, Input, Output Represent Substitute Evaluate Like terms Simplify / Collect Unknown Operation Solve Solution Brackets Symbol</p> <p>Notation The lower case and upper case of a letter should not be used interchangeably when worked with algebra $2xa$ is written as $2a$ (we don't use x signs) $2a$ is used rather than a^2. Division is written as a fraction</p> <p>Pattern Sequence Linear Term Term-to-term rule Ascending Descending</p>	
Research	Note-making	Group work & discussion	Memorisation	Precision & accuracy	Independence	Reflection

