Department: Mathematics
Year: 8

Sequence	Topic title	Outline of Main Content / Objectives	Assessment(s) formative and summative (indicative)	Links to GCSE
1 5 Lessons	Algebraic Notation	• Understand the basics of algebra • Divide expressions and write decimal coefficients as fractions • Apply knowledge of key algebraic notation to form expressions	Baseline Test (S)	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A1) • Use and interpret algebraic notation, including: • ab in place of a×b • 3y in place of y+y+y and 3×y • a2 in place of a×a , a3 in place of a×a×a , a^2b in place of a×a×b • a/b in place of a÷b • coefficients written as fractions rather than as decimals • brackets
2 4 Lessons	Collecting like terms	• Add and subtract like terms • Simplify expressions using addition, subtraction and multiplication • Simplify expressions also using division		3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A4) Simplify and manipulate algebraic expressions by: • collecting like terms • multiplying a single term over a bracket • taking out common factors • simplifying expressions involving sums, products and powers, including the laws of indices
3 4 Lessons	Expanding brackets	• Expand single brackets • Expand and simplify single brackets • Expand single brackets, use powers and simplify	Test (F): End of topics 2,3	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A4)

				Simplify and manipulate algebraic expressions by: • collecting like terms • multiplying a single term over a bracket • taking out common factors • simplifying expressions involving sums, products and powers, including the laws of indices
4 4 Lessons	Factorisation	• Factorise expressions into a single bracket using a number factor • Factorise linear expressions by taking out a letter factor • Factorise expressions into a single bracket using both number and letter factors	Test (F): End of topics 2,3,4	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A4) Simplify and manipulate algebraic expressions by: • collecting like terms • multiplying a single term over a bracket • taking out common factors • simplifying expressions involving sums, products and powers, including the laws of indices
5 3 Lessons	Substitution	• Substitute numbers into expressions • Substitute numbers into expressions involving powers and negatives	Test (S) - Basics in algebra	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1. (A2) • Substitute numerical values into formulae and expressions, including scientific formulae
4 lessons	CTG			
6 3 Lessons	Solving linear equations	• Understand what an equation is, write and solve them • Solve one step linear equations using pictures and an abstract method	Topic test (F)	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A6)

				• Know the difference between an equation and an identity 3.2.3 Solving equations and inequalities 3.2.3.(A17) • Solve linear equations in one unknown algebraically, including those with the unknown on both sides of the equation 3.2.3.(A21) • Translate simple situations or procedures into algebraic expressions or formulae • derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution
Half Term				
7 11 lessons	Solving linear equations	• Solve two step linear equations • Solve linear equations leading to non-integer solutions • Solve linear equations with fractional and decimal coefficients • Solve linear equations with an unknown on both sides • Solving double sided equations with fractional and decimal coefficients • Construct and solve linear equations	Test (F): End of Topic	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A6) • Know the difference between an equation and an identity 3.2.3 Solving equations and inequalities 3.2.3.(A17) • Solve linear equations in one unknown algebraically, including those with the unknown on both sides of the equation 3.2.3.(A21) • Translate simple situations or procedures into algebraic expressions or formulae

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				• derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution
4 lessons	CTG			
8 5 Lessons	Rearranging equations and formulae	• Rearrange equations using numbers and bar modelling • Rearrange 1 step and 2 step linear equations using pictures and an abstract method • Rearrange complex formulae which include squares and cubes	Test (S): Equations and Rearranging	3.2 Algebra 3.2.1 Notation, vocabulary and manipulation 3.2.1.(A4) Simplify and manipulate algebraic expressions by: • collecting like terms • multiplying a single term over a bracket • taking out common factors • simplifying expressions involving sums, products and powers, including the laws of indices 3.2.3 Solving equations and inequalities
4 lessons	CTG			
4 lessons	Christmas Project			
Christmas Holiday				

Key Foundational skill	Covered in which part of the sequence
Algebraic Notation	Sequence 2
Algebraic Manipulation (Simplifying, Expanding, Factorising)	Sequence 3-5
Solving	Sequence 6
Rearranging	Sequence 8 (by Christmas)