Scheme of Learning: Year 7 Autumn Term

Topic Sequence: Algebraic Thinking

1	2	3
Sequences	**Understand and Use Algebraic Notation**	**Equality and Equivalence**

Topic Overview: Sequences

In this unit students are introduced to forming and solving one step linear equations building on their knowledge of inverse operations. It is important that students knowledge of how to solve equations is developed rather than spotting solutions. The unit finishes with the consideration of equivalence and the difference between this and equality.

Learning Sequence:

Understand the meaning of equality: Students often misinterpret the equals sign as "makes". The bidirectional nature of equality is emphasised to ensure students understand the left hand side and right hand side of an equation are worth the same amount.

Understand and use fact families: The lesson builds on students knowledge of fact families from key stage 2 by extending this idea to algebraic fact in order to prepare classes to solve equations.

Solve one step linear equations involving addition and subtraction: Students will learn to solve one step linear equations. Calculators and bar models will be used to aid the students in their investigations to use inverse operations rather than "spotting" the answer.

Solve one step linear equations involving multiplication and division: A repeat of the previous lesson but with multiplication and division being introduced. Again, calculators and bar models will be used in order to avoid the misconception that the answer to an equation is always an integer.

Understand the meaning of like and unlike terms: Defining 2 or more terms as like or unlike is a vital step in understanding the simplification of algebraic expressions. Students will look at a list of terms that include a variation of letters and indices and must be able to group them into like and unlike terms.

Understand the meaning of equivalence: Being able to differentiate between equality and equivalence is important for students to know when to "solve" and when to "simplify". This step illustrates to the students the difference between and equation and expression.

Simplify algebraic expressions by collecting like terms: Students will used their knowledge from the previous two lessons to collect like terms. Here they will also be introduced to the equivalence symbol '≡' , as well as when and how to use it.

Sequence of Learning:	
1	Understand the meaning of equality
2	Understand and use fact families
3	Solve one step linear equations involving addition and subtraction
4	Solve one step linear equations involving multiplication and division
5	Understand the meaning of like and unlike terms
6	Understand the meaning of equivalence
7	Simplify algebraic expressions by collecting like terms

Topic Resources:	
Knowledge Maps:	Algebraic Manipulation and Notation Solving Linear Equations
Assessment:	
Knowledge:	End of Topic test
Application of Knowledge:	Termly mixed topic assessment
Supportive Reading:	
Any supported reading listed here	Sparx Maths www.sparxmaths.co.uk
	Corbett Maths : www.corbettmaths.com
	AQA Revision Guide