Year 9 Foundation Unit 2 KO – Algebra – The Basics, Expanding, Factorising and Substitution, Indices, Powers and Roots

Algebra: The Basics		
1	Algebraic notation	The use of letters to represent unknown values.
2	Variable	A letter or symbol for a number we don't know.
3	Term	Is a single number or variable, or the product of several numbers or variables.
4	Like terms	Terms that have the same letter to the same power.
5	Unknown	A number we do not know.
6	Expression	A mathematical 'sentence' with at least two variables and an operation.
7	Coefficient	A number used to multiply a variable.
8	Equation	A statement with an equal's sign, stating that two expressions are equal in value.
9	Formula	Is a fact or rule that connects two or more quantities.
10	Identity	An equation that is always true no matter what values are substituted. $\equiv$
11	Simplify	Group and combine like terms.
12	$\neq$	Not equal to.
13	Evaluate	Find the value.
14	Cancelling	To reduce a fraction by dividing.
15	Substitute	Replace a variable with a known value.

Expanding, Factorising and Substituting		
1	Equivalent	Equal in value.
2	Factor	A number/ term that divides into another number without leaving a remainder.
3	Factorise	Remove the highest common factor from two or more terms.
4	Expand	Removing brackets by multiplication.
5	Linear expression	An expression where the highest power of x is 1.
6	Equivalent	Equal in value.
7	Product	Multiply.
8	Binomial	Two term algebraic expression.

Indices Powers and Roots

1	Index Number/ Indices/ Power	A figure that represents the number of times a number is multiplied by itself.	
2	Index Notation	Represents repeated multiplications of the same number.	
3	Index Laws	Anything to the power of zero is 1.	$a^0 = 1$
		Anything to the power of 1 is itself.	$a^1 = a$
		Power multiplied by a power – add the indices.	$a^m \times a^n = a^{m+n}$
		Power divided by a power – subtract the indices.	$a^m \div a^n = a^{m-n}$
		Power to a power - multiply the indices.	$(a^m)^n = a^{m \times n}$