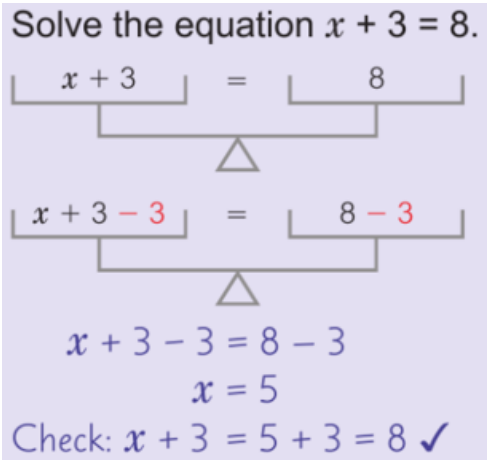
Prior Knowledge			
1	Variable	x	Any letter used to stand for an unknown number.
2	Term	$3x$	Part of an expression, it may be a number, a letter or a product of both.
3	Expression	$3(2x - 4)$	An expression is one or a group of terms and may include variables, constants, operators and brackets.
4	Like terms	2y 10y y -y	Like terms are terms which have the same variable, they can have a different number or sign. Like terms can be collected together by adding or subtracting.
5	Expand brackets	Expand $3(x - 4)$ $3(x - 4) = 3 \times (x - 4)$ $= 3 \times x + 3 \times -4$ $= 3x - 12$	To expand expressions with brackets, multiply everything inside the bracket by the number outside.
6	Formula	$E = mc^2$	A formula shows the relationship between different variables. It is written with an equals sign.
Core Knowledge			
7	Index/indices	index, exponent, power or order $5^4 = 5x5x5x5 = 625$ base, expanded, value	An index is a small number placed to the upper-right of a base number which shows how many copies of the base number are multiplied together.
8	Index form	$3 \times 3 \times 3 \times 3 = 3^4$ and $x \times x \times x \times x \times x = x^5$	Write a product using indices.
9	Factorise	Expand $5(a + 2) = 5a + 10$ Factorise	Factorising is the inverse of expanding brackets. To factorise an expression, find the HCF of the terms and write it outside of a bracket. Divide the terms by the HCF.
10	Inverse function	2 → +3 → 5 2 ← −3 ← 5	The inverse function reverses the effect of the function.
11	Equation	$5x + 10 = 35$	An equation contains an unknown number (variable) and an equals sign.
12	Solve	**Solve** the equation $x + 3 = 7$. Check your **solution**. x → +3 → 7 4 ← −3 ← 7 $x = 4$ Check: $x + 3 = 4 + 3 = 7$ ✓	To solve an equation, work out the value of the variable. Use inverse functions to solve and check your solution by substituting into the original equation.
13	Solving 2-step equations	Solve the equation $2a + 1 = 9$ using a function machine. Check your solution. a → x2 → +1 → 9 a ← ÷2 ← −1 ← 9 $9 - 1 = 8$ $8 \div 2 = 4$ $a = 4$ Check by substituting $a = 4$ back into $2a + 1$. Check: $2a + 1 = 2 \times 4 + 1 = 8 + 1 = 9$ ✓	Write a 2 step equation as a function machine, the use inverse functions to solve.

14	Balance method		The balance method is a powerful way to solve many equations. Use the same inverse operation on both sides of an equals sign. This keeps both sides equal.