

## Year 6 Algebra Knowledge Organiser.

Algebra	Knowledge Organiser	
Key Vocabulary	Linear Number Sequences	
term to term rule	<p>A linear number sequence is a sequence where each value increases or decreases by the same amount each time. Each number in a linear number sequence is called a <b>term</b>. The constant change between each number is called the term to term rule. To identify the <b>term to term rule</b>, find the difference between two adjacent terms.</p>	
variable	<p>When you know the term to term rule, you can use it to find the next number in the sequence. It can also be used to find a missing number within a sequence.</p>	
unknown		
expression		
equation	Forming Expressions	
formula	Forming Equations	
one-step equation	<p>Add 14 to <math>a</math> <math>a + 14</math></p> <p>Subtract 20 from <math>b</math> <math>b - 20</math></p>	<p><math>a + 14 = 20</math></p> <p><math>b - 20 = 15</math></p>
two-step equation	<p>Multiply <math>c</math> by 4 <math>4c</math></p> <p>12 more than <math>d</math> <math>d + 12</math></p>	<p><math>4c = 28</math></p> <p><math>d + 12 = 30</math></p>
substitution	<p>Multiply <math>e</math> by 3 and subtract 5 <math>3e - 5</math></p> <p>Add 12 to <math>f</math> and then multiply by 2 <math>2(f + 12)</math></p>	<p><math>3e - 5 = 10</math></p> <p><math>2(f + 12) = 44</math></p>
pairs of unknowns	Formulas / Formulae	
enumerate	<p>(The word formula has two possible plural forms, formulae and formulas.)</p> <p>A formula is a special type of equation that shows the relationship between different substituted variables. Formulas are often used in geometry to find area and volume.</p>	
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# Algebra

# Knowledge Organiser

## Equations with Pairs of Unknowns

In an equation with two unknown numbers, there may be **several** possible values for the unknowns that will balance the equation.

$ab = 18$	
a	b
1	18
2	9
3	6
6	3
9	2
18	1

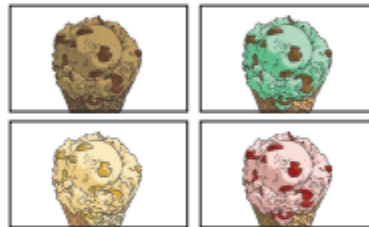
$2a + b = 10$	
a	b
2	6
3	4
4	2
5	0

## Enumerating Possibilities

Enumerating means making a complete list of answers to a problem.

- Use a system for finding the possibilities.
- Organise your findings in an ordered list or table.
- Have a way of deciding when all possibilities have been found.

There are four ice cream flavours.



Two scoops of two different flavours give six possible combinations.

- chocolate and strawberry
- chocolate and vanilla
- chocolate and mint
- strawberry and vanilla
- strawberry and mint
- vanilla and mint

## Solving One-Step and Two-Step Equations

In algebra, missing numbers in equations are represented by letters. Any letter can be used but often the letter  $x$  is used. An algebraic  $x$  is written to look different to a normal letter 'x' to avoid confusion.

$3x = 15$

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The multiplication sign is not used in algebra to avoid confusing it with the algebraic  $x$  used to show a missing number. Inverse operations are used to isolate the letter on one side of the equation.

$2x + 4 = 10$