

Mathematics Year 7 – Algebraic Thinking – Tier 2 Vocabulary

Vocabulary	Definition	Example
axes	The "x" and "y" lines that cross at right angles to make a graph.	On a speed-time graph the x axis is time and the y axis is speed.
linear	When you have a straight line on a graph.	The equation $y = x$ gives a straight line on a graph so it is linear.
difference	The result of subtracting one number from another. How much one number differs from another.	The difference of 17 and 11 is 6 ($17 - 11 = 6$)
ascending	When a quantity or a group of numbers get bigger.	This sequence 11, 15, 19, ... is ascending
descending	When a quantity or a group of numbers get smaller	This sequence 15, 13, 11, ... is descending
position	Where something is located (often in relation to something else).	The point is positioned at (2,1) on the graph
estimate	To find a value that is close enough to the right answer, usually with some thought or calculation involved	Alex estimated there were 10,000 sunflowers in the field by counting one row then multiplying by the number of rows.
square	To square a number: just multiply it by itself.	$5^2 = 5 \times 5 = 25$
inverse	Opposite in effect. The reverse of.	The inverse of adding 9 is subtracting 9. The inverse of multiplying by 5 is dividing by 5.
commutative	You can swap numbers around and still get the same answer when you add. Or when you multiply.	You can swap when you add: $6 + 3 = 3 + 6$ You can swap when you multiply: $2 \times 4 = 4 \times 2$
bracket	Symbols used in pairs to group things together.	$(3 + 2) \times (6 - 4) = 5 \times 2 = 10$
evaluate	To calculate the value of.	Evaluate the cost of each pie when 3 pies cost \$6. Answer: \$2 each.
curve	A smoothly-flowing line (no sharp changes)	
equality	The state of being equal. Having the same amount or value.	60 seconds = 1 minute is an equality
solve	To find a value (or values) we can put in place of a variable that makes the equation true.	$x + 2 = 7$ The variable is x, when we put 5 in place of x we get $5 + 2 = 7$, and $5 + 2 = 7$ is true, so $x = 5$, and the equation is solved.
solution	A value, or values, we can put in place of a variable (such as x) that makes the equation true.	$x + 2 = 7$ When we put 5 in place of x we get: $5 + 2 = 7$ $5 + 2 = 7$ is true, so $x = 5$ is a solution
unknown	A value that we don't know which can be represented by a letter or symbol.	"x" is an unknown in the expression $3x + 2$
index	The index of a number says how many times to use the number in a multiplication.	2^4 means $2 \times 2 \times 2 \times 2 = 16$. the 4 is called the index (or power)
like	Terms whose variables (such as x or y) with any exponents (such as the 2 in x^2) are the same.	$7x$ and $2x$ are like terms because they are both "x". $3x^2$ and $-2x^2$ are like terms because they are both " x^2 "
equivalent	Having the same value.	120 seconds is equivalent to 2 minutes
simplify	To make as simple as possible	To simplify $3x + 2x$ you get $5x$ or with fractions to simplify $75/100$ you get $3/4$
collect	To bring together variables which are the same	Collect $4x + 2x - 3x$ and you get $3x$

Mathematics Year 7 – Algebraic Thinking – Tier 3 Vocabulary

<u>Vocabulary</u>	<u>Definition</u>	<u>Example</u>
sequence	A list of numbers or objects in a special order.	3, 5, 7, 9, ... is a sequence starting at 3 and increasing by 2 each time.
term	A term is a specific value in a sequence	3, 5, 7, 9, ... the number nine is the fourth term in the sequence.
rule	A rule is a function which allows you to find the next number in a sequence.	For the sequence 2, 6, 10, 14, ... the rule is add 4.
geometric	A sequence made by multiplying by the same value each time.	2, 4, 8, 16, 32, 64, 128, 256, ... (each number is 2 times the number before it)
Fibonacci	The sequence of numbers: 0,1,1,2,3,5,8,13,21,... Each number equals the sum of the two numbers before it.	So after 1 and 1, the next number is $1+1=2$, the next is $1+2=3$, the next is $2+3=5$ and so on.
arithmetic	A sequence made by adding the same value each time.	1, 4, 7, 10, 13, 16, 19, 22, 25, ... (each number is 3 larger than the number before it)
function	A rule is applied to an input, in a function machine, to get an output.	If the function is multiply by 2 then add 3 and the input is 5 then the output is $(5 \times 2) + 3 = 13$
input	The number that goes into a function machine.	12 \rightarrow $\div 4$ \rightarrow 3
output	The number that goes out of a function machine.	12 \rightarrow $\div 4$ \rightarrow 3
variable	A symbol for a number we don't know yet. It is usually a letter like x or y.	In $x + 2 = 6$, x is the variable.
coefficient	A number used to multiply a variable.	$6z$ means 6 times z, and "z" is a variable, so 6 is a coefficient. Variables with no number have a coefficient of 1. Example: x is really $1x$.
expression	Numbers, symbols and operators (such as + and \times) grouped together that show the value of something.	$4x - 7$ is an expression $4x - 7 = 9$ is an equation.
substitute	Putting values where the letters are.	What is $4x - 7$ when $x = 5$? $4x - 7 = (4 \times 5) - 7 = 13$
constant	A fixed value. In Algebra, a constant is a number on its own	in " $x + 5 = 9$ ", 5 and 9 are constants.
equation	An equation says that two things are equal. It will have an equals sign "="	For example $4x - 7 = 9$ is an equation.