

Maths Workout - Algebra & Problem Solving

Topic 1 - Writing Algebra 1				
Target 1	Target 2	Target 3	Target 4	Target 5
<i>Multiply a constant by a variable and a variable by a variable, e.g. $4xb=4b$, $3x4b=12b$</i>	<i>Multiply 2 terms, e.g. $3ax4b=12ba$, $c \times c=c^2$</i>	<i>Express an addition or subtraction phrase with a single variable as an expression</i>	<i>Express a multiplication or division phrase with a single variable as an expression</i>	<i>Express a single stage phrase with up to 2 variables as an expression</i>
1. Demo: Basic algebraic terms	1. Multiply 2 variables together, e.g. $c \times d=cd$, $c \times c=c^2$	1. Convert an addition phrase to an expression, e.g. a plus 4 $\Rightarrow a+4$	1. Convert a phrase into an expression	1. Convert an addition or subtraction phrase to an expression, e.g. a plus b $\Rightarrow a+b$
2. Multiply a variable by a constant and write in proper notation, e.g. $4 \times a=4a$, $1xb=b$	2. Calculate the area of a square, rectangle or triangle with algebraic edge lengths	2. Calculate the total length of a shape with part lengths as algebraic terms	2. Convert a phrase into an expression: includes addition and subtraction	2. Calculate the total length of a shape with part lengths as algebraic terms
3. Calculate the area of a rectangle with algebraic edge lengths	3. Multiply 2 terms and write in proper notation, e.g. $3c \times d=3cd$, $4e \times 2e=8e^2$	3. Convert a subtraction phrase to an expression, e.g. h take away 4 $\Rightarrow h-4$	3. Convert a multiplication phrase to an expression, then simplify to a single term, e.g. 4 times h $\Rightarrow 4xh=4h$	3. Convert an addition or subtraction phrase in graphical form to an expression
4. Multiply a variable by a constant and write in proper notation, e.g. $4 \times 2a=8a$, $1 \times 4b=4b$	4. Calculate the area of a square, rectangle or triangle with edge lengths as algebraic terms	4. Convert a subtraction phrase in graphical form to an expression	4. Convert a multiplication phrase to an algebraic term, e.g. 4 times h $\Rightarrow 4h$	4. Convert a phrase to an expression (single variable) e.g. What number is 5 more than b?
5. Calculate the area of a rectangle with algebraic edge lengths	5. Speed response: Identify a multiplication and the correct answer, e.g. $c \times d=cd$, $c \times c=c^2$	5. Convert a phrase into an expression: Summary task	5. Solve simple proportion problems with algebraic values	5. Convert a phrase to an expression (single variable) e.g. What number is b less than 4?
6. Speed response: Identify a multiplication and the correct answer, e.g. $3xd=3d$, $1xe=e$	6. Speed response: Identify a multiplication and the correct answer, e.g. $5c \times 3d=15cd$, $2c \times 3c=6c^2$		6. Convert a division phrase to an expression, then simplify to a single term	6. Convert a phrase to an expression (2 variables) e.g. What number is c more than b?
7. Speed response: Identify a multiplication and the correct answer, e.g. $3 \times 4d=12d$			7. Solve simple proportion problems with algebraic values	7. Solve an algebra problem in context, e.g. Priya is n years old. How old will she be in 4 years' time?
				8. Solve an algebra problem in context, e.g. Priya is n years old. How old will she be in m years' time?
				9. Solve an algebra problem in context (Extension)
				10. Solve an algebra problem in context (Extension)