Discussion Problems
Step 4: Substitution

National Curriculum Objectives:

Mathematics Year 6: (6A2) Use simple formulae
Mathematics Year 6: (6A3) Generate and describe linear number sequences
Mathematics Year 6: (6A4) Find pairs of numbers that satisfy an equation with two unknowns

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

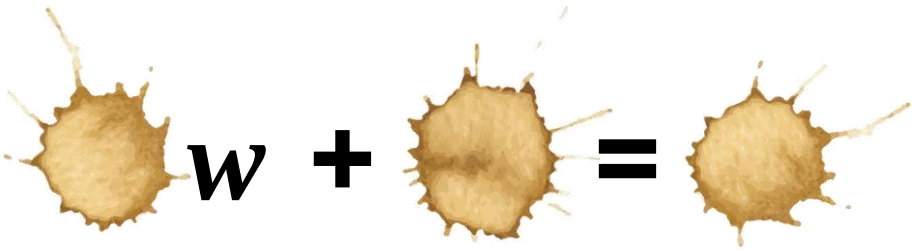
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

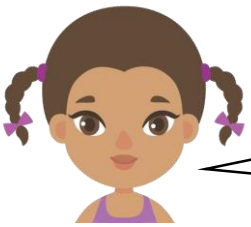
More Year 6 Algebra resources.

Did you like this resource? Don't forget to review it on our website.

Substitution

1. When marking Alice's work, her teacher accidently dripped coffee on her book.





Alice

I remember that I used a mixed number in the equation and w was equal to -5.

Explore the different combinations of numbers Alice could have used to make the equation correct.

DP

2. Charlie has created an expression below which gives him an answer above 100.

$$2a + 3y - 5b$$

Charlie

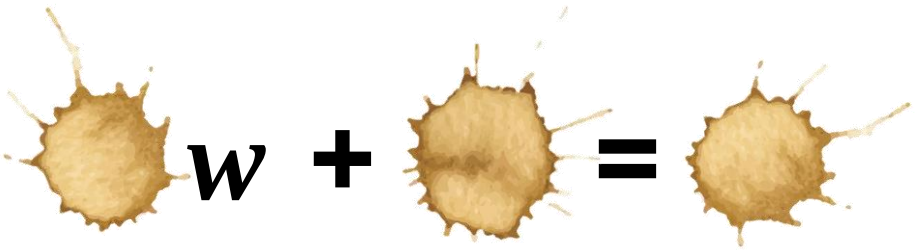
A is an even number above 3 but below 6.
Y is an odd number with 2 digits.
B is a number in the 2 times table.

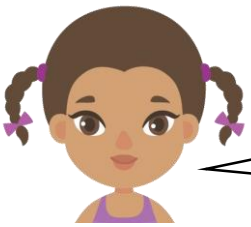
Explore what the value of his substitutions could be and then solve his expression using your chosen values.

DP

Substitution

1. When marking Alice's work, her teacher accidently dripped coffee on her book.





Alice

I remember that I used a mixed number in the equation and w was equal to -5.

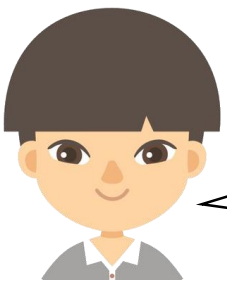
Explore the different combinations of numbers Alice could have used to make the equation correct.

Various answers, for example: $3w + 15\frac{3}{4} = 0.75$

DP

2. Charlie has created an expression below which gives him an answer above 100.

$$2a + 3y - 5b$$



Charlie

A is an even number above 3 but below 6.
Y is an odd number with 2 digits.
B is a number in the 2 times table.

Explore what the value of his substitutions could be and then solve his expression using your chosen values.

Various answers, for example: $a = 4$; $y = 51$; $b = 2$. 8 + 153 – 10 = 151.

DP