

Turning word problems into number sentences

CURRICULUM ALIGNMENT

ALG.EXP.3 represent and express problems with known and unknown values in different ways to include the use of appropriate letter-symbols or words.

NUM.OPS.3 understand and apply flexibly the four operations; and the relationships between operations.

INTERACTIVES Word Problem · challenge, display, explore

WHAT THIS LESSON TEACHES

A missing-number sentence is a story written in maths: numbers, a sign and an equals sign, with a box for the number we do not know yet. 'Got more' joins, so we add; 'some left' takes away, so we subtract.

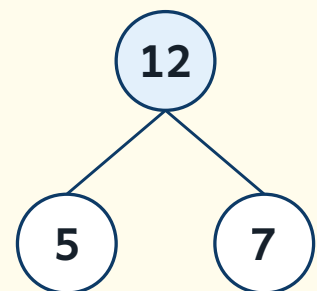
→ 'Aoife had some buns and got 4 more to reach 11' becomes $\square + 4 = 11$.

→ 'A shelf had 12 tins, some were sold and 8 were left' becomes $12 - \square = 8$.

MODEL THIS ON THE BOARD

TURNING A STORY INTO A BOXED SENTENCE

- 1 Liam had 12 apples, gave some away and had 7 left.
- 2 'Gave away' means subtract, and 12 is known first: $12 - \square = 7$.
- 3 The bond shows the missing part: $12 - 7 = 5$.



DISCUSSION STARTER

REFLECT Do you prefer a box or a letter for the unknown — and why?

ANSWER KEY

a) $\square + 4 = 11, \square = 7$

b) $6 + \square = 10, \square = 4$

c) $12 - \square = 8, \square = 4$

Q1: $2 + 8 = 10$

Q2: $\square + 4 = 11, \square = 7$

Q3: $12 - \square = 7, \square = 5$

Q4: $\square - 6 = 9, \square = 15$

Spot: The story starts with an unknown amount, then adds 6 to make 15. Correct sentence: $\square + 6 = 15$. The missing number is 9.

EXTENSION SHEET · STRETCH ANSWERS

S1: $x = 55$

S2: 68

S3: $x = 19$

S4: 23

S5: 89