

Max's Algebraic Adventure

Learning objective: To understand, express and use simple equations involving one unknown variable.

Max the monkey is busy organising his fruit shop! He uses symbols to represent missing amounts of fruit. Read the problems below, show your working out, and draw the missing items in the space provided.

Max the monkey has a very tidy fruit stall. He knows that if he has 5 apples and some extra apples in a bag, he has 12 apples in total. Max writes this as: $5 + a = 12$. The 'a' stands for the unknown number of apples in the bag. To solve this, Max thinks: 'What do I add to 5 to make 12?' He knows the answer is 7!

Word bank: Equation · Variable · Unknown · Symbol · Balance · Expression

1. Max has 8 bananas. He buys some more bunches of bananas until he has 15. Write an equation using 'b' for the missing bananas and solve it. (2 marks)

2. If $3 \times p = 12$, what number does the symbol 'p' represent? (1 mark)

3. Max sells a bag of oranges for £4. If he sells 'n' number of bags and makes £20, write an equation to show this and find the value of 'n'. (2 marks)

4. Explain in your own words why we use letters like 'a' or 'b' in maths equations. (2 marks)

5. Max has 20 strawberries. He gives away 's' strawberries to his friends and has 14 left. Write the equation and solve for 's'. (2 marks)

Draw: Draw a set of scales. On the left side, draw 4 apples and a box labelled '?'. On the right side, draw 10 apples. This illustrates the equation $4 + ? = 10$. Below your drawing, write the value of the '?' inside the box.



Extension challenge: Max wants to create a harder puzzle. Create your own equation using a letter for an unknown number where the answer is 25. Can you challenge a partner to solve it?