Max’s Magical Maths Mystery

Learning objective: To express missing number problems algebraically and solve simple one-step equations.

Max the monkey has been busy creating puzzles in the jungle! Use your knowledge of addition, subtraction, multiplication, and division to find the value of the missing numbers. Remember, the same symbol always represents the same number.

Max the monkey is organising his fruit collection. He uses special symbols to represent the number of pieces of fruit in his baskets. He knows that if a basket has 5 bananas and he adds some more, he can write it as 5 + x = 12. If he has 3 baskets of apples and each basket has the same number, he writes 3y = 15. Can you help him solve these jungle puzzles?

Word bank: algebra · equation · variable · symbol · missing number · balance

1. Max has 8 mangoes. He finds some more in a tree, represented by 'a', and now he has 15 mangoes. Write the equation and solve for 'a'. (2 marks)

2. Max has 4 boxes of berries. Each box holds 'b' berries. If there are 24 berries in total, write the equation and find the value of 'b'. (2 marks)

3. If 10 - p = 3, what is the value of p? (1 mark)

4. Max says: 'If I have 2 bags of coconuts, each containing 'c' coconuts, and I add 5 loose coconuts, I have 17 in total.' Write this as an equation and solve for 'c'. (3 marks)

5. Zara the zebra buys some paints. Each tube costs £2. She buys 'n' tubes and spends £12. Write an equation to show this and solve for 'n'. (2 marks)

Draw: Draw a set of jungle scales. On the left side, draw 3 baskets (labelled 'x') and 2 loose coins. On the right side, draw 11 coins. This represents 3x + 2 = 11.

Extension challenge: Max has a tricky puzzle: 2x + 4 = 20. Can you explain the steps you would take to find the value of x? Write your explanation in two sentences.