Max’s Mathematical Mystery: The BIDMAS Challenge

Learning objective: To understand and apply the order of operations (BIDMAS) to solve multi-step calculations accurately.

Max the monkey has scrambled his jungle treasure hunt sums! To find the hidden path, you must follow the correct order of operations. Remember: Brackets, Indices, Division and Multiplication (from left to right), Addition and Subtraction (from left to right). Show your working out clearly for each step.

Max is organising the jungle fruit store. He has 4 crates of bananas, with 5 in each, and he just found 3 extra loose bananas. He writes the calculation as 4 × 5 + 3. Because he knows BIDMAS, he calculates the multiplication first to get 20, then adds the 3 to reach a total of 23. If he had done it in the wrong order, he might have added 5 + 3 first, which would lead to the wrong answer! Always look for brackets first, as they are the most important part of the puzzle.

Word bank: Brackets · Indices · Division · Multiplication · Addition · Subtraction · Operations · Equation

1. Solve the following: 12 + 6 × 2. Remember to multiply before you add. (2 marks)

2. Calculate: (15 - 3) ÷ 4. Explain why you must solve the brackets first. (3 marks)

3. Solve this equation: 5^2 - (4 + 2). Show your steps for the indices and the brackets. (3 marks)

4. Max buys 3 packs of stickers costing £2 each, and 1 pack of pens costing £4. Write the expression and calculate the total cost. (2 marks)

5. Calculate: 20 ÷ 2 + 3 × 4. Remember to perform division and multiplication from left to right before adding. (2 marks)

Draw: Draw a picture of Max the monkey sitting under a tree, holding a chalkboard with the letters B-I-D-M-A-S written on it, surrounded by baskets of fruit.

Extension challenge: Create your own complex calculation using at least one set of brackets and one power (indices). Ask a partner to solve it using the BIDMAS rules.