

Max's Mathematical Word Puzzles: A Reasoning Guide

Learning objective: To develop logical thinking and structured explanations when solving word-based reasoning problems.

Read the opening passage carefully. Use the prompts below to structure your own logical explanation for a word-based problem. Ensure you use the word bank to link your mathematical reasoning with clear, descriptive sentences.

Max the monkey stared at the pile of fruit, scratching his chin as he realised that if three apples cost £1.50, he needed to calculate the price of a single apple before he could buy enough for his friends.

Word bank: consequently · furthermore · in contrast · therefore · subsequently · this implies that · based on the evidence · for instance · nevertheless

1. Identify the core problem: Start by explaining what the goal of the puzzle is. Begin with: 'The central challenge presented in this puzzle is...' (2 marks)

2. Break down the evidence: What information do we already know? Use: 'The known values provided are...', (2 marks)

3. Constructing a logical sequence: Explain the steps you took to reach your conclusion. Use: 'To solve this, I first... then, subsequently...' (3 marks)

4. Refining the conclusion: State your final answer clearly. Use: 'Therefore, the final result must be... because...' (2 marks)

5. Justify your answer: Explain why your method is the most efficient. Start with: 'I chose this method because...' (3 marks)

6. Predicting variations: What might happen if the values changed? Explain: 'If the price of the fruit increased by 20p, the outcome would shift because...' (3 marks)

Extension challenge: Imagine a scenario where the information provided in a puzzle is contradictory. Write a short paragraph explaining how you would identify the error and justify why the puzzle cannot be solved as written.