Max’s Mental Maths Marathon

Learning objective: To use mental calculation strategies to solve multi-step problems involving all four operations, fractions, and decimals.

Help Max the monkey solve these puzzles using your mental maths skills. Try to work out the answers in your head before checking your notes. Show your thinking where necessary.

Max the monkey is organising a feast for his friends in the jungle. He has a budget of £50 to buy supplies. He buys 4 bags of bananas costing £3.50 each and 6 punnets of berries costing £2.25 each. Max also finds a recipe book that says he needs to double the ingredients for a group of 12. If the original recipe serves 4 people and costs £8.00, Max needs to think carefully about his remaining cash and how to scale his measurements accurately.

Word bank: estimate · partition · commutative · inverse · multiples · equivalence

1. Calculate the total cost of the 4 bags of bananas and 6 punnets of berries. How much money does Max have left from his £50 budget? (2 marks)

2. If the original recipe serves 4 people and costs £8.00, how much will it cost to make enough for 12 people? Explain your mental method. (2 marks)

3. Max has 0.75 of a large melon. He shares this equally between 3 friends. What decimal fraction of the whole melon does each friend receive? (2 marks)

4. Max sees a bundle of 120 mangoes. He wants to give 1/5 of them to Leo and 25% of them to Ellie. How many mangoes does he have left for himself? (3 marks)

5. Max says: 'If I have 15 x 12, I can just do 15 x 10 and add 15 x 2.' Is he correct? Show your working to prove it. (2 marks)

Draw: Draw a picture of Max the monkey sitting at a wooden table with a notepad, a basket of fruit, and a balance scale, looking very focused on his calculations.

Extension challenge: Max decides to buy a special gift for his friends that costs £12.50. If he saves 10% of his original £50 budget, does he have enough money left to buy the gift after paying for the fruit and the ingredients? Show your reasoning.