Max’s Market Stall: A Measurement Challenge

Learning objective: To solve multi-step problems involving the conversion of units and the calculation of money in a real-world context.

Read the scenario below and use your knowledge of units of measurement and currency to solve Max’s market calculations. Show your working out clearly.

Max the monkey is running a vibrant fruit stall at the local community market. He has been busy weighing, measuring, and pricing his fresh produce. He has 2 kilograms of strawberries, which he divides into 200g punnets. He also has a large barrel of refreshing apple juice containing 5 litres, which he serves in 250ml cups. Finally, he has some decorative ribbon to wrap gift baskets; each basket requires 45 centimetres of ribbon, and he has a roll that is 5 metres long.

Word bank: millilitres · centimetres · conversion · equivalent · calculate · estimate · total · capacity

1. How many punnets of strawberries can Max fill? Explain your method for converting kilograms to grams. (2 marks)

2. If Max sells each 250ml cup of apple juice for £1.20, how much money will he make if he sells the entire 5-litre barrel? Show your steps. (3 marks)

3. Max has a 5-metre roll of ribbon. If he makes 8 gift baskets, how much ribbon will he have left in centimetres? (2 marks)

4. Justify your answer: If Max wanted to double the amount of apple juice he sells, would he need to buy more than 10 litres? Why or why not? (2 marks)

5. Compare and contrast the units used for the juice (liquid) and the ribbon (length). Why do we use different standard units for these measurements? (2 marks)

Draw: Draw a diagram showing Max’s 5-litre barrel of apple juice. Label the capacity in both litres and millilitres, and show three 250ml cups being filled from it.

Extension challenge: Max decides to introduce a 'Mix and Match' deal where customers can buy 3 punnets of strawberries for £4.50. If he has 10 punnets in total, what is the maximum number of 'Mix and Match' deals he can sell, and how much money will he earn if he sells the remaining punnets individually for £1.75 each? Explain the financial benefit of the deal for the customer.