Max’s Mathematical Market Stall

Learning objective: To apply knowledge of times tables and multiplication facts to solve multi-step problems involving money and area.

Max the monkey is running a produce stall. He needs your help to calculate the costs and measurements for his goods. Use your times table knowledge (up to 12x12) to solve these problems. Show your working out clearly.

Word bank: Product · Factor · Multiple · Calculate · Productivity · Area · Estimate · Equation

1. Max sells punnets of strawberries for £4 each. If he sells 9 punnets in the morning and 7 in the afternoon, calculate the total revenue. Explain how your knowledge of the 8 times table could help you solve this. (2 marks)

2. A crate of oranges costs £7. If Max buys 12 crates, what is the total cost? If he sells each orange for 20p and there are 10 oranges in a crate, will he make a profit? Justify your answer. (3 marks)

3. Max is arranging his vegetable display in a rectangular grid. He has 48 carrots. If he places them in rows of 6, how many rows will he have? Write the division equation and the related multiplication fact. (2 marks)

4. Compare and contrast: If Max sells 6 bags of apples at £9 each, versus 9 bags of apples at £6 each. Does the total amount change? Explain why this happens using the commutative law of multiplication. (2 marks)

5. Max wants to build a rectangular stall base that covers an area of 72 square metres. If one side is 8 metres long, what must the length of the other side be? How did you use your 8 times table to find this? (2 marks)

6. What might happen if Max decided to increase the price of all his items by a multiple of 3? If a melon originally cost £4, what would the new price be? Show your calculation. (2 marks)

Draw: Draw a bird's-eye view of Max’s market stall, labelling the rows of fruit and vegetables to show an array that represents a 7 x 8 multiplication fact.

Extension challenge: Design your own shop! Choose three items to sell. Create a 'price menu' using your times tables (e.g., all prices must be multiples of 6 or 9). Write a challenge problem for a partner that requires them to multiply a 2-digit number by a 1-digit number to find the cost of a bulk order.