

Max's Multiplication Market Challenge

Learning objective: To multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for multiplying by two-digit numbers.

Max the monkey is helping the local market stallholders calculate their daily earnings. Use your formal written multiplication methods (the column method) to solve the problems below. Show all your working out to ensure Max reaches the correct total. Remember to place your placeholders carefully when multiplying by tens!

Word bank: Product · Multiplicand · Multiplier · Place value · Regrouping · Placeholder · Formal written method · Estimate

1. The apple stall sells 24 crates of apples. Each crate costs £18. Calculate the total value of the apples sold. Show your formal long multiplication method. (3 marks)

2. The bakery sells 142 loaves of artisan bread at £4 each. Explain why using the distributive law ($142 \times 4 = (100 \times 4) + (40 \times 4) + (2 \times 4)$) is a reliable way to check your written calculation. (3 marks)

3. A bulk order of 1,205 jars of honey is requested by a local shop. If each jar is priced at £9, what is the total cost of the order? (2 marks)

4. The flower stall sells 36 bouquets for £25 each. Max says the answer must be more than £800. Justify whether Max is correct using estimation. (3 marks)

5. Compare and contrast the process of multiplying by a one-digit number versus a two-digit number. What is the specific purpose of the zero placeholder? (4 marks)

6. What might happen if you forget to regroup your tens into the hundreds column during a long multiplication calculation? Provide an example to support your reasoning. (3 marks)

Draw: Draw a market stall scene with Max the monkey holding a clipboard. Include three different items for sale with labels showing their prices and the quantity sold, creating your own multiplication word problem for a friend to solve.



Extension challenge: Design your own 'Market Day' spreadsheet. Create three scenarios where a stallholder sells a large quantity of items at a specific price. Challenge yourself to include one item that costs a price involving pence (e.g., £1.50) and explain how your multiplication method changes when working with decimals.