

Max's Mathematical Market: Long Multiplication Assessment

Learning objective: To solve problems involving the multiplication of numbers up to four digits by a two-digit number using formal long multiplication methods.

Read each question carefully. Show your full working out in the space provided to ensure you can gain method marks even if your final answer contains a minor error. Work independently. You have 45 minutes to complete this assessment.

Max the monkey is helping the forest community organise their annual harvest market. He needs to calculate the total costs for various supplies. Help Max solve these mathematical puzzles to ensure the market is a success.

Word bank: multiplicand · multiplier · product · placeholder · estimate · calculation · regrouping · value

1. Max is buying 14 baskets of apples. Each basket costs £23. Calculate the total cost of the apples using formal long multiplication. Show your working. (2 marks)

2. A shipment of 32 jars of honey arrives. Each jar costs £15. Calculate the total cost. Explain why it is important to include a zero as a placeholder when multiplying by the tens digit. (3 marks)

3. The community forest garden needs new tools. If 26 garden forks are bought at £47 each, calculate the total cost. Provide your answer in pounds (£). (2 marks)

4. Compare and contrast the methods of multiplying 124×12 and 124×120 . Without calculating the full product of the second, justify how the position of the digits changes. (4 marks)

5. Max calculates that 45 rows of sunflowers are needed, with 128 seeds in each row. Calculate the total number of sunflower seeds required for the garden. (3 marks)

6. A crate of decorative ribbons contains 1,245 metres. If the market orders 24 crates, how many metres of ribbon will they have in total? Show your long multiplication steps clearly. (3 marks)

7. Max has a budget of £5,000. He wants to buy 38 sets of fairy lights at £125 each. Justify whether he has enough money. What might happen if the price per set increased by £10? Show your calculations. (5 marks)

8. Total: /25

Draw: Draw a clear, labelled diagram showing an area model (grid method) for a 2-digit by 2-digit multiplication problem of your choice, demonstrating how it links to the formal long multiplication method.



Extension challenge: Imagine you are Max the monkey. Write a short report (approx. 100 words) for the forest community committee explaining your budgeting decisions. Use your results from the calculations above to justify why you chose these specific quantities of items. Use high-level vocabulary such as 'expenditure', 'allocation', and 'fiscal responsibility'.