

Max's Market Multiplication Challenge

Learning objective: To multiply numbers up to 4 digits by a two-digit number using the formal written method of long multiplication.

Help Max the monkey calculate the costs for his community market stall. Show all your working out clearly in your books to ensure you receive full marks for your method.

Max is organising the annual harvest festival stall. He needs to calculate the costs of bulk orders to ensure the stall stays within its budget. Remember to use your knowledge of place value when multiplying by the tens digit.

Word bank: product · multiplicand · multiplier · place value · column · estimate · total · calculation

1. Max buys 24 crates of apples. Each crate costs £36. Calculate the total cost of the apples. (2 marks)

2. A box of luxury honey jars costs £45. If Max orders 128 boxes for the festival, what is the total cost? (2 marks)

3. The local craft group sells handmade candles for £27 each. If they sell 342 candles, what is the total revenue collected? (2 marks)

4. Explain why it is essential to place a zero in the ones column when you begin multiplying by the tens digit in long multiplication. (2 marks)

5. Compare the calculation 45×26 and 45×62 . Without calculating the exact totals, justify which product will be larger and explain your reasoning using the concept of place value. (3 marks)

6. What might happen to the total cost if the number of crates was doubled, but the price per crate was halved? Provide a mathematical example to support your answer. (3 marks)

Draw: Draw a diagram showing how you would use a grid method to double-check the calculation 14×23 before moving on to the formal long multiplication method.



Extension challenge: Max has a budget of £5,000 for the entire festival. He needs to buy 150 bags of flour at £18 each and 220 bags of sugar at £14 each. Calculate the total cost of these items. How much of his budget will remain, and how many extra crates of apples (at £36 each) could he afford to buy with the remaining money?