

## Year 5 Multiplication Assessment: Max's Market Challenge

*Learning objective: To demonstrate fluency in multiplying numbers up to four digits by one-digit and two-digit numbers, and to solve multi-step problems involving multiplication.*

Read each question carefully. Show your working out clearly, as marks are awarded for your method even if the final answer is incorrect. Use the provided space for your calculations.

Max the monkey is helping at the local community market. He needs to calculate the cost of various items and organise the stock for the stallholders. Help Max solve these mathematical puzzles to ensure the market runs smoothly.

*Word bank: product · factor · multiplication · estimate · long multiplication · calculation · total*

**1. Max has 14 crates of apples. Each crate contains 23 apples. How many apples does Max have in total? (2 marks)**

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**2. A box of organic honey costs £12. If Zara buys 18 boxes for her art project, how much does she spend in total? (2 marks)**

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**3. Calculate the product of 4,321 and 6. Show your formal written method. (3 marks)**

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**4. Finn the dolphin is counting shells. He finds 45 groups of 12 shells. Use a formal long multiplication method to find the total number of shells. (3 marks)**

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5. Estimate the answer to  $39 \times 21$  by rounding both numbers to the nearest ten first. Then, calculate the actual answer. Explain why your estimate is close to the actual total. (4 marks)

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6. A local baker makes 245 loaves of bread every day for 7 days. At the end of the week, the baker sells all the loaves for £3 each. How much money did the baker make in total for the week? Show all steps of your working. (6 marks)

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7. Max says: 'If I multiply a 3-digit number by a 1-digit number, the answer will always be a 4-digit number.' Is Max correct? Explain your reasoning using an example. (5 marks)

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**Draw:** Draw a sketch of Max the monkey sorting piles of fruit into crates, labelling the groups to show how a multiplication array works.



*Extension challenge: Total: /25. Challenge: If each crate costs £15 to transport and Max has 24 crates, calculate the transport cost, then subtract this from the profit made on 500 items sold at £2 each.*