

## Max's Market Stall Challenge

*Learning objective: To multiply numbers up to 4 digits by a 2-digit number using the formal written method of long multiplication.*

Max the monkey is helping the local market traders calculate their total earnings for the day. Use the formal long multiplication method to solve these problems. Ensure you include your placeholders (the zero) when multiplying by the tens digit. Show your full working out for each calculation to earn full marks.

*Word bank: multiplicand · multiplier · product · placeholder · column · calculation · regrouping · estimate*

**1. Farmer Giles sold 24 crates of apples. Each crate cost £36. How much money did the farmer make in total? Show your working. (2 marks)**

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**2. A local bakery sold 45 boxes of artisan biscuits. Each box was priced at £28. Calculate the total revenue from the biscuits. (2 marks)**

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**3. Max bought 18 decorative lanterns for the village fair. Each lantern cost £54. What was the total cost of the lanterns? (2 marks)**

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

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**5. Compare the calculation  $32 \times 15$  and  $15 \times 32$ . Do they result in the same product? Justify your answer using the commutative law. (3 marks)**

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**6. What might happen if you forget to add the regrouped digits during your calculation? Provide an example to support your reasoning. (2 marks)**

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**Draw:** Draw a sketch of Max the monkey standing behind a market stall filled with crates of fruit, with a small chalkboard nearby showing the sum ' $24 \times 36$ ' written in neat maths notation.



*Extension challenge: Max has a budget of £1,000 for the village fair. He wants to buy 12 sets of bunting at £45 each and 15 large flower pots at £28 each. Will he have enough money left over to buy a £50 banner? Justify your answer by calculating the total expenditure and finding the difference.*