

Max's Market Challenge: Mastering Multi-Digit Subtraction

Learning objective: To subtract whole numbers with more than 4 digits, including using formal written methods (column subtraction) and applying these skills to solve multi-step problems involving currency.

Max the monkey is helping at the local community market today! Use your knowledge of column subtraction to help him balance the accounts. Show your working out clearly, remembering to regroup (or 'exchange') across columns where necessary. For the final questions, explain your mathematical reasoning clearly.

Word bank: difference · exchange · regroup · total · calculation · currency · remainder · value · column · precision

1. The market stall started with a float of £50,000. By midday, they had spent £27,485 on fresh produce. Calculate the remaining balance in the float. Show your formal column subtraction. (3 marks)

2. A rare antique sold for £82,104, but the seller had to pay a commission fee of £15,679. What was the final profit? Explain why you must regroup from the thousands column to the hundreds column. (4 marks)

3. Compare and contrast: Why is it more efficient to use a written column method for 92,000 - 45,672 compared to using mental calculation strategies? (3 marks)

4. Max has £10,000 to spend. He wants to buy two items costing £4,560 and £3,890. How much change will he receive? Justify your answer using a two-step calculation. (4 marks)

5. What might happen if you forget to exchange when subtracting numbers where the digit in the subtrahend is larger than the digit in the minuend? Provide an example. (3 marks)

6. Create your own 'Market Mystery' subtraction word problem using a 5-digit number and a 4-digit number. Swap with a partner to solve. (3 marks)

Extension challenge: Design a 'Market Price List' for five items that total exactly £100,000. Write a challenge question for a friend that requires them to subtract the cost of two items from the total, ensuring they have to perform at least two exchanges.