Max’s Marathon Math: The Long Division Logbook

Learning objective: To accurately divide four-digit numbers by two-digit numbers using the formal written method of long division.

Help Max the monkey solve these division puzzles! Follow the steps: Divide, Multiply, Subtract, Bring Down, and Repeat. Show your working out clearly in the boxes provided to ensure you don't lose track of your remainders.

Word bank: dividend · divisor · quotient · remainder · estimate · long division · place value · multiple

1. The Warm-Up: Write down your estimate for 1,452 ÷ 12. Why is it helpful to estimate before you start your formal long division calculation? (2 marks)

2. The Calculation Box: Solve 2,856 ÷ 14. Show your step-by-step long division working here, ensuring your digits are lined up correctly in their columns. (3 marks)

3. The Remainder Challenge: Solve 4,375 ÷ 15. If there is a remainder, write it as a fraction of the divisor. Show your working below. (3 marks)

4. The Shopkeeper's Puzzle: Max has £5,250 to buy sets of books for the school library. If each set costs £25, how many sets can he buy? Use long division to show your answer. (3 marks)

5. Check Your Logic: Explain how you can use multiplication to check if your final quotient is correct. Is your answer reasonable? (2 marks)

Extension challenge: Try creating your own long division word problem involving money. Swap with a partner to see if they can solve it using the formal written method!