

Max's Magnificent Long Division Challenge

Learning objective: To accurately solve long division problems involving up to four-digit numbers divided by two-digit numbers, applying the chunking or standard long division method.

Max the monkey loves to break large numbers into smaller, manageable chunks! Use this template to document your step-by-step working out for complex division problems. Remember to show your remainders clearly and check your work using inverse operations (multiplication).

Word bank: Dividend · Divisor · Quotient · Remainder · Inverse · Multiple · Estimate · Place value

1. The Estimate: Before starting, round your numbers to the nearest ten or hundred to estimate the quotient. Why is this an essential first step in checking your accuracy? (2 marks)

2. The Calculation: Write out your chosen division problem (e.g., $2,456 \div 12$). Show your working out below using the long division method. (3 marks)

3. Explain why you chose your specific method for breaking down the dividend. How does place value help you decide which multiples to subtract? (3 marks)

4. The Verification: Use multiplication to check your final answer. If you have a remainder, explain how you included it in your final check. (2 marks)

5. Compare and contrast: How does dividing by a two-digit number differ from dividing by a single-digit number? Justify why the 'chunking' method can be more effective for larger divisors. (4 marks)

6. What might happen if you miscalculate a single step in the middle of your long division? Explain the impact this has on your final quotient. (2 marks)

Extension challenge: Max has 4,892 golden bananas to share equally among 23 monkey families. Create a word problem scenario where you must interpret a remainder as a fraction or a decimal. Present your reasoning for whether it is better to round the remainder up, down, or keep it as a fraction based on the context of your story.