Max’s Mathematical Market Challenge

Learning objective: To solve problems involving the division of four-digit numbers by a one-digit number using formal long division methods.

Max the monkey is helping the local community market calculate their earnings. Use your knowledge of long division to solve these problems. Remember to show your working out, as Max loves to see the logic behind the numbers!

The market traders have had a busy week selling fresh produce. Max is helping them distribute their total earnings equally among their charity funds. This week, the traders earned £4,896 in total from selling organic apples. They wish to divide this total equally between 6 different local youth clubs. Max also needs to calculate the cost of individual items when sold in bulk; for example, if a crate of 8 premium strawberry punnets costs £1,064, he needs to find the price of a single punnet.

Word bank: dividend · divisor · quotient · remainder · partition · long division · calculate · estimate

1. If the total earnings of £4,896 are shared equally between 6 youth clubs, how much does each club receive? Show your formal long division method. (3 marks)

2. The price of 8 strawberry punnets is £1,064. Calculate the cost of one single punnet. Justify your answer by checking your result using multiplication. (3 marks)

3. A shipment of 9,432 pears arrives at the market. They must be packed into boxes that hold 7 pears each. How many full boxes can be filled, and how many pears are left over as a remainder? (3 marks)

4. Explain why it is useful to estimate your answer before starting a formal long division calculation. Provide an example using the £4,896 dividend. (3 marks)

5. Compare and contrast the process of dividing by 6 versus dividing by 8. What happens to the size of the quotient as the divisor increases? (3 marks)

Draw: Draw a scene at the market where Max the monkey is using a large abacus or chalkboard to show the traders how to divide their profits.

Extension challenge: What might happen if the market decided to increase the number of youth clubs from 6 to 12? Predict how this change would affect the calculation process and justify your reasoning mathematically.