

Max's Multiplication Marathon: Scaling Up

Learning objective: To demonstrate fluency in multiplication facts up to 12×12 and apply these to solve complex, multi-step problems.

Read the following scenario carefully. Use Max the monkey's methods to break down the problems, show your working out, and ensure your final answers include the correct units (£).

Max is organising a jungle banquet to celebrate the end of term. He has invited 12 groups of animals, and each group consists of 9 members. Max needs to purchase enough fruit baskets for everyone. Each basket costs £7. He also decides to buy fancy decorative lanterns for the trees; these come in packs of 8, and he needs 11 packs in total. If each pack of lanterns costs £9, Max must calculate his total expenditure carefully to ensure he stays within his budget.

Word bank: product · factor · multiple · commutative · calculate · estimation · strategy · scaling

1. Calculate the total number of animals attending the banquet. Explain the mental strategy you used to reach your answer. (2 marks)

2. What is the total cost of the fruit baskets for all the animals? Justify your calculation. (2 marks)

3. How much will the 11 packs of lanterns cost in total? If Max had 12 packs instead, what would the new total be? Show your working. (2 marks)

4. Compare the cost of the fruit baskets to the cost of the lanterns. Which is more expensive and by how much? (2 marks)

5. Max finds a discount code that reduces the price of each fruit basket by £2. Calculate the new total cost for the fruit baskets. (2 marks)

6. What might happen to the banquet budget if the number of animal groups doubled to 24? Explain your reasoning without calculating the full final total. (3 marks)

Draw: Draw a diagram showing how you would arrange the 108 animal guests into equal rows or arrays to help Max count them easily.



Extension challenge: Design a 'Budget Breakdown' table for Max. Imagine that the fruit baskets and lanterns are only part of the expenses. Add two more items to your list (e.g., party hats or tablecloths), assign them a price using your knowledge of multiplication facts, and calculate the grand total for the entire event.