Max’s Square Number Garden

Learning objective: To identify, recognise, and calculate square numbers up to 12 squared.

Max the monkey is planting seeds in his square-shaped garden plots. A square number is the result of multiplying a whole number by itself (e.g., 3 x 3 = 9). Help Max complete his garden by matching the 'Side Length' of each square plot to its 'Total Area' (the square number). Write the matching letter next to each side length.

Word bank: Square number · Area · Product · Multiply · Side length · Calculation

1. A) 1, B) 4, C) 16, D) 25, E) 36, F) 49, G) 64, H) 81, I) 100, J) 121, K) 144. Match the following side lengths to their total area: 1) Side length 4: ___, 2) Side length 7: ___, 3) Side length 9: ___, 4) Side length 11: ___, 5) Side length 12: ___ (5 marks)

2. Max has 49 seeds. If he wants to plant them in a perfect square grid, how many seeds should be in each row? Show your working out. (2 marks)

3. Is 50 a square number? Explain your reasoning using your knowledge of multiplication. (2 marks)

4. Ellie the elephant buys a square rug that costs £5 per square metre. The rug has a side length of 6 metres. What is the total cost of the rug? (2 marks)

5. Write down the next three square numbers that come after 144. (3 marks)

Draw: Draw a 5x5 grid in the space below to represent the square number 25. Label the side lengths as '5 units' and the total area as '25 square units'.

Extension challenge: Challenge: Investigate the pattern of the differences between consecutive square numbers (e.g., 1 to 4 is a difference of 3, 4 to 9 is a difference of 5). Can you predict the difference between 100 and 121 without calculating the full multiplication?