# Grade 4 Math Assessment: Square Numbers

*Learning objective: To recognize and use square numbers and the notation for squared ($^2$).*

Read each question carefully. Show your working out where possible to gain marks. Max, our math-loving monkey, wants you to show your best effort!

Max the monkey is helping his friends organize their supplies. He knows that square numbers are made when you multiply a whole number by itself. For example, 2 × 2 = 4. He uses these patterns to arrange items into perfect squares in the forest clearing.

*Word bank: Square number · Product · Multiply · Notation · Array · Integer*

**1. Write down the first five square numbers starting from 1. (2 marks)**

**2. Calculate $6^2$ and $9^2$. Show your working. (2 marks)**

**3. Max has 25 acorns. Can he arrange them into a perfect square? Explain your answer using the term 'square number'. (3 marks)**

**4. Find the missing number: $\_\_\_^2 = 49$. How did you work this out? (3 marks)**

**5. Zara the zebra is buying square-shaped tiles for an art project. Each tile costs £2. If she wants to create a square display that is 4 tiles wide and 4 tiles long, how much will the tiles cost in total? (4 marks)**

**6. True or False: The sum of $2^2$ and $3^2$ is 13. Prove your answer by showing the calculation steps. (3 marks)**

**7. Max thinks that any number multiplied by itself creates a square number. Write a short explanation to Max explaining what a square number is, using an example of a square number that is larger than 50. Include why this pattern is called 'square'. (8 marks)**

**Draw: Draw a visual representation of $3^2$ using dots or small circles arranged in a square grid to prove it is a square number.**

*Extension challenge: Total: /25*