

## Max's Square Number Garden

*Learning objective: To recognise and calculate square numbers up to  $12 \times 12$  and relate them to the area of a square.*

Max the monkey is planting a vegetable patch in the shape of perfect squares. A square number is the result of multiplying a whole number by itself. For example,  $3 \times 3 = 9$ . Help Max complete his garden plan by calculating the total number of square plots needed for each vegetable patch. For each question, show your working out by writing the calculation (e.g.,  $4 \times 4 = 16$ ) and then write the square number.

*Word bank: Square number · Product · Multiply · Area · Dimensions · Calculation*

**1. Max wants to plant carrots in a square patch that is 5 units long and 5 units wide. How many plots does he need in total? (2 marks)**

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**2. The cabbage patch is 8 units by 8 units. What is the square number for this patch? (2 marks)**

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**3. Max has a special section for sunflowers that is 12 units by 12 units. What is the total area of this section? (2 marks)**

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**4. True or False: 49 is a square number. Explain your reasoning by showing the calculation. (2 marks)**

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**5. Max spends £1 on each individual plot of soil. If he creates a square patch that is 6 units by 6 units, how much money will he spend in total? (2 marks)**

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**Draw:** Draw a 4x4 grid of squares to represent the spinach patch. Shade in the squares to show how the total number is 16.



*Extension challenge: Max wants to build a square garden with exactly 100 plots. What are the dimensions (length and width) of this garden? Can you find a square number between 100 and 150?*