

Max's Geometric Garden Design

Learning objective: To identify, draw, and describe 2D shapes including quadrilaterals and triangles, and to understand properties such as parallel lines and symmetry.

Max the monkey is planning a new garden. He needs your help to draw the layout. Use a ruler to ensure your lines are straight and follow the instructions below to complete the garden map.

Draw: On a plain sheet of paper, draw a garden scene for Max. Include: 1. A rectangular vegetable patch with at least one pair of parallel lines. 2. A square shed with a right angle at every vertex. 3. Two different types of triangles to represent flower beds (one must be isosceles). 4. Use a ruler for all shapes. Label your shapes using the terms from the word bank.



Label words: Parallel lines · Right angle · Line of symmetry · Quadrilateral · Isosceles triangle · Vertex

Steps:

1. Identify the shape you drew for the flower bed in the centre. Explain why it is classified as a quadrilateral.
2. Compare and contrast a square flower bed and a rectangle flower bed. What do they have in common?
3. Max wants to add a triangular path. If he chooses an isosceles triangle, what must be true about its sides?
4. Justify why a circle would be more difficult to draw using only a ruler and a protractor compared to a polygon.

5. What might happen to the garden's area if you increased the length of all parallel sides by 2cm?
6. Draw a line of symmetry through your largest shape. Explain how you checked if it was a true line of symmetry.