# Max’s Geometry Garden: Sorting Shapes

*Learning objective: To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.*

Help Max the monkey organise his garden patch. Read the description of his shape collection and answer the questions below to ensure everything is sorted correctly.

Max has been busy measuring his flowerbeds. He has a square flowerbed with four equal sides and four right angles. Next to it, he has a triangle with two equal sides, which he calls his 'Isosceles Island'. Max also found a rhombus-shaped rock with four equal sides but no right angles. Finally, he has a large wooden crate that is a regular pentagon, meaning all five of its sides are the same length. Max wants to make sure he knows exactly how many vertices and sides each shape has before he starts planting his seeds.

*Word bank: quadrilateral · isosceles · scalene · polygon · vertex · parallel · perpendicular · acute*

**1. Max says that his square flowerbed is a special type of quadrilateral. Explain why a square fits the definition of a quadrilateral. (2 marks)**

**2. Identify the number of vertices on Max's pentagon-shaped wooden crate and explain how you found your answer. (2 marks)**

**3. Look at the rhombus-shaped rock. Does it have any parallel sides? Explain your reasoning. (2 marks)**

**4. If Max has a triangular sign with three sides of different lengths (7cm, 10cm, and 12cm), what type of triangle is it? (1 mark)**

**5. Max wants to buy a border for his square flowerbed. Each side is 4 metres long. If the border costs £3 per metre, how much will it cost in total? (2 marks)**

**Draw: Draw a composite shape made by joining a square and an equilateral triangle together. Label the total number of vertices on your new shape.**

*Extension challenge: Max wants to build a new garden feature that has at least one pair of perpendicular lines. Draw a sketch of this shape and describe its properties, explaining why it has perpendicular lines.*