Max’s Magnificent Maths Shape Hunt

Learning objective: To identify, describe, and classify 2D shapes based on their properties, including lines of symmetry and angles.

Help Max the monkey solve his shape puzzles by carefully observing the properties of the shapes below. Use a ruler for your drawings and remember to use your mathematical vocabulary when explaining your answers.

Max the monkey is exploring the local park to find shapes hidden in nature. He spots a signpost that is a perfect rectangle, a honeycomb cell that is a regular hexagon, and a colourful kite flying high in the sky. Max knows that every shape has special rules. He uses his sharp eyes to look for lines of symmetry, where one half is a mirror image of the other, and he checks if the corners are sharp right-angles or wider, obtuse angles.

Word bank: polygon · quadrilateral · symmetry · parallel · perpendicular · acute · obtuse · right-angle · vertex · diagonal

1. Max finds a shape with four equal sides and four right-angles. What is the name of this shape, and how many lines of symmetry does it have? (2 marks)

2. Look at a regular hexagon. Explain to Max why this shape is called a polygon and how many vertices it has. (2 marks)

3. Max says that all rectangles are quadrilaterals. Is he correct? Explain your reasoning using the word 'sides'. (2 marks)

4. Draw a triangle that has exactly one line of symmetry. Label the line of symmetry with a dashed line. (2 marks)

5. If Max has a shape with two pairs of parallel sides but no right-angles, what shape might it be? Name it and describe its angles. (2 marks)

Draw: Draw a composite shape made up of one square and one triangle joined together. Label the internal angles that are acute.

Extension challenge: Max has challenged you to find an object in your classroom or home that has more than one line of symmetry. Write down the name of the object and describe how many lines of symmetry it has, explaining how you found them.