

Max's Symmetry Investigation Log

Learning objective: To identify, describe and draw lines of symmetry in 2D shapes and patterns.

Max the monkey is helping us organise the symmetry collection! Use this template to analyse shapes and patterns you find in the classroom or at home. Follow the prompts to record your findings and draw the lines of symmetry accurately using a ruler.

Word bank: Line of symmetry · Reflect · Mirror image · Horizontal · Vertical · Diagonal · Regular polygon · Congruent

1. Shape Identification: Choose a 2D shape (e.g., a square, a regular hexagon, or a scalene triangle). Name the shape and describe its properties. (2 marks)

2. Symmetry Prediction: Before drawing, predict how many lines of symmetry this shape has. Explain your reasoning using the word 'congruent'. (3 marks)

3. Symmetry Testing: Draw the shape in the space provided and mark all lines of symmetry with a dashed line. Describe the direction of the lines (vertical, horizontal, or diagonal). (3 marks)

4. Reflection Challenge: If you were to reflect this shape across one of its lines of symmetry, what would the result look like? Would it change the shape? (2 marks)

5. Real-world Application: Max has found a symmetrical pattern on a piece of fabric. Why do you think symmetry is used in art and design? Give an example of a symmetrical object in your home. (2 marks)

Extension challenge: Challenge: Find a shape that has no lines of symmetry (an irregular shape). Can you draw it and explain why it does not have a line of symmetry?