

Max's Pattern-Solving Log: Non-Verbal Reasoning Explorer

Learning objective: To develop logical thinking and pattern recognition skills by analysing sequences, rotations, and spatial relationships.

Help Max the monkey solve these spatial puzzles! For each section, observe the rules of the sequence carefully. Look for changes in shape, rotation, colour, or position. Write down your logical steps for how you found the next step in the pattern.

Word bank: rotation · symmetry · sequence · transformation · clockwise · anticlockwise · reflection · pattern · position · congruent

1. Pattern Sequence Analysis: Describe the rule governing the sequence of shapes provided. Does the shape rotate, change size, or flip? (2 marks)

2. Odd One Out Reasoning: Identify which shape does not fit the set and explain your reasoning based on geometry or pattern properties. (2 marks)

3. Spatial Rotation: If a shape is rotated 90 degrees clockwise twice, what is its new orientation? Explain how you visualised the movement. (2 marks)

4. Mirror Image Reflection: Describe how a shape changes when reflected across a vertical line of symmetry. What stays the same and what is reversed? (2 marks)

5. The Next Step: Predict the final shape in a series of five. Explain the logical steps Max should take to ensure the pattern remains consistent. (3 marks)

Extension challenge: Create your own three-step shape sequence and challenge a friend to draw the fourth shape by identifying the hidden rule.