Max’s Mind-Bending Pattern Challenge

Learning objective: To develop logical thinking and pattern recognition skills through visual reasoning tasks.

Max the monkey has been busy organising his collection of shapes and patterns. Read each question carefully and use your best logical thinking to identify the correct sequence, rotation, or transformation.

Answer Key: 1. B (The shapes rotate 90 degrees clockwise); 2. True; 3. C (The number of sides increases by one each time); 4. False (It is a reflection); 5. D (The shading moves one position clockwise); 6. 3 (The middle shape is the same as the outer); 7. A (The colours swap places); 8. True; 9. B (It is the mirror image); 10. Square.

Word bank: Sequence · Rotate · Reflect · Pattern · Transformation · Logical

1. 1. Look at the sequence: A square, a rotated diamond, a square. What comes next? A) A triangle, B) A rotated diamond*, C) A circle, D) A line. (1 mark)

2. 2. True or False: If a shape is reflected, its size remains the same. (1 mark)

3. 3. Which shape comes next in this sequence: Triangle, Square, Pentagon? A) Circle, B) Oval, C) Hexagon*, D) Star. (1 mark)

4. 4. True or False: Rotating a shape 360 degrees changes how it looks. (1 mark)

5. 5. If a shaded dot moves from the top-left corner to the top-right corner, where will it be next? A) Bottom-right, B) Bottom-left, C) Top-left, D) Bottom-right*. (1 mark)

6. 6. How many internal lines are in a regular hexagon? (1 word answer) (1 mark)

7. 7. If a blue circle turns into a red circle, which element has changed? A) Colour*, B) Shape, C) Size, D) Pattern. (1 mark)

8. 8. True or False: A pattern that repeats is called a sequence. (1 mark)

9. 9. Which image shows the correct reflection of a letter 'P' across a vertical line? A) d, B) q*, C) P, D) b. (1 mark)

10. 10. If you cut a square in half diagonally, what two shapes do you get? (1 word answer) (1 mark)

Draw: Draw a pattern of four shapes that changes by rotating 90 degrees clockwise each time. Start with an arrow pointing up.

Extension challenge: Max has 3 apples that cost £1.20 each. If he swaps his pattern-finding skills for fruit, how much would 5 apples cost? Show your working out!