

## Max's Pattern Puzzles: Non-Verbal Reasoning Challenge

*Learning objective: To develop spatial awareness and logical thinking by identifying patterns, sequences, and relationships between 2D shapes.*

Max the monkey loves to solve puzzles by looking at how shapes change, rotate, and reflect. Read each question carefully and look for the hidden logic in the sequences. Choose the correct option or draw the next shape in the pattern.

Max has been busy in the jungle organising his collection of geometric shapes. He noticed that his tiles follow a strict rhythm. Sometimes they turn like the hands of a clock, sometimes they flip over, and sometimes they grow or shrink. To solve these, you must think like a scientist: observe the change, predict the rule, and apply it to the final box.

*Word bank: Rotation · Reflection · Symmetry · Sequence · Clockwise · Anticlockwise · Pattern*

**1. Look at the sequence: A triangle pointing up, then a triangle pointing right, then a triangle pointing down. If the pattern continues, which way should the fourth triangle point? Explain your reasoning. (2 marks)**

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**2. Max has a square with a small black circle in the top-left corner. In the next box, the circle is in the top-right. In the third box, it is in the bottom-right. Where will the circle be in the fourth box? (2 marks)**

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**3. If a shape is reflected across a vertical line of symmetry, how does its appearance change? Does it rotate or flip? (2 marks)**

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**4. Max sees a sequence: A circle, then a circle with one line through it, then a circle with two lines crossing it. Draw the next shape in the pattern. (2 marks)**

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5. A pentagon has 5 sides. If the number of sides increases by 1 for every step in a sequence, how many sides will the shape in the 4th position have? (2 marks)

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**Draw:** Draw a complex pattern using three different 2D shapes that repeats itself twice. Max wants to see if you can create a sequence that rotates 90 degrees clockwise each time.



*Extension challenge: Create your own 'Odd One Out' puzzle using four different shapes. Three shapes must share a common rule (like having a line of symmetry), and one must be different. Ask a partner to solve it!*