Max’s Pattern Detective Log

Learning objective: To develop logical thinking and pattern recognition skills essential for Non-Verbal Reasoning by identifying sequences, rotations, and spatial transformations.

Help Max the monkey solve his latest maths puzzles! In this activity, you will act as a Pattern Detective. Choose a set of shapes or objects and create your own logical sequence. Describe how the pattern changes step-by-step, then challenge a friend to predict the next item in your sequence.

Word bank: rotation · symmetry · clockwise · anticlockwise · transformation · sequence · reflection · geometric · pattern · orientation

1. The Starting Pattern: Describe your initial sequence of shapes or symbols. How many items are in your sequence before the pattern repeats or changes? (2 marks)

2. The Rule of Change: Explain the 'rule' for your sequence. Is the object rotating, reflecting, or changing in size? Use directional language like 'clockwise' or 'anticlockwise'. (3 marks)

3. Predicting the Next Step: If your sequence continued for three more steps, what would the next shape look like? Describe its position and appearance in detail. (2 marks)

4. The 'Odd One Out' Challenge: Create a small group of four shapes where three follow a rule and one does not. Explain why the fourth shape is the 'odd one out'. (3 marks)

5. Application: If these shapes were being sold in Max’s shop for £1.50 each, how much would a set of 6 shapes cost? Show your working out. (2 marks)

Extension challenge: Try drawing a sequence where two different rules happen at the same time, such as a shape rotating 90 degrees clockwise while simultaneously increasing in size.