

Zara's Pattern Playground: Exploring Geometric and Organic Designs

Learning objective: To identify, analyse, and create complex patterns using symmetry, tessellation, and organic motifs, inspired by the natural world.

Read each question carefully and apply your knowledge of art and design principles. Show your working for any calculations involving pattern sequences.

Word bank: Symmetry · Tessellation · Motif · Organic · Geometric · Radial · Repetition · Interlocking

1. Zara the zebra is designing a new floor mural. She wants to create a pattern that tessellates. Define what 'tessellation' means and explain why a regular hexagon is more suitable for this than a regular pentagon. (2 marks)

2. Compare and contrast 'organic' patterns found in nature (like the veins of a leaf) with 'geometric' patterns found in architecture. Give one example of each. (2 marks)

3. If a repeating pattern unit costs £1.25 to print onto a tile, and Zara needs to cover a grid of 8 tiles to create one large square, calculate the total cost. Justify whether this pattern would be cheaper if she used a smaller, more intricate motif that required 12 tiles instead. (3 marks)

4. Explain why radial symmetry is often used in the design of mandalas and floral patterns. What might happen to the balance of the artwork if the radial symmetry was broken? (2 marks)

5. Identify a pattern you see in your classroom today. Describe its 'motif'—the individual element that repeats—and explain how it creates a sense of rhythm for the viewer. (2 marks)

Draw: Using a ruler and a compass (or circular objects), create a piece of art that features a combination of geometric interlocking shapes and organic, free-flowing line work. Ensure your design demonstrates at least one line of symmetry.



Extension challenge: Design a 'Pattern Identity' for a new fictional civilisation. Create a primary motif that represents their culture, and explain how you would adapt this motif into a complex, repeating border pattern for their national flag. Justify your colour choices in relation to the mood you want to evoke.