

Zara's Geometric Easter Egg Design Challenge

Learning objective: To explore symmetry, pattern, and the use of geometric shapes in decorative arts.

Zara the Zebra has been studying historical patterns and symmetry. She wants to create a collection of Easter egg designs that use specific mathematical and artistic principles. Read the design criteria below and complete the tasks to help Zara finish her collection. You must ensure your designs are balanced and visually engaging.

Word bank: Symmetry · Tessellation · Geometric · Radial · Complementary · Motif · Contrast · Horizontal

1. Zara wants to use bilateral symmetry for her first egg design. Explain why this technique creates a sense of balance and how you would ensure your design remains perfectly symmetrical across a vertical axis. (3 marks)

2. Compare and contrast a 'radial' pattern with a 'tessellated' pattern. Under what circumstances would a designer choose one over the other for a curved surface like an egg? (3 marks)

3. If an Easter egg decoration kit costs £4.50 and you have £20.00, how many kits could you buy? If you split the cost of one kit equally between 3 friends, how much would each person pay? Show your working. (3 marks)

4. Justify your choice of colour palette for an egg inspired by springtime. How do 'complementary colours' affect the visual impact of your artwork? (2 marks)

5. What might happen to the visual flow of a pattern if you were to ignore the curve of the egg and used only straight, rigid lines? Explain the effect this has on the viewer. (2 marks)

6. Design a motif that could be repeated across the surface of the egg. How would you ensure the motif transitions smoothly as the egg surface curves? (2 marks)

Draw: In the space provided, draw an Easter egg outline. Divide it into four sections. In each section, create a different pattern using only geometric shapes (triangles, hexagons, rhombi). Ensure at least one section demonstrates rotational symmetry.



Extension challenge: Research the history of Fabergé eggs. Write a short paragraph justifying why these historical objects are considered masterpieces of both engineering and art, focusing on the precision of their intricate surface patterns.