

Textile Treasures: Designing for Durability

Learning objective: To understand the properties of fabrics and apply design criteria to create a functional textile product.

Zara the zebra is designing a new range of reusable shopping bags. She needs your help to select the right materials based on their properties. Look at the fabric properties in the word bank and match them to the correct design requirement. Then, justify your material choices by answering the questions below.

Word bank: Absorbent · Durable · Waterproof · Flexible · Breathable · Insulating · Synthetic · Natural

1. Zara needs a fabric for a bag that will carry heavy groceries. Which property is most essential for this, and why? Explain your choice. (2 marks)

2. Compare and contrast a natural fabric like cotton with a synthetic fabric like polyester. When would a designer choose one over the other? (3 marks)

3. If Zara decides to make a bag specifically for carrying wet swimming costumes, which property must the lining have? Justify your answer. (2 marks)

4. Explain why 'durability' is a crucial design criterion when creating products intended to reduce the use of single-use plastic bags. (2 marks)

5. What might happen if a designer chose a fabric that was too thin and lacked strength for a product intended to carry heavy weight? (2 marks)

6. If a bag costs £4.50 to make, and Zara wants to sell it for a 40% profit, calculate the final selling price. Show your working. (2 marks)

Draw: Sketch a design for an eco-friendly shopping bag. Label your drawing with the materials you have chosen and explain why those specific materials make the bag functional and long-lasting.



Extension challenge: Design a 'care label' for your bag that includes instructions on how to wash and maintain the fabric to ensure it lasts for at least three years. Include symbols for washing temperature and drying methods.