

Textile Treasures: The Designer's Challenge

Learning objective: To understand the properties of different textiles and apply this knowledge to design a functional product.

Max the monkey is helping a local community group design a new range of reusable shopping bags. He needs to choose the right fabrics based on their properties. Use the word bank to help you complete the design choices below. For each item, decide which fabric is most suitable and explain your reasoning using technical vocabulary.

Word bank: durability · absorbency · synthetic · natural fibre · waterproof · tensile strength · texture · flexibility

1. Max wants to make the handles of the bag strong enough to carry 5kg of shopping. Which property of a fabric would be most important here and why? (2 marks)

2. The bag needs a pocket to hold a water bottle. If the bottle leaks, which property should the fabric of the pocket have? Justify your answer. (2 marks)

3. Compare and contrast using cotton (a natural fibre) versus polyester (a synthetic fibre) for the main body of the bag. Which would you choose for a bag used in rainy weather? (3 marks)

4. Explain why it is important for a designer to consider the 'texture' of a fabric when creating a product that people will carry every day. (2 marks)

5. What might happen if you designed a heavy-duty shopping bag using a very thin, delicate silk? Use your knowledge of fabric properties to justify your prediction. (3 marks)

6. If a bag costs £4.50 to make using high-quality canvas, but only £2.25 using a thinner, weaker fabric, how could you justify the higher cost to a customer? (3 marks)

Draw: Draw your final design for Max's shopping bag. Label the specific parts of the bag (e.g., handles, base, main body) and annotate your drawing with the names of the fabrics you have chosen for each part.



Extension challenge: Design a 'care label' for your bag. Write three instructions for the user on how to clean and maintain the bag to ensure it lasts as long as possible, using the properties of the fabrics you selected.