

Design Technology: Textiles and Materials

Learning objective: To understand the properties of textiles and how to select suitable materials for a functional product.

Read each question carefully and use your knowledge of textile properties to answer. Consider durability, texture, and function.

Max the monkey is designing a new backpack for his school supplies, while Zara the zebra is creating a decorative wall hanging for her art studio. They need to choose their fabrics carefully based on what the items will be used for.

Word bank: synthetic · natural · durability · absorbent · insulation · textile · tensile strength

1. Max needs a material for his backpack that is strong and water-resistant. Explain why a natural fiber like cotton might be less suitable than a synthetic fiber like polyester for this specific purpose. (2 marks)

2. Zara is creating a wall hanging. Why might she choose a fabric with an interesting texture, such as felt or velvet, rather than a smooth, slippery fabric like silk? (2 marks)

3. Define the term 'durability' in the context of textiles. Why is this an important factor when designing clothing for children? (2 marks)

4. If a product costs £12.50 to make using high-quality wool, but only £4.75 to make using cheap synthetic fleece, why might a designer still choose the more expensive material? Give one reason. (2 marks)

5. List two natural fibres and two synthetic fibres. (2 marks)

Draw: Draw a design for a reusable shopping bag. Label your drawing with the type of textile you would use and explain why that material is the best choice for carrying heavy groceries.



Extension challenge: Research how 'fast fashion' impacts the environment. Write a short paragraph on why choosing sustainable, long-lasting textiles is better for the planet than buying cheap, disposable items.