

CREST Science Olympiad (CSO)
Worksheet

Class 7

**Topic** 

From Fibre to Fabric









### Worksheet on From Fibre to Fabric

- 1. Sarah conducted an experiment to test the fabric's ability to resist wrinkling. She crumpled cotton, wool, silk, and polyester fabrics and left them for some time. Which fabric is expected to show the least amount of wrinkles?
  - a. Cotton
  - b. Wool
  - c. Silk
  - d. Polyester
- 2. Identify the correct steps in the production of wool fabric:
  - I. Shearing the wool from the sheep's body.
  - II. Washing and cleaning the wool fibres.
  - III. Carding and combing the wool fibres to align them.
  - IV. Spinning the wool fibres into yarn.
  - a.  $I \rightarrow II \rightarrow III \rightarrow IV$
  - b.  $II \rightarrow I \rightarrow IV \rightarrow III$
  - c.  $III \rightarrow II \rightarrow IV$
  - $d. \quad I \to III \to II \to IV$
- 3. Select the correct statements regarding nylon.
  - I. Nylon is a synthetic fibre derived from petroleum.
  - II. Nylon is known for its high strength and durability.
  - III. Nylon is a natural protein fibre.
  - IV. Nylon is often used in the production of winter apparel.
  - a. Only I
  - b. Only II
  - c. I and II
  - d. I and IV
- 4. Which of the following best describes an occupational hazard related to the handling of silk fibres?
  - a. Skin burns from boiling silk cocoons
  - b. Noise-induced hearing loss from silk weaving
  - c. Strain on muscles and joints.
  - d. Sorter's disease due to bacteria

- 5. Match the fabric with the corresponding fibre:
  - P: Fabric known for its breathability and moisture absorption.
  - Q: Manmade fabric known for its warmth and insulation properties.
  - R: Natural-based synthetic fibre used to make clothes.
  - S: Fabric made from man-made fibre that has excellent elasticity.
  - a. P Cotton, Q Wool, R Rayon, S Spandex
  - b. P-Polyester, Q-Acrylic, R-Nylon, S-Silk
  - c. P Cotton, Q Acrylic, R Silk, S Spandex
  - d. P Cotton, Q Acrylic, R Rayon, S Spandex

## **Answer Key**

- 1. d The fabric expected to show the least amount of wrinkles is polyester. Polyester has excellent wrinkle resistance properties due to its synthetic nature and the ability of its fibres to retain their shape well. This means that even after being crumpled, polyester fabric is likely to bounce back and show fewer wrinkles compared to cotton, wool, and silk fabrics.
- **2.** a The correct sequence is  $I \rightarrow II \rightarrow III \rightarrow IV$ .
  - I. Shearing the wool from the sheep's body is the first step in the production of wool fabric.
  - II. Washing and cleaning the wool fibres is the next step. The sheared wool is washed to remove dirt, impurities, and natural oils from the fibres.
  - III. Carding and combing the wool fibres to align them is the subsequent step.
  - IV. Spinning the wool fibres into yarn is the final step.
- 3. c The correct statements are I and II.
  - I. Nylon is indeed a synthetic fibre derived from petroleum.
  - II. Nylon is known for its high strength and durability. It is one of the strongest synthetic fibres and is widely used in applications that require toughness and resilience.
  - III. The statement III is incorrect. Nylon is not a natural protein fibre. It is a synthetic fibre, made in a laboratory.
  - IV. The statement IV is incorrect. While nylon is used in the production of various apparel and textile products, it is not specifically known for its use in winter apparel.
- **4.** a When boiling silk cocoons to extract the silk fibres, workers may be at risk of skin burns. The high temperatures involved in the boiling process can cause accidental contact burns if proper protective measures are not in place.
- 5. d Fabric known for its breathability and moisture absorption: Cotton Manmade fabric known for its warmth and insulation properties: Acrylic Natural-based synthetic fibre used to make clothes: Rayon Fabric made from man-made fibre that has excellent elasticity: Spandex

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