
NCERT Exemplar Solutions for Class 6 Science
Chapter 3: Fibre to Fabric

Multiple Choice Questions

1. Paheli wants to present her friend a gift made of plant-fibre. Which out of the following will she select?

- (a) Jute bag
- (b) Woollen shawl
- (c) Silk saree
- (d) Nylon scarf

Solution: (a) Jute bag

Explanation: Jute is a natural plant fibre that is long, soft, and shiny, which can be spun into coarse strong threads. It is obtained from the stems of jute plants (Corchorus).

- Wool is obtained from the fur of animals like sheep, yak, etc.
- Silk is obtained from silkworms (animal fibre)
- Nylon is a synthetic fibre manufactured using chemicals in factories

2. Which statement out of the following is incorrect?

- (a) Use of charkha was popularised by Mahatma Gandhi as a part of the Independence Movement.
- (b) In India, jute is mainly grown in Kerala and Punjab.
- (c) To make fabric, the fibres are first converted into yarns.
- (d) Sufi saint Kabir was a weaver.

Solution: (b) In India, jute is mainly grown in Kerala and Punjab.

Explanation: The incorrect statement is option (b). In India, jute is mainly grown in Bihar, West Bengal, Assam, and Andhra Pradesh, not in Kerala and Punjab. These states have the suitable climate and soil conditions for jute cultivation.

3. Which of the following materials did people use in ancient times for making clothes?

- (i) Leaves of trees
 - (ii) Newspaper
 - (iii) Metal foils
 - (iv) Animal skins and furs
- (a) (i) and (ii)
 - (b) (i) and (iii)
 - (c) (ii) and (iii)
 - (d) (i) and (iv)

Solution: (d) (i) and (iv) - Leaves of trees and Animal skins and furs

Explanation: In ancient times, people used natural materials available to them such as bark and leaves of trees, and skins and furs of animals to cover their bodies. Newspapers and metal foils were not available in ancient times as they are modern inventions.

4. Which of the following is not a natural fibre?

- (a) Cotton
- (b) Jute

(c) Nylon

(d) Flax

Solution: (c) Nylon

Explanation: Nylon is a synthetic fibre manufactured using chemicals in factories. Cotton, jute, and flax are all natural fibres obtained from plants.

5. Which set of substances is not used for making fibres?

(a) Silk, chemicals

(b) Yak hair, camel hair

(c) Husk, bones

(d) Flax, wool

Solution: (c) Husk, bones

Explanation: Husk and bones are not used for making fibres. All other options contain materials that can be used to make fibres:

- Silk (from silkworms) and chemicals (for synthetic fibres)
- Yak hair and camel hair (animal fibres)
- Flax (plant fibre) and wool (animal fibre)

6. Boojho went to a cloth shop. There he found a fabric which was smooth to touch, had vibrant colour and shine. The fabric could be

(a) cotton

(b) wool

(c) silk

(d) jute

Solution: (c) Silk

Explanation: Silk is obtained from the cocoon of silkworms. Silk fabric is characteristically very smooth to touch and has vibrant color and natural shine, making it easily distinguishable from other fabrics.

7. Which part of the jute plant is used for getting jute fibre?

(a) Flower

(b) Stem

(c) Fruit

(d) Leaf

Solution: (b) Stem

Explanation: Jute is a natural plant fibre that is long, soft, and shiny, obtained from the stems of jute plants (Corchorus). The fibrous material is extracted from the stem through a process called retting.

8. Yarn is woven to get fabric using

(a) charkha

(b) spinning machines

(c) looms

(d) knitting needles

Solution: (c) looms

Explanation: Weaving of yarn is done on looms to create fabric. Looms can be either hand-operated or power-operated. Charkha and spinning machines are used to make yarn from fibres, while knitting needles are used for knitting, not weaving.

9. Beera is a farmer. His field has black soil and the climate is warm. Which fibre yielding plant should he grow in his field?

- (a) Jute
- (b) Cotton
- (c) Coconut
- (d) Wool

Solution: (b) Cotton

Explanation: Places having black soil and warm climatic conditions are ideal for growing cotton plants. Cotton requires well-drained, fertile soil and a warm climate with adequate rainfall.

10. The correct sequence to get cloth is

- (a) fibre → fabric → yarn
- (b) fibre → yarn → fabric
- (c) fabric → yarn → fibre
- (d) yarn → fibre → fabric

Solution: (b) fibre → yarn → fabric

Explanation: The correct sequence involves three main processes:

1. **Spinning:** Converting fibres into yarn
2. **Weaving/Knitting:** Converting yarn into fabric
 - Weaving arranges two sets of yarn together to make fabric
 - Knitting uses a single yarn to make fabric

11. Boojho wants to make yarn from fibre at home. Which of the following will he use to carry out the task?

- (a) Powerloom
- (b) Handloom
- (c) Charkha
- (d) Knitting needles

Solution: (c) Charkha

Explanation: Spinning is the method of making yarn from fibres. Charkha is a simple hand-operated device used for spinning fibres into yarn at home.

Very Short Answer Questions

12. Yarn, fabric and fibres are related to each other. Show the relationship by filling the blanks in the following sentence.

Question: Fabric of cotton saree is made by weaving cotton _____ which in turn is made by spinning thin cotton _____.

Solution: yarn, fibres

Explanation: The relationship shows the sequence: fibres → yarn → fabric. Cotton fibres are spun to make cotton yarn, which is then woven to make cotton fabric.

13. Some terms related to fabrics are jumbled up and given below. Write them in their correct form.

- (a) onttoc
- (b) sinnping
- (c) vingwea
- (d) bisref

Solution: (a) Cotton

- (b) Spinning
- (c) Weaving
- (d) Fibres

14. State whether the following statements are true or false. If false, correct them.

- (a) Silk is a plant fibre.
- (b) Jute is obtained from the leaves of a plant.
- (c) Weaving is a process of arranging two sets of yarn together.
- (d) Cotton yarn on burning gives an odour similar to that of a burning paper.

Solution: (a) **False.** Silk is an animal fibre obtained from silkworms.

- (b) **False.** Jute is obtained from the stem of a plant.
- (c) **True**
- (d) **True**

15. The following is an answer given by Boojho to a question asked by his teacher:

"Cotton, wool, silk and jute are classified as natural fibres whereas nylon and polyester are classified as synthetic fibres". Can you tell what question the teacher has asked?

Solution: The teacher must have asked the students to classify the following fibres into natural and synthetic fibres: Jute, Silk, Nylon, Cotton, Wool, Polyester.

16. Once, Paheli visited a tailor shop and brought home some cuttings of fabric to study their properties. She took two pieces and found that one of the pieces was shrinking when it was burnt with a candle. However the other did not shrink on burning. Can you help her to find out which of the two was a cotton fabric and which a silk fabric?

Solution: On burning, silk fabric shrinks due to the presence of protein, whereas cotton fabric does not shrink. Therefore:

- The fabric that shrank on burning was **silk fabric**
- The fabric that did not shrink was **cotton fabric**

17. One way of making fabric from yarn is weaving, what is the other?

Solution: Another way of making fabric from yarn is **knitting**.

Explanation:

- **Weaving:** Two sets of yarns are arranged together to make fabric
- **Knitting:** A single yarn is used to make fabric

Short Answer Questions

18. Boojho with perfect eyesight was finding it difficult to pass a thread through the eye of a needle. What can be the possible reason for this?

Solution: The possible reasons could be:

1. The end of the thread was separated into a few thin strands, making it frayed
2. The thread was quite thick compared to the needle's eye
3. The thread end was not cut cleanly, making it difficult to insert

Explanation: Even with perfect eyesight, threading a needle can be difficult due to the physical properties of the thread rather than vision problems.

19. In ancient times stitching was not known. People used to simply drape the fabrics around different parts of their body. Even today a number of unstitched fabrics are used by both men and women. Can you give four such examples of clothes?

Solution: Examples of unstitched fabrics used today include:

1. Saree
2. Dupatta
3. Dhoti
4. Lungi
5. Turban

Explanation: These garments are draped around the body without requiring stitching, continuing the ancient tradition of clothing.

20. Match the articles given in column I with the articles of column II.

Column I Column II

- | | |
|------------------|---------------|
| (a) Sweater | (i) Cotton |
| (b) Cotton bolls | (ii) Wool |
| (c) Dhoti | (iii) Ginning |
| (d) Gunny bags | (iv) Jute |

Solution:

Column I Column II

- | | |
|------------------|---------------|
| (a) Sweater | (ii) Wool |
| (b) Cotton bolls | (iii) Ginning |
| (c) Dhoti | (i) Cotton |
| (d) Gunny bags | (iv) Jute |

21. Fill in the blanks to complete the life story of cotton fibre.

Question: My parents, cotton plants were grown in _____ soil and **climate**. The plants bore fruits called _____. I, the cotton fibre was separated from seeds in the cotton bolls by the process of _____. Other cotton fibres and myself were made into yarn by the process of _____. The yarn was _____ to give beautiful colours and then _____ to get cotton fabric.

Solution:

1. **black** soil
2. **warm** climate
3. **cotton bolls**
4. **ginning**
5. **spinning**
6. **dyed**

7. woven

22. Match the terms given in column I with the statements given in column II.

Column I Column II

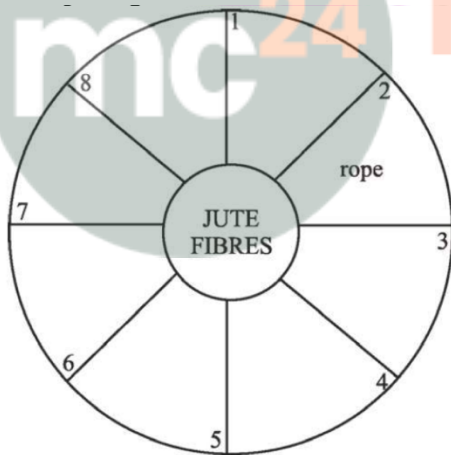
- (a) Weaving (i) A single yarn used to make a fabric
- (b) Knitting (ii) Combing of cotton fibres to remove seeds
- (c) Spinning (iii) Yarns are made from these thin strands
- (d) Ginning (iv) These are spun from fibres and then used to make fabrics
- (e) Fibre (v) Process of arranging two sets of yarns together to make a fabric
- (f) Yarn (vi) Process of making yarn from fibres

Solution:

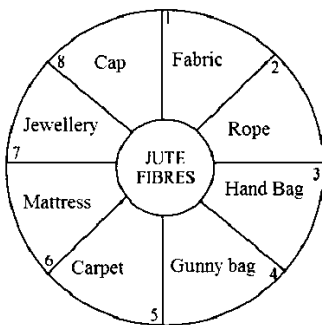
Column I Column II

- (a) Weaving (v) Process of arranging two sets of yarns together to make a fabric
- (b) Knitting (i) A single yarn used to make a fabric
- (c) Spinning (vi) Process of making yarn from fibres
- (d) Ginning (ii) Combing of cotton fibres to remove seeds
- (e) Fibre (iii) Yarns are made from these thin strands
- (f) Yarn (iv) These are spun from fibres and then used to make fabrics

23. Fill in the names of useful items made from jute fibres.



Solution: Items made from jute fibres include:



1. Fabric

2. Rope
3. Hand Bag
4. Gunny bag
5. Carpet
6. Mattress
7. Jewellery (decorative items)
8. Cap

Long Answer Questions

24. A cotton shirt, before it reaches you, completes a long journey. Elaborate this journey starting from cotton bolls.

Solution: The journey of a cotton shirt from cotton bolls involves several stages:

- 1. Picking:** The cotton bolls containing seeds covered with cotton fibres are handpicked from cotton plants when they ripen and burst open.
- 2. Ginning:** Seeds are separated from cotton fibres through a combing process called ginning. Modern ginning is done using machines that efficiently separate seeds from the fluffy cotton fibres.
- 3. Spinning:** The cotton fibres are drawn out, aligned, and twisted together to form strong, continuous yarn. This process can be done using traditional hand-operated devices like charkha or modern spinning machines.
- 4. Weaving:** The cotton yarn is converted into cotton fabric through weaving, where two sets of yarns are arranged at right angles and interlaced together on looms to create fabric.
- 5. Dyeing and Finishing:** The cotton fabric is dyed to give it beautiful colors and may undergo various finishing processes to improve its texture, appearance, and durability.
- 6. Stitching:** Finally, the cotton fabric is cut into patterns and stitched together to make the cotton shirt.

This entire process transforms raw cotton from the field into the finished garment we wear.

25. Describe the two main processes of making fabric from yarn.

Solution: The two main processes of making fabric from yarn are:

1. Weaving:

- Weaving is the process of arranging two sets of yarns together at right angles to make a fabric
- It involves interlacing two sets of threads:
 - **Warp:** Threads running lengthwise
 - **Weft:** Threads running crosswise
- The weaving is done on devices called looms, which can be hand-operated or power-operated
- This creates a strong, stable fabric structure
- Examples: Cotton cloth, silk sarees, woolen fabrics

2. Knitting:

- In knitting, a single continuous yarn is used to make a piece of fabric
- The yarn is formed into interconnected loops
- Each new loop is pulled through previous loops to create the fabric structure
- Knitting can be done by hand using knitting needles or by machines
- Knitted fabrics are generally more stretchable and flexible than woven fabrics

- Examples: Sweaters, socks, t-shirts

Key Differences:

- Weaving uses two sets of yarns while knitting uses one continuous yarn
- Woven fabrics are generally stronger and less stretchable
- Knitted fabrics are more elastic and comfortable to wear
- Different tools are used: looms for weaving, needles for knitting

Both processes are essential in textile manufacturing and serve different purposes based on the desired properties of the final fabric.

