NCERT Class 7 Science Chapter 3 Fiber to Fabric Summary and Notes Pdf

The free download of Chapter 3 of the Class 7 Science Notes for Quick Revision by CBSE is available. You can get the NCERT Science Notes for the Class 7 chapter on "Fiber to Fabric." The third chapter of the science curriculum for Class 7 is focused on fiber and fabric. This chapter thoroughly explains how different fibers are used to create textiles. This chapter also discusses the methods used to get different plant and animal fibers. These revision notes for all the subjects and subtopics addressed in this chapter have been written by our subject specialists in a clear, point-by-point way.

NCERT Class 7 Science Chapter 3 Fibre to Fabric Introduction

We all have clothing on. They are our fundamental necessities. Humans have covered their bodies with leaves, tree bark, and animal skins for a long time. After mastering the craft of weaving, they began producing fabric.

Fabrics (or clothes) are produced from incredibly tiny fibers and threadlike strands. Cotton, wool, silk, flax, jute, nylon, polyester, and polyacrylic are a few examples of fibers. Next, the fibers are spun into yarn, a long continuous thread that may be used to weave fabric on a loom (or cloth). A form of lengthy, twisted thread is a yam. Spinning is the method used to turn fibers into yarn.

There are two kinds of fibers: natural and synthetic fiber (nylon, rayon). In addition, some of the yarn used to make our garments are manufactured from animal fiber. These are the many categories of natural fibers as they are found in nature. Natural fibers are fibers that come from living things like plants and animals.

NCERT Class 7 Science Chapter 3 Fibre to Fabric Summary

Plant-based fibers

The significant components of plant fiber are cellulose and cellulose fibers. Paper and fabric are the most typical products made from them.

When properly processed, cellulose produces long, frequently extremely glossy fibers.

Plant fibers are produced from various plants, such as cotton, jute, flax, and hemp.

Visit this page to learn more about plant fibers.

Jute

Jute fiber can only be extracted from the stem of jute plants. It has a silky feel, is long and lustrous, and is grown during the wet season. Jute is mainly grown on alluvial soil, which is present in the Ganges and Brahmaputra river delta regions.

Fibers

Fiber describes the thread's more delicate strands. A structure like a thread called fiber is spun into ropes, textiles, and strings. The fibers used to create fabrics can be found in natural and synthetic sources. Examples include rayon, nylon, and polyester.

Fiber, Yarn, and Fabric

Thin strands called yarn and even more delicate strands known as fibers make up the fabric.

Cotton Processing and Cotton

Cotton is made from cotton bolls, which grow on the cotton seed's surface. It grows in a warm environment with black clayey soil. Cotton is processed by ginning, spinning, weaving, and knitting.

Fiber from Animals

Wool

natural animal fiber derived from animals like sheep, goats, yaks, camels, etc.
All these creatures have a hairy coat removed to produce wool fibers.

Processing fibers into wool

The sheep's fleece comprises two fibers that make up its hairy skin: I, the coarse beard hair, and (ii) the fine, soft under hair located close to the skin. The central supply of wool fibers comes from this fleece. Shearing, scouring, sorting, dyeing, straightening, rolling, and combing are all steps in turning fiber into wool.

Silk

Animal-Produced Silk

Silk is a naturally occurring protein fiber that may be used in textiles and is derived from silkworms.
Different kinds of silkworms create many sorts of silk.
It may be distinguished based on texture and shine. Kosa, Tassar, Mooga, etc., are a few instances. Different varieties of silk moths make them. The mulberry silk moth is one of the popular varieties.

sericulture

Sericulture is the technique of raising silkworms to create raw silk.
Silkworms are raised throughout this procedure at the proper temperature and humidity to extract silk threads from cocoons.

Processing Cocoon-Obtained Silk

To extract the silk fibers, cocoons are gathered, left outside in the sun, or cooked.
After the process of reeling silk from a cocoon is complete, silk is unwound.
After that, the silk fibers are spun into threads.
The intended clothing is made using the acquired silk strands.

Natural versus artificial fibers

Natural Fibers

Natural Fibers Natural fibers are derived naturally from plants or animals.
Zoological fibers: These are the fibers that come from animal sources. Wool, silk, as examples, etc.
Fibers derived from plants are referred to as plant fibers. To create textiles, these fibers are taken from the plants.

Artificial Fibers
Artificial fibers are fibers that are created by humans using chemicals.
These outlast natural fibers in terms of durability.
For instance: acrylic, nylon, and polyester.

NCERT Class 7 Science Chapter 3 Fibre to Fabric Notes
The Making of Wool
Wool is mainly derived from sheep, yaks, and goats. These animals' fleece or hair is used to produce wool.
Wool production from sheep
Sheep's hair has two different types of fibers:
1. Rough hair on the beard
2. The sheep's silky under hair that is found very next to its skin

Because of its exquisite quality, sheep's silky hair is used to make wool.
Selective breeding: Sheep may undergo selection to produce a breed with little to no hard hair and only fine, silky hair on the skin. Selective breeding is the name of this procedure.

Grass typical leaves, call, pulses, oil cakes, and dry fodder are typically fed to sheep.

To obtain wool from them, sheep are grown (bred and raised) throughout India, including in Jammu & Kashmir, Rajasthan, Arunachal Pradesh, and Gujarat.

The method for producing wool from animal hair fiber
First, shearing
It is a procedure when the sheep's fleece and a small layer of its skin are removed. Shearing often occurs in warm weather, so the sheep do not experience cold and have an easier time surviving. In addition, since the upper portion of the skin is usually dead skin, the shearing procedure does not harm the sheep.

2nd step: Scouring
It is a procedure to clean the hair pulled from the sheep of dirt, oil, and dust. Machines are usually used to assist with this.

3rd step: Sorting

It is the process of sorting sheep's hair into different textures.

Step Four: Burr removal
The burrs or tiny fibers on the hair are removed in this stage. The hair is then cleansed and dried. The resultant product is wool that can now be turned into fibers.

Step 5: Dyeing the fibers of wool
The fibers are given different color dyes in this process.

Step 6: Rolling the wool
The wool fibers are then straightened up, combed, and rolled into yarn as the last stage.

Occupational Risk
Workers in several sectors run the danger of contracting illnesses and occasionally even passing away. These are referred to as occupational risks. For example, an occupational hazard connected to the manufacture of wool is sorter's sickness. The Anthrax bacterium can infect the individuals who sort the wool. This bacteria affects the victim's blood, which might result in tragic demise.

Silk Production
1. Silkworms produce silk. Sericulture is the cultivation and care of silkworms to harvest their silk."Silk Moth"
2. Caterpillars or silkworms are the larvae formed after the silk moth's eggs hatch.
3. The pupa is the following caterpillar's life cycle stage.
4. The caterpillar builds a net that can hold it to progress to this stage.
5. Following that, the caterpillar swings its head in an eight pattern.
6. Fiber is secreted when it swings its head.
7. When this protein-based fiber is exposed to air, it hardens and transforms into silk fiber.
8. After that, the caterpillar wraps itself in silk and transforms into a pupa.
9. The term "cocoon" refers to the caterpillar's covering.
10. Then, the caterpillar transforms into a silk moth within this covering.
11. The cocoon is where the Silk thread on the Silk yarn is taken from.
12. Due to the vast varieties of silk moths, several types of silk may be produced.

The method for harvesting silk from silkworms
1. Rearing: The silkworm farmers purchase and rear the silkmoth eggs.
2. Because a single silk moth may lay roughly 100 eggs at a time, these eggs are often abundant.
3. These eggs are kept in a setting with the proper humidity, temperature, and hygiene standards.
4. The larvae are heated to help them emerge from the eggs.
5. Then, a bamboo tray is used to keep them.
6. To ensure that the caterpillar has adequate food, this operation is often carried out when the new leaves on the mulberry trees emerge.
7. After around 25 to 30 days of feeding, the caterpillar travels into a chamber in the tray to begin building a cocoon.
8. When spun, the cocoon adheres to the train's rocks in Bangalore.

Silk processing
First, after being purchased, the cocoons are either maintained in the sun or cooked to allow the silk fibers to separate from them.

Following that, the silk is reeled. It is a procedure used to prepare the cocoon's strands for usage as silk.

The resulting acquired silk fibers are then pulled and coiled into threads.

NCERT Class 7 Science Chapter 3 Fibre to Fabric Conclusion
Fabrics and cloth are produced from fragile fibers and threadlike strands. Cotton, wool, silk, flax, jute, nylon, polyester, and polyacrylic are a few examples of fibers. The fibers are spun into yarn, and the yarn is then used to weave fabric or cloth on a loom.

Faq

Q1. What functions does jute serve?
Answer. 1. Paper and pulp
2. Domestic goods
3. Geotextiles
4. Recently replacing plastic coverings

Q2. Describe yarn.
Answer. A lengthy continuous length of interlocking fibers, or yarn, is used in sewing, crocheting, and other crafts.

Q3. The natural fiber is what?
Answer. Plant, animal, or mineral fibers are known as natural fibers.