

## Class 6 Chemistry Fibre to Fabric

## Introduction

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Have you noticed that the **clothes** we wear feel very different - some are soft, some are coarse and some are silky. Also, we wear different clothes in different seasons. **Clothes cover our body and protect us from weather conditions, insect bites and of course, they make us smart and presentable too.** In this chapter, let us learn about how different types of **clothes** are made.



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## History of Clothing Material

### History of Clothing Material

- In ancient times, people used **big leaves of trees, barks of trees, animal skin** etc to cover their body.
- When man began to settle down in communities, he began **to tie together** twigs, grass, leaves, animal skin/fur etc into mats and clothes. They simply **draped** these fabric around their body because they didn't know stitching.
- Later, when needle was invented, people started **stitching** these fabric into different shapes to suit their body and thus clothes evolved.
- Now, as we know the we have a variety of clothing choices for both men and women. They are very varied in choices, colours, design etc. Infact, we have moved from simple clothing to 'fashionable' clothing.



Ancient Days Clothing



Modern day Clothing

## Class 6 Chemistry Fibre to Fabric

## Fibres Yarn and Fabric

### Fibres, Yarn and Fabric

- A **fabric** is any material of cloth that we use. Eg: **Cotton, Jute, Wool, Silk, Nylon, Polyester**
- A fabric is made up of **fine threads** called **yarns**.
- When you untwist a yarn to loosen it, we see that it is made up of multiple **thin hair-like strands** called **Fibres**.
- Therefore, we can say that **fabric is made of yarn and a yarn is in turn made of fibres**



**Fabric**



**Yarn**



**Fibre**

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## Types of Fibres

### Types of Fibres

- There are predominantly 2 types of fibres.
  - **Natural Fibre**
  - **Synthetic Fibre**
- **Natural Fibre:** Fibres which are obtained from **plants or animals**.
  - **Cotton and jute** is obtained from **plants**.
  - **Wool** is obtained from fleece of **sheep/goat**.
  - **Silk** is obtained from cocoon of **silkworms**



Cotton Seeds



Cotton Dress



Sheep Skin



## Woolen Wear

- **Synthetic Fibre** : Fibre is made from **chemical substances**, which are not obtained from plants or animal sources.
- **Eg: Polyester and Nylon, Acrylic**



**Polyester**



**Nylon**

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## Cotton

### Cotton

- Cotton is grown in the fields in regions which are usually **warm and have black soil**.
- In India, cotton is grown in Punjab, Haryana, Gujarat, Rajasthan.
- The fruits of the cotton plant, commonly called **Cotton bolls**. After maturing, these cotton bolls burst open.
- Inside these, there are seeds, which are covered with cotton.
- From these cotton bolls, **cotton is handpicked** .
- Then, by a process called **Ginning** of cotton, fibres are separated from the seeds.
- Cotton is usually used to make sarees, shirts, pants, casual wear, bedsheets, curtains etc



**Cotton Seeds**



**Cotton  
Dress**

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## Jute

### Jute

- Jute is obtained from the stem of **jute plant**.
- In India, jute is grown in West Bengal, Bihar and Assam.
- When the jute plant is at its flowering stage, it is harvested.
- Then, the stem of such harvest plant are immersed in water for a few days so that they rot.
- The **fibres are then separated from the stem by hand**

These fibres are converted **into yarns by spinning and then used in fabrics**



**Jute Yarn**



**Jute Bags**

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## Spinning

### Fibre to Yarn : Spinning

- The process of making yarn from fibres is called **Spinning**.
- In this process, a large number of fibres from a cotton wool are drawn out and gently twisted such that the fibres gel together to form **yarn**.
- Devices used are takli, **Charaka** and modern day machines.
- **Charaka** is the wheel which was popularised by Mahatma Gandhi with an intent to promote inhouse hand woven Indian cloth market.
- After spinning, yarns are made into fabrics.



**Charaka ( Spinning Wheel)**



**Spinning Machines**



## Class 6 Chemistry Fibre to Fabric

## Weaving and Knitting

### Yarn to Fabric: Weaving and Knitting

- The yarn thus obtained is made into a fabric usually by **weaving or knitting**.

### Weaving

- The process of arranging 2 or more yarns together to make a fabric is called **Weaving**.
- Weaving is done on **looms** (as shown in figure)
- Weaving is either **hand operated (handloom)** or **power operated**.



**Handlooms**



**Power Operated Looms**

### Knitting

- The process of getting a single yarn together to form a fabric is called Knitting.
- It is mostly used for **woollen wear**.
- This is mostly done **manually** and sometimes using machines.



**Knitting**

