

**CHEMISTRY**

## Fibre To Fabric

A variety of fabrics are found in our surroundings. These fabrics include cotton, wool, silk or synthetic fibres.

### Fibre

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Many kinds of clothing materials or fabrics are available. Fabrics are made of yarns, which in turn are made of fibres. Fibre is a very thin, thread-like strand from which cloth is made. Fibres are of two types—natural and synthetic.

### Types of Fibres

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#### Natural Fibre

The fibres of some fabrics such as cotton, jute, silk and wool are obtained from plants and animals. These are called natural fibres.

##### Cotton

- Cotton is the most widely used natural fibre. Cotton fibre is obtained from cotton bolls (fruits) of the cotton plant. The cotton plant needs black soil and warm climate for cultivation.
- Separating seeds from cotton bolls is called **ginning**. Ginning can be done by hand (using steel combs) as well as by machines.
- Yarn is spun from cotton fibres using a hand spindle or 'takli' or 'charakha'. This process is called **spinning**.
- The process of spinning yarn into a fabric is called **weaving** or **knitting**. Weaving requires two yarns to make a fabric and can be done using handlooms or power looms. Knitting requires only one yarn to make a fabric and can be done by hand (using knitting needles) as well as on machines.
- Cotton fibres are used for making fabrics, dresses, pillow filling and wicks of oil lamps.

##### Jute

- Jute is obtained from the stem of the jute plant and is mainly grown in alluvial soil in the delta region of the Ganga and Brahmaputra rivers.
- Jute plants are usually cut at the flowering stage. The stems of harvested jute plants are immersed in water for a few days. During this period, stems rot out to separate the fibres. This process is called **retting**.
- Jute fibres are used to make ropes, wall hangings and gunny bags to pack and store grains.
- In India, jute is mainly grown in West Bengal, Bihar and Assam.

##### Wool

Wool is obtained from the hair of sheep, goat, rabbit, yak and camel. It is used for making warm clothes such as sweaters, caps, shawls, gloves and blankets.

**Silk**

Silk fibre is obtained from the cocoons of the silk moth. The silk moth lives on the leaves of mulberry plants. There are four stages in the life cycle of the silk moth—egg, larva, pupa and adult. Silk is a costly fabric. Silk fibre is used for weaving cloth, especially traditional dresses in India, such as sari, kurta, shawl, and wedding clothes. Silk has always been prized for its lustre and finequality.

**Synthetic Fibre**

Fibres obtained by artificial means (using chemicals) are called synthetic fibres. Synthetic fibres are strong, wrinkle-resistant and quick drying. These fibres are used in making different materials such as clothes, neck ties, sails, sweaters, shawls, carpets and blankets. They are also used in making boats and skatingboards.

Examples: Polyester, nylon, acrylic

**Clothing in Ancient Times**

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In ancient times, people used to cover their body using leaves, barks, animal skin and fur. With the passage of time, vines and animal fleece were used for clothing purposes.

Later, cotton and flax fibres were used to prepare clothes. Nowadays, different types of fabrics are used for stitching a variety of clothes which include shirts, pants, shorts, kurtas, pyjamas, dresses and blouses.