

Class 6 Science Chapter 4 Fibres to Fabric

IV. Long answer type questions.

Q.1 What are fibres? How do we get clothes from fibres?

Ans: Fibres are long, thin, thread-like structures that form the basic raw material used in the production of fabrics. They can be natural or synthetic. Natural fibres are obtained from plants and animals (like cotton, jute, wool, and silk), while synthetic fibres are made by humans using chemicals (like nylon and polyester).

To make clothes, fibres go through several steps:

- First, fibres are spun into yarns using spinning machines.
- These yarns are then woven or knitted into fabrics.
- Finally, fabrics are cut, stitched, and sometimes dyed or printed to make different kinds of clothes that we wear.

Q.2 Describe two processes of making fabric from yarn.

Ans: There are two main methods used to convert yarn into fabric:

- Weaving** – Weaving involves placing two sets of yarns together at right angles. The yarns are woven on a machine called a loom, which can be either hand-operated or automatic. The vertical yarns are called the warp, and the horizontal ones are called the weft. This process creates strong and durable fabric.
- Knitting** – Knitting involves using a single yarn to form loops and interlinking them. This process can be done by hand or using machines. Knitted fabrics are usually more stretchy and soft, and are commonly used in making T-shirts, sweaters, and socks.

Q.3 Describe the steps involved in the production of cotton.

Ans: The production of cotton involves several important steps:

- Cultivation:** Cotton plants are usually grown in black soil in warm climates. The plants grow and form bolls that contain cotton fibres.
- Harvesting:** When the bolls burst open, fluffy white cotton is collected by hand.
- Ginning:** In this step, the cotton fibres are separated from the seeds using a machine called a cotton gin.
- Spinning:** The cleaned fibres are then twisted into yarn.
- Weaving/Knitting:** Yarn is used to make fabric using weaving or knitting.
- Stitching:** The fabric is cut and stitched into garments or other cotton products.

Q.4 Describe how jute fibre is obtained from the plant.

Ans: Jute is a natural plant fibre obtained from the stem of the jute plant. It grows best in hot and humid regions with loamy soil. The process of getting fibre from jute involves:

- Harvesting:** The jute plants are harvested when they are still green.
- Retting:** The stems are tied in bundles and soaked in water (like ponds or rivers) for a few days. This rots the soft parts of the stem, making it easy to separate fibres. This process is called retting.
- Extraction:** After retting, the fibres are manually separated from the stem, washed, and dried in the sun.
- These jute fibres are then used to make gunny bags, ropes, mats, and other products.

Q.5 Write short notes on the following:

a. Coir

Ans: Coir is a coarse natural fibre obtained from the outer husk of a coconut. It is brown and strong, making it suitable for making ropes, mats, brushes, and mattresses. Coir is water-resistant and biodegradable, making it environmentally friendly.

b. Silk Cotton

Ans: Silk cotton, also known as kapok, is obtained from the fruit of the kapok tree. It is very light, soft, and fluffy. Though not strong enough for making yarn, it is widely used as a filling material for pillows, cushions, quilts, and soft toys.

c. Hemp

Ans: Hemp is a strong plant fibre that comes from the stalk of the hemp plant. It is one of the oldest fibres used by humans. Hemp is used in making ropes, bags, clothes, and paper. It is strong, long-lasting, and requires very little water to grow.

d. Flax

Ans: Flax fibre is obtained from the stem of the flax plant. It is used to make linen fabric, which is light, smooth, and breathable. Linen is commonly used to make summer clothes, tablecloths, and bed sheets. Flax is one of the oldest known plant fibres.