

Chapter 6 : Substances in daily use

Question. 1. Fill in the blanks using proper words:

- (1) Rubber made by vulcanization is **artificial** and **hard** material.
- (2) Man-made materials are made by **processing** natural materials.
- (3) **Nylon** thread was developed simultaneously in New York and London.
- (4) Rayon is also known as **synthetic silk**
- (5) Both kitchen utensils and electrical cables are made from **metals**.
- (6) Glass can be made from **sand** and **calcium carbonate**.
- (7) The sap of rubber tree is called **latex**.

Question. 2. What are we used for?

- (1) **Soil:** Soil is used for growing crops and supporting plant life. It also provides essential nutrients for agriculture and landscaping.
- (2) **Wood:** Wood is used in construction for building homes, furniture, and tools. It is also used as fuel for heating and cooking.
- (3) **Nylon:** Nylon is a synthetic fiber used to make clothing, ropes, and nets. It is strong, flexible, and resistant to wear and tear.
- (4) **Paper:** Paper is used for writing, printing, and packaging various products. It is made from wood pulp and is widely recycled.
- (5) **Rubber:** Rubber is used to make tires, gloves, and waterproof materials. It is valued for its flexibility and durability.

Question. 3. Find out:

(1) How is lac obtained from nature?

Answer. Lac is obtained from the secretions of lac insects, mainly *Kerria lacca*, which live on certain trees. The insects form resinous deposits on tree branches, which are harvested, processed, and purified to produce lac.

(2) How are pearls obtained?

Answer. Pearls are obtained from oysters or mollusks, which form them as a protective response to irritants like sand inside their shells. The oyster secretes layers of nacre around the irritant, eventually forming a pearl.

Question. 4. Answer the following questions:

(1) Why did the need for man-made materials arise?

Answer. Man-made materials were needed because natural ones couldn't always meet demands for strength, flexibility, or cost. They offer better, cheaper, and more versatile options.

(2) Which are the natural materials obtained from plants and animals?

Answer. (a) Plant-origin material: Cotton, jute, hemp, teak, wood, flowers, fruits
(b) Animal-origin material: Leather, silk, lac, pearl.

(3) What is vulcanization?

Answer. Vulcanization is a chemical process. In this process, the rubber is heated with sulphur for three to four hours. This process makes rubber hard.

(4) Which natural materials are used to obtain fibres?

Answer. The natural materials which are used to obtain fibres are cotton, jute, hemp, wool, silk, etc

(5) Which natural substances were used in construction work previously and which man-made substances are used these days?

Answer. Previously, natural substances used in construction included wood, stone, clay, and thatch. Today, man-made substances such as concrete, steel, glass, and synthetic materials like fiberglass and engineered wood are commonly used for their strength, durability, and versatility.

(6) How is paper manufactured? Write in your own words.

Answer. Logs of wood are debarked, chopped, and mixed with chemicals and water in a digester to form pulp. The pulp is washed, refined, and sometimes bleached. It then goes through a screen to remove water and passes through rollers to dry and press it into rolls of paper.

(7) How are fibres of terylene manufactured?

Answer. Terylene fibers are made by mixing chemicals like ethylene glycol and terephthalic acid, which undergo a chemical reaction to form a polymer. This polymer is melted, spun into fibers, and then stretched to strengthen them before being woven into fabric.

(8) Classify: (Textbook page 42)

Classify the following substances according to their uses:

Substances: Sand, soap, wool, window glass, bamboo, cotton, bricks, silk, leafy vegetables, cement, fruits, water, sugar.

Answer. Materials for constructions: Sand, window glass, bamboo, bricks, cement, water.

Materials used as food: Leafy vegetables, fruits, water, sugar.

Materials used for making clothes: Wool, silk, cotton.

Material used for cleanliness: Soap.

Question. 5. Give scientific reasons:

(1) We must use cotton clothes in summer.

Answer. We must use cotton clothes in summer because cotton absorbs sweat and allows air circulation, helping the body stay cool. Its natural fibers are soft and comfortable, making it ideal for hot weather.

(2) We must observe economy in the use of materials.

Answer. We must observe economy in the use of materials to conserve limited natural resources and avoid unnecessary waste. This also reduces environmental harm and promotes sustainability.

(3) Humus is a natural material.

Answer. Humus is a natural material formed from the decomposition of organic matter like plants and animals. It enriches soil with essential nutrients, making it fertile for plant growth.