

## 6. Substances in Daily Use

- The Substances that are present in nature are known as **natural substances** (for example wood, soil ) while the one derived from naturally available substances by processing them are known as **man-made substances** (for example nylon, plastic).
- The natural substances derived from living things such as plants and animals are called **biotic substances** and those derived from non-living things are called **abiotic substances**.
- **Plant origin** substances are obtained from plants and **animal origin** substances are obtained from animals.
- Objects around us can be made up of one or more materials.

Material	Objects made of these materials
Paper	Books, newspaper, calendars, etc.
Wood	Chair, table, plough, pencil, etc.
Plastic	Pen, plate, toys, bottle, buckets, etc.
Leather	Bags, shoes, etc.

- Changes around us can be grouped as those that can be reversed (reversible change) and those that cannot be reversed (irreversible change).

Examples of some changes that can be reversed:

- Rolling out a roti from a ball of dough
- Stretching of rubber
- The melting of ice candy
- Folding of a paper
- Dissolving sugar in water

Examples of some changes that can not be reversed:

- Souring of milk
- Cooking of food
- Ripening of fruits
- Sawing of a piece of wood
- Cutting of paper
- Burning of paper
- Conversion of cow dung to biogas.

- **Rubber** is a natural polymer which possesses elastic properties.
- It is manufactured from the milky secretion known as latex.



- It is also termed as **elastomer** cause of its elastic nature.
- **Vulcanization:** In this process, raw rubber is heated with a mixture of sulphur and an appropriate additive, at a temperature range of 100 °C to 142 °C for three to four hours.
- Paper is a substance manufactured by pressing together moist cellulose fibres obtained from wood, grass or recycled paper.
- Trees like timber, pine, eucalyptus etc. are used for making paper.
- Paper and trees are closely related so we should save paper to save trees.
- Use both sides of paper before throwing it.
- **Types of Synthetic fibres:**
- **Rayon (or artificial silk):**
  - It is obtained from chemical treatment of wood pulp
  - It is mixed with cotton and is used to make bed sheets or mixed with wool to make carpets.
- **Nylon**
  - It is strong, elastic, and light.
  - A nylon thread is stronger than a steel wire.
  - It is used for making clothes, parachutes and ropes for rock climbing.
- **Polyester**
  - Fabric made from polyester does not get wrinkled easily.
  - Common polyester includes terylene and PET
  - PET is used for making utensils, films, wires, bottles, etc. Terylene is used for making dress materials.
- **Acrylic**
  - It is relatively cheaper than wool.
  - Sweaters, shawls and blankets are made from acrylic.
- **Characteristics of synthetic fibres:** They dry up quickly, are durable, less expensive, readily available, and easy to maintain. However, fabric made of synthetic fibre melts on catching fire and sticks to the body of person wearing it. So, synthetic clothes should not be worn while working in kitchen or laboratory.

