

# STUDY MATERIAL SCIENCE

## CLASS-VII

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### ▶ Chemical Changes in Our Daily Life :

Chemical changes are very important in our lives. Indeed, every new material is discovered by studying chemical changes, e.g. If metal is to be extracted from an ore such as iron from iron ore, we need to carry out a series of chemical changes. Medicine is the end product of a chain of chemical reactions. Important and useful new materials such as plastics and detergents are produced by chemical reactions.

Let us consider some more examples of chemical changes. We saw from the activity that burning of magnesium ribbon is a chemical change. Burning of coal, wood or leaves is also a chemical change. In fact, burning of any substance is a chemical change. Burning is always accompanied in the production of heat and light.

- **An explosion of a firework** (or crackers) is also a chemical change which produces heat, light, sound and unpleasant gases that pollute the atmosphere.
- When food gets spoiled, it produces a foul smell. This shows that new substances have been formed in the spoiled food which has a foul smell. So, the **spoilage of food** is a chemical change.
- If we **cut an apple into slices** and kept in the open for some time, we will find that the cut surface of apple acquires a brown colour. This change in colour is due to the formation of the new substance by the action of oxygen (or air). So, this change in colour is a chemical change.
- Similarly, the cut surface of potato or brinjal turns black on keeping in air for some time due to the chemical change.

- When an acid reacts with a base, then a neutralisation reaction takes place in which two new substances, salt and water, are formed. So, neutralisation is a chemical change.
- During photosynthesis, the plants intake carbon dioxide and water in the presence of chlorophyll and sunlight to form two new substances, glucose (food) and oxygen. So, photosynthesis is a chemical change.
- In the process of digestion, the various food materials break down to form new substances which can be absorbed by the body, so the process of digestion is a chemical change.

▸ ASSIGNMENT :

1. Explain the importance of chemical changes in our daily life with an appropriate example.
2. Why does the colour of apple slices change after being cut and kept in open air?
3. What happens during photosynthesis?
4. Explain why the following processes are called chemical change :
  - (i) Digestion
  - (ii) Spoilage of food
  - (iii) Neutralisation
  - (iv) Explosion of firework