

# Chapter 1

## Introduction to Chemistry

### LESSON PLAN

#### SPECIFIC OBJECTIVES

The students will learn about

- ❖ definition of science and its broad classification, i.e., physics, chemistry or biology
- ❖ definition of chemistry and chemist
- ❖ scientific method
- ❖ some common laboratory apparatuses
- ❖ precautions to be taken in a chemistry laboratory
- ❖ development of chemistry – a historical perspective
- ❖ notable chemists and their contributions to mankind
- ❖ importance of chemistry in everyday life

#### Teaching Aids

**Pictures/charts/models/animation** on steps involved in scientific method; chemists working in a laboratory; common laboratory apparatuses and precautions taken while using them; notable chemists (as given in the chapter); Indian chemists (as given in the chapter); chemists working in various industries (as discussed in the chapter)

#### Teaching Strategy

- ❖ Teacher will start the chapter by defining science and its broad classification, i.e., physics, chemistry and biology.
- ❖ Teacher will explain the definition of chemistry and chemist.
- ❖ Now, teacher will discuss the scientific method of working.
- ❖ Teacher will tell about common laboratory apparatuses used in a chemistry laboratory.
- ❖ Teacher will also discuss the precautions taken while working in a chemistry laboratory.
- ❖ Teacher will discuss the development of chemistry; notable chemists, i.e., Dmitri Mendeleev, Antoine Lavoisier, John Dalton, Marie Curie and their contributions to mankind.

- ❖ Teacher will also mention the names of some well-known Indian chemists.
- ❖ Teacher will discuss importance of chemistry in everyday life, i.e., with regard to agriculture, food, cosmetics, fabrics, medicines, industries, supplying safe drinking water, source of energy, etc.
- ❖ At last, teacher will sum up the lesson by going through the points given under the head 'Wrapping It Up'.
- ❖ Teacher will finally help students to answer the questions given under the head 'Test Yourself'.

### Boost Up

- ❖ Teacher can make students revise new terms given under the head 'Know These Terms'.
- ❖ Teacher can encourage students to learn the facts given under the head 'Something More'.
- ❖ Teacher can show animations related to the topics taught, if possible.
- ❖ Teacher should call each student one-by-one and ask each one to tell the definition of science and also physics, chemistry and biology.
- ❖ Teacher should first write few discoveries on the blackboard and then ask each student to write the name of chemists who discovered them.
- ❖ Teacher should ask the students to tell the steps involved in scientific method.
- ❖ Students should be asked to identify and name some laboratory apparatuses kept in a laboratory with precautions.
- ❖ Teacher should ask each student to name few fertilisers used in agriculture. He/She should also ask the students to tell the name of chemicals used in killing the germs present in water.
- ❖ Teacher should ask the students to tell how to preserve and package the food obtained from plants and animals with the help of chemists and experts.
- ❖ Teacher should ask the students to tell few raw materials used in making products like soaps, creams, lipsticks, polishes, etc.
- ❖ Teacher should ask the students to write the names of some natural and synthetic fabrics on the board. He/She should ask the students to mention advantages and disadvantages of both fabrics.
- ❖ Students should also be asked to tell the answer of few questions related to medicines and industries, supplying safe drinking water and source of energy.

### Expected Learning Outcomes

The students understand and know:

- ❖ definition of science and its broad classification.
- ❖ definition of chemistry and chemist.
- ❖ scientific method of working.
- ❖ some common apparatuses used in chemistry laboratory.
- ❖ necessary precautions to be taken in a chemistry laboratory.

- ❖ development of chemistry; notable chemists and their contribution to mankind.
- ❖ some well-known Indian chemists.
- ❖ importance of chemistry in everyday life.

### Evaluative Questions

The teacher should ask the following questions to evaluate the students.

1. Define science.
2. Name the branch of science that deals with the study of living organisms.
3. Write the steps involved in scientific method of working.
4. Name three fertilisers used in agriculture.
5. Define synthetic fibres and write their three examples.
6. Name the agents used to kill germs present in water.
7. Which fruits contain a chemical called citric acid?
8. Write few precautions taken in a chemistry laboratory.