

Chapter 3

Elements, Compounds and Mixtures

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ❖ elements, their classification and symbols
- ❖ molecule and molecular formula of an element
- ❖ compounds and their characteristics
- ❖ molecule and molecular formula of a compound
- ❖ uses of compounds
- ❖ mixtures, their characteristics, and uses
- ❖ classification of mixtures
- ❖ techniques used for separation of components of mixtures

Teaching Aids

Pictures/charts/models/animation on matter and its classification; names, classification and symbols of some elements; molecule and molecular formula of an element; compounds and their characteristics; molecule and molecular formula of a compound; uses of compounds; mixtures, their characteristics and uses; experimental evidence to study differences between compounds and mixtures; classification of mixtures and techniques used for separation of their components.

Teaching Strategy

- ❖ Teacher will start the chapter by discussing classification of matter and defining pure and impure substances.
- ❖ Teacher will explain elements, their classification and symbols used for them.
- ❖ Teacher will explain molecule and molecular formula of an element.
- ❖ Teacher will explain compounds and their characteristics.
- ❖ Now, teacher will ask the students to solve 'Check Point 1'.
- ❖ Teacher will explain molecule, molecular formula of a compound and uses of compounds.
- ❖ Teacher will explain differences between elements and compounds.

- ❖ Now, teacher will ask the students to solve 'Check Point 2'.
- ❖ Teacher will define mixtures and will explain their characteristics, uses and classification.
- ❖ Teacher will explain differences between compounds and mixtures.
- ❖ Then, teacher will discuss experimental evidence to study differences between compounds and mixtures.
- ❖ Now, teacher will ask the students to solve 'Check Point 3'.
- ❖ Teacher will explain techniques used for separation of components of mixtures by demonstrating Activities 1, 2, 3, 4 and 5.
- ❖ Now, teacher will ask the students to solve 'Check Point 4'.
- ❖ 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 help students to perform the activities given in chapter.
- ❖ 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 ask the students to give examples of pure and impure substances from everyday life.
- ❖ Teacher should ask the students to practise symbols, molecular formulae of elements and compounds.
- ❖ Students should be questioned about mixtures and their uses in everyday life. They should also be asked to define homogeneous and heterogeneous mixtures with one or two examples.

Expected Learning Outcomes

The students understand and know:

- ❖ matter and its classification.
- ❖ elements, their classification and symbols.
- ❖ molecule and molecular formula of an element.
- ❖ compounds and their characteristics.
- ❖ molecule and molecular formula of compounds and uses of compounds.
- ❖ mixtures, their characteristics, uses and classification.
- ❖ techniques involved in separating components of mixtures.

Evaluative Questions

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

1. Write the differences between pure and impure substances.
2. Define elements and write their two examples.

3. Write the symbols of barium, boron and bromine.
4. Write the elements present in sodium chloride.
5. What is the symbolic representation of a molecule of an element called?
6. On what basis can mixtures be classified?
7. Define homogeneous mixture and give its one example.
8. Name the process of changing a solid directly into gaseous state on heating.