

Chapter 5

Language of Chemistry

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ❖ symbols of elements
- ❖ valency; variable valency
- ❖ radicals
- ❖ compounds and their molecular formulae
- ❖ how to write the molecular formula of a compound
- ❖ significance of the molecular formula of a compound
- ❖ chemical equations
- ❖ practices to balance chemical equations
- ❖ information conveyed by a balanced chemical equation
- ❖ making a chemical equation more informative; limitations of chemical equation
- ❖ law of conservation of mass

Teaching Aids

Pictures/charts/models/animation on English and Latin names of some elements; symbols of elements, their atomic number, electronic configuration, valence shell, valence electron and valency; variable valency of some elements, valencies of some cations and anions; chemical and molecular formulae of some compounds; chemical equations and their representation.

Teaching Strategy

- ❖ Teacher will start the chapter by revising matter, elements, compounds and mixtures.
- ❖ Teacher will then discuss symbols of elements and also define symbols of some elements based on their Latin names.
- ❖ Teacher will explain atomic mass and atomicity.
- ❖ Then, teacher will discuss symbols, atomic numbers, electronic configurations, valence shells, valence electrons and valencies of some elements.

- ❖ Teacher will discuss variable valencies of some metals.
- ❖ Teacher will then explain radicals and will discuss valencies of some cations and anions.
- ❖ Now, teacher will discuss formation of compounds and will explain how to write chemical and molecular formulae of a compound.
- ❖ Teacher will discuss significance of the molecular formula of a compound.
- ❖ Now, teacher will ask the students to solve 'Check Point 1'.
- ❖ Teacher will explain how to write and balance chemical equations along with discussing the information conveyed by a balanced chemical equation.
- ❖ Teacher will discuss law of conservation of mass.
- ❖ Now, teacher will ask the students to solve 'Check Point 2'.
- ❖ 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.
- ❖ Students should be asked to learn the symbols of some elements based on their English and Latin names.
- ❖ Students should be asked to define atomic mass, molecules and atomicity.
- ❖ Teacher should ask the students to learn the atomic number of elements and also practise to write their electronic configuration, valence electrons and valencies.
- ❖ Students should be asked to learn the variable valencies of some metals, valencies of cations and anions. They should also be asked to practise to write the chemical formulae of compounds.
- ❖ Students should practise to write molecular formulae of compounds, writing chemical equations and balancing them.
- ❖ Students should be encouraged to learn to write the molecular formula of compounds. They should also be asked to learn common names of compounds.

Expected Learning Outcomes

The students understand and know:

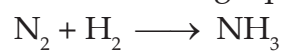
- ❖ symbols of elements.
- ❖ valency, variable valency and radicals.
- ❖ compounds; chemical and molecular formulae of compounds.
- ❖ how to write the molecular formula of a compound.
- ❖ significance of the molecular formula of a compound.
- ❖ writing chemical equations and to balance them.

- ❖ information conveyed by a balanced chemical equation.
- ❖ limitations of a chemical equation.
- ❖ law of conservation of mass

Evaluative Questions

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

1. Write the symbol of oxygen.
2. Define valency.
3. Write the valency of helium.
4. What is the molecular formula of carbon monoxide?
5. Define compounds.
6. What are chemical equations?
7. Balance the following equation:



8. State law of conservation of mass.