

Chapter 7

Air and Atmosphere

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ❖ Lavoisier's experiment to determine the composition of air
- ❖ air as a mixture of gases
- ❖ component gases of air, their properties and uses
- ❖ acid rain and its effects
- ❖ air purity and air pollution

Teaching Aids

Pictures/charts/models/animation on composition of air; Lavoisier's experiment; physical and chemical properties and uses of component gases of air; acid rain and its effects; air purity and air pollution, common air pollutants, harms of air pollution on health and environment

Teaching Strategy

- ❖ Teacher will start the chapter by revising the composition of air, its characteristics and importance as taught in previous class.
- ❖ Now, teacher will explain Lavoisier's experiment to determine the composition of air.
- ❖ Teacher will explain components of air, properties and uses of component gases by demonstrating Activities 1, 2, 3, 4 and 5.
- ❖ Now, teacher will ask students to solve 'Check Point 1'.
- ❖ Teacher will discuss rusting by demonstrating Activity 6.
- ❖ Teacher will discuss differences between respiration and combustion as well as differences between rusting and combustion.
- ❖ Teacher will discuss properties and uses of carbon dioxide, water vapour, uses of water vapour and will demonstrate Activity 7.
- ❖ Teacher will discuss noble gases, dust and smoke as part of air.
- ❖ Teacher will discuss acid rain, its effects; air purity, some common air pollutants, harms of air pollution on health and environment.

- ❖ Teacher should 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.
- ❖ Teacher should ask students to learn the percentage of constituents of air.
- ❖ Teacher should assign Activity 8 as home assignment and discuss the result in the class.

Expected Learning Outcomes

The students understand and know:

- ❖ atmosphere.
- ❖ percentage of different gases in atmosphere.
- ❖ Lavoisier's experiment to determine the composition of air.
- ❖ different gases present in air, their properties and uses.
- ❖ noble gases, dust and smoke as components of air.
- ❖ acid rain and its effects.
- ❖ air purity and air pollution.
- ❖ common air pollutants and their effects on health and environment.

Evaluative Questions

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

1. Define atmosphere.
2. Write the percentage of oxygen and nitrogen in the atmosphere.
3. Which gas is essential for the growth of plants?
4. What is the process of burning to produce heat and light called?
5. What is meant by photosynthesis?
6. How is acid rain caused?
7. Write three effects of acid rain.
8. Name three major air pollutants.