ch-6

Air and Atmosphere

Date
Page

Exercise 1

1. What is atmosphere?

Ans The earth is surrounded by a thick layer of air called the atmosphere that extends upto a height of about 320 kilometres above the surface of the earth.

2. Why can't we see air?

Ans We can't see air because it is colourless, odourless and transparent gaseous matter.

3. What is wind?

Ans Fast moving air is called wind.

4. What would have happened if there would have been no atmosphere around the earth?

Ans Without atmosphere life would not be possible as atmosphere protects us from harmful gases. We could not live without air in atmosphere. In absence of the atmosphere,

the earth get so cold at night that we would not be able survive. No CO_2 and N_2 for plants without atmosphere.

5- Why is air called a mixture? Give five facts in support of your answer.

Ans Air is a mixture because:

1- Air has no formula, a mixture has no formula whereas compound has a formula.

2- No energy changes are involed to form air from various gases.

3- When air is formed out of its constituents no change in mass and no change in volume takes place.

4- Properties of air vary from place to place and time to time .i.e. there is more CO_2 in towns as compared to villages where more oxygen prevails as compared to towns.

5- Components of air can be separated by simple

Physical methods.

6- What are the main components of air? Write down the composition of three main gases present in air by volume.

Ans Main components are:
(i) Nitrogen (ii) Oxygen (iii) Carbon dioxide
Composition of air by volume:
Nitrogen :→ 78%
Oxygen → 21%
Carbon dioxide :→ 0.04%
Inert gases →0.9%
Water vapour → Variable
Dust particles → Variable
Other impurities → Variable

7- What do you observe when

a) Ice cold water is filled in a glass tumbler.

Ans We will observe that fine water droplets get deposited on the outer wall of the glass tumbler.

(b) A burning candle is covered with an inverted jar.

Ans. The candle burn more brightly because candle gets oxygen support in burning.

(c) Carbon dioxide gas is passed through lime water

Ans. When CO_2 gas is passed through lime water it forms calcium Carbonate which is white precipitate (turbidity). This gives the milky white appearance to the solution.

d) A beam of light is allowed to enter in a closed dark room through a small hole.

Ans. We will observe randomly moving dust particles in the beam of light. This confirms the presence of dust particles in the air.

8. Write the chemical name of

(a) Lime water → Calcium Hydroxide → $Ca(OH)_2$

b) The white insoluble solid formed on reaction of

carbon dioxide with lime water →
Calcium Carbonate → $CaCO_3$