

Exercise - 1

1. What is atmosphere?

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?

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

3. What is wind?

First 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 present in atmosphere. In the absence of

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

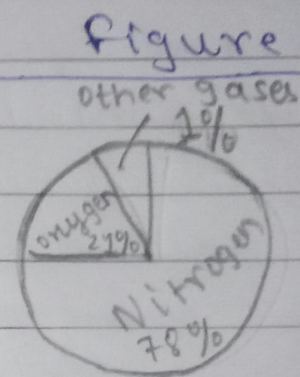
Q.5. Why is air called a mixture? Give five facts in support of your answer.

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 involved 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.

Q6. What are the main components of air? Write down the composition of three main gases present in air by volume.

| Gas | Percentage |
|------------------|--------------|
| Nitrogen | 78% |
| Oxygen | 21% |
| Carbon dioxide | 0.03 - 0.04% |
| Inert gases | 0.9% |
| Water vapour | Varies |
| Dust particles | varies |
| Other impurities | varies |



Q7. What do you observe when

- Ice cold water is killed in a glass tumbler.
- A burning candle is covered with an inverted jar.
- Carbon dioxide gas is passed through lime water.
- A beam of light is allowed to enter in a closed dark room through a small hole.

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

(b) The candle burns more brightly because candle gets oxygen support in burning.

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

Q8. 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