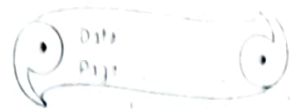


Exercise-1



14/11/21

1) 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 Earth.

2) We can not see air because it is colourless, odourless, tasteless and transparent gaseous matter.

3) Fast moving air is called wind.

4) Atmosphere is very essential for living on Earth as it protects us from harmful rays of the sun. We could be burnt or frozen if there was no atmosphere around the earth. In the absence of atmosphere the earth had been very hot during the day and very cold during night and hence we wouldn't be able to survive without atmosphere.

5) The evidence which shows air is a mixture are:-

→ Air has no formula, a mixture has no formula whereas a compound has a formula.

→ No energy changes are involved to form air from various gases.

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

→ 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.

→ Components of air can be separated by simple physical methods.

6) (a) Main components of air are:

- i) Nitrogen
- ii) Oxygen

Composition of air by volume?

Nitrogen : 78%

Oxygen : 21%

Carbon dioxide: 0.03-0.04%

Inert gases : 0.9%

Water vapours: Varies

Dust particles: Varies

Other impurities: Varies

7) (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 (Turkidi). 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.

3) Calcium hydroxide - $\text{Ca}(\text{OH})_2$

i) Calcium carbonate - CaCO_3