

Chemistry

Exercise-I

1. An atmosphere is a thick layer of air which surrounds the Earth.
2. We can't see air because it is colourless, odourless and, transparent and tasteless.
3. It blind is a fast moving air.
4. Atmosphere protects us from harmful rays of the sun. If there was no atmosphere we could be burnt or frozen. In the absence of atmosphere, the earth would get very hot during the day and very cold at night that we would not be able to survive. There would be no life on Earth under such a condition.
5. Air is a mixture Lavoisier, a french chemist, showed that air is a mixture as it is a mixture of gases. Some of the main gases in it are ~~nit~~ nitrogen and oxygen. Besides, these two gases, air also contains small quantities of carbon dioxide, ~~and~~ water vapour, dust particles and traces of inert gases like helium, neon, argon, etc.

Five facts in support of my answer

- ① Since the composition of a compound irrespective of place and time is fixed, air is not a compound, because its composition changes with respect to place and time.
 - ② No energy change occurs when the components of air are mixed together whereas energy changes occur in the formation of a compound.
 - ③ The components of air retain their individual properties but in a compound, the individual properties of the components are not evident.
 - ④ Air cannot be represented by a formula as its constituents are not in a fixed proportion. A compound is always represented by a definite formula.
 - ⑤ The components of air can be separated by simple methods. Components of compounds cannot be separated by physical methods.
6. Main ~~are~~ components of air are nitrogen, oxygen and carbon dioxide.

Percentage composition of air by volume

Gases	Percentage
Nitrogen	78 %
Oxygen	21 %
Carbon dioxide	0.03-0.04 %

7. a) We will observe that fine water droplets get deposited on the outer wall of the glass tumbler. These droplets have ~~or~~ certainly not passed through the material of the glass tumbler from inside.

b) We will notice that the candle continues to burn for some time ~~and~~ then gets extinguished. The water level rises ~~is~~ slightly, i.e. ~~up to~~ upto $\frac{1}{5}$ th part of the jar containing ~~air~~ air. This part is active air i.e. oxygen which helps the candle stop burning. The $\frac{4}{5}$ th part of air still present in the jar is inactive air that does not support burning, and it is ~~at~~ nitrogen.

c) We will ~~very~~ observe that ~~the~~ the air blown through that lime water turns it milky. The lime water ~~turns~~ turns milky ~~because~~ as carbon dioxide that is present in the air reacts with lime water.

d) We will observe randomly moving dust particles in ~~the~~ ~~be~~ to the beam of light.

8. a) Calcium Hydroxide

b) Calcium carbonate

X