

SCIENCE
CLASS 6
CHAPTER 15-AIR
AROUND US

HAVE YOU EVER SEEN AIR?

- You might have not seen air, but surely you must have felt its presence in so many ways.
- Have you ever seen a weather cock? - It shows the direction in which the air is moving at that place.

IS AIR PRESENT EVERYWHERE?

- Let us take an example- Take an empty bottle and insert the bottle upside down in the bowl of water without tilting it. Does water enter the bottle? The bottle was completely filled with air, that is why water will not enter the bottle.
- Now tilt the bottle, does the water now enter the bottle? When the bottle is tilted, the air comes out in the form of bubbles and water enters inside the bottle.

WHAT IS AIR MADE UP OF?

Until 18th century, people thought air was just one substance. Experiments proved that it is really not so. Air is a mixture of many gases mainly nitrogen(78%) and oxygen(21%). The remaining 1% is made up of argon, carbon dioxide , dust , smoke and water vapour.

EXPLANATION:

- WATER VAPOUR
- OXYGEN
- NITROGEN
- CARBON DIOXIDE
- DUST AND SMOKE

EXPLANATION:

- **WATER VAPOUR**—The presence of water vapour is important for water cycle in nature. Air contains water vapour which condenses to form droplets of water.
- **OXYGEN**— Oxygen as we all know is essential for all living organisms. Burning can occur only in the presence of oxygen.
- **NITROGEN**— The major part of air is nitrogen. It takes up nearly $\frac{4}{5}$ th of the space that air fills.

EXPLANATION:

- **CARBON DIOXIDE**– In a closed room if there is a material that is burning, you may have felt suffocation. This is due to excess of CO_2 . Carbon dioxide makes up a small component of air around us. Plants and animals consume oxygen for respiration and produce carbon dioxide.
- **DUST AND SMOKE**–The burning of fuel also produces smoke. Smoke contains a few gases and fine dust particles and is often harmful. That is why you see long chimneys in factories. This takes the harmful smoke and gases away from our nose.

HOW DOES OXYGEN BECOME AVAILABLE TO ANIMALS AND PLANTS LIVING IN WATER AND SOIL?

Living things on land breathe in oxygen present in air. The air you breathe in through your nose goes into your lungs. Here the oxygen is absorbed from the air and used by the body. Living things that live under the soil breathe in air present in the soil.

Some animals that live in water e.g whales come up to the water surface to breathe in oxygen dissolved in water. Fishes have organs called gills, when the water passes through gills, oxygen dissolved in the water is absorbed.

HOW IS OXYGEN IN THE ATMOSPHERE REPLACED?

In the process of photosynthesis plants make their own food and oxygen is produced along with it. Plants also consume oxygen for respiration but produce more of it than they consume. That is why we say plants produce oxygen. It is obvious that animals cannot live without plants. The balance of oxygen and carbon dioxide in the atmosphere is maintained through respiration in plants and animals and by photosynthesis in plants. This shows the interdependence of plants and animals.

USES OF AIR

- Air helps in pollination of several flowers.
- Birds, insects and bats are able to fly because of the presence of air.
- Air plays an important role in the water cycle.
- Aeroplanes, helicopters, balloons, parachutes and yatchs work because of air.
- The wind makes windmills rotate. The windmillsare used to draw water from tube wells and run flour mills. It is now being widely used to generate electricity.