

CHAPTER 15: AIR AROUND US

CLASS –VI
SCIENCE
MODULE 1 /1



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CHAPTER 15: AIR AROUND US



We can feel the presence of air when the leaves of trees rustle and pages on an open book begin fluttering when the fan is switched on. The moving air makes it possible for you to fly your kite.

WIND

- The moving air is called wind.



- WEATHERCOCK

A weathercock is used to find the direction in which the air is moving at that place.

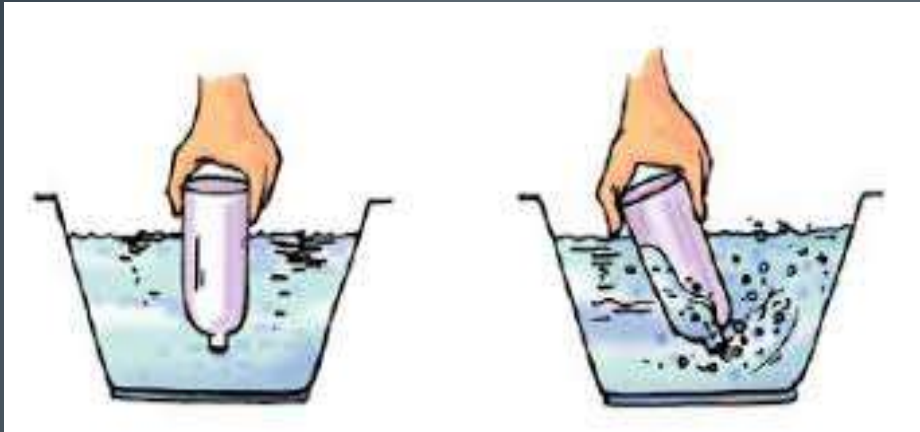


PROPERTIES OF AIR

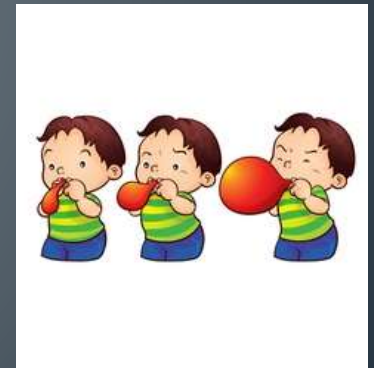
- 1. Air is colourless , odourless, and tasteless gaseous substance
- 2. It occupies space 3. Air is transparent 4. Air is a mixture of different gases.
- **ATMOSPHERE**
- **The envelope of** air that surrounds the earth is called atmosphere.
- Mountaineers carry oxygen cylinders as they go higher up , the amount of air decreases.



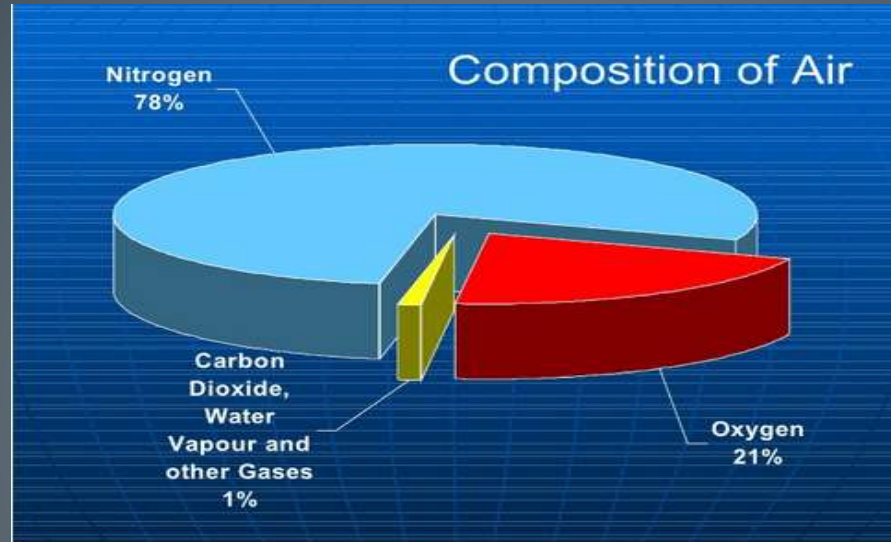
AIR OCCUPIES SPACE



Take an empty glass bottle .It is not really empty, something is inside it. Now hold the bottle in inverted position. The inverted glass bottle is put in water ,the water does not enter the inverted bottle because the bottle is filled with air. Now tilt the bottle .Air present in the bottle goes out in the form of bubbles. As the air from the bottle escapes ,water starts entering the glass bottle and occupies the place of air.



COMPOSITION OF AIR



Air contains mostly nitrogen and oxygen. In fact, these two gases together make up 99% of the air. The remaining 1% is constituted by carbon dioxide and a few other gases and water vapour.

COMPONENTS OF AIR

WATER VAPOUR

Air contains water vapour .The presence of water vapour in air is important for the water cycle in nature.

NITROGEN

The major part of the air is formed of nitrogen. It does not support the process of burning. Nitrogen gas is needed by plants to make proteins.

OXYGEN

Oxygen gas present in the air is essential for respiration. It is a colourless and odourless gas. Oxygen supports burning so it is necessary for the process of burning.

ACTIVITY TO SHOW THAT OXYGEN SUPPORTS BURNING.

AIR (OXYGEN) SUPPORTS BURNING



The part of air that supports burning is called OXYGEN.

- In the presence of your teacher ,fix two small candles of the same length on a table .Light both the candles. Cover one of the candle with an an inverted glass tumbler. Observe both the candles carefully. After a short time the candle which is covered stops burning, whereas the other candle continued burning. It seems that the candle got extinguished because the component inside the glass tumbler which supports burning ,is limited. Most of it is used while burning. However , the other candle is getting continuous supply of oxygen.

- **CARBON DIOXIDE**

- Carbon dioxide makes up a small component of the air. The carbon dioxide present in the air is important for plants. Green plants need carbon dioxide to prepare food.

- **Dust and smoke**

- The burning of fuel also releases smoke. Smoke contains a few gases and fine dust particles which is harmful.

- Policeman regulating traffic often wears mask

- to protect himself from smoke emitted by

- vehicles around him.



ACTIVITY TO SHOW THAT WATER CONTAINS AIR.



Take water in a beaker and heat it. Before the water begins to boil watch carefully. Tiny bubbles appear on the inside of the beaker. These bubbles are the air which was dissolved in water.

ACTIVITY TO SHOW THAT SOIL HAS AIR IN IT.

- Take a lump of dry soil in a beaker or a glass. Add water to it. We can see bubbles coming out from soil. These bubbles indicate the presence of air in the soil. When the water is poured on the lump of soil, it displaces the air which is seen in the form of bubbles.

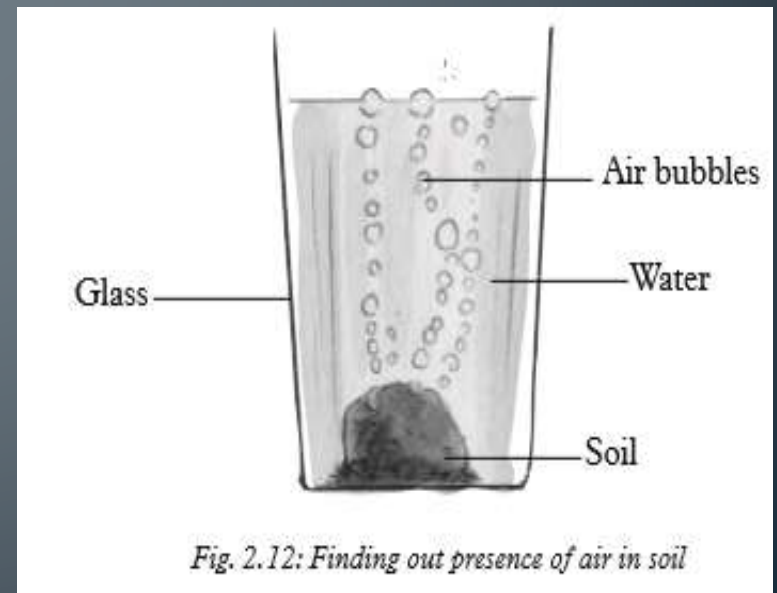


Fig. 2.12: Finding out presence of air in soil

Aquatic organisms use the oxygen dissolved in water for breathing.

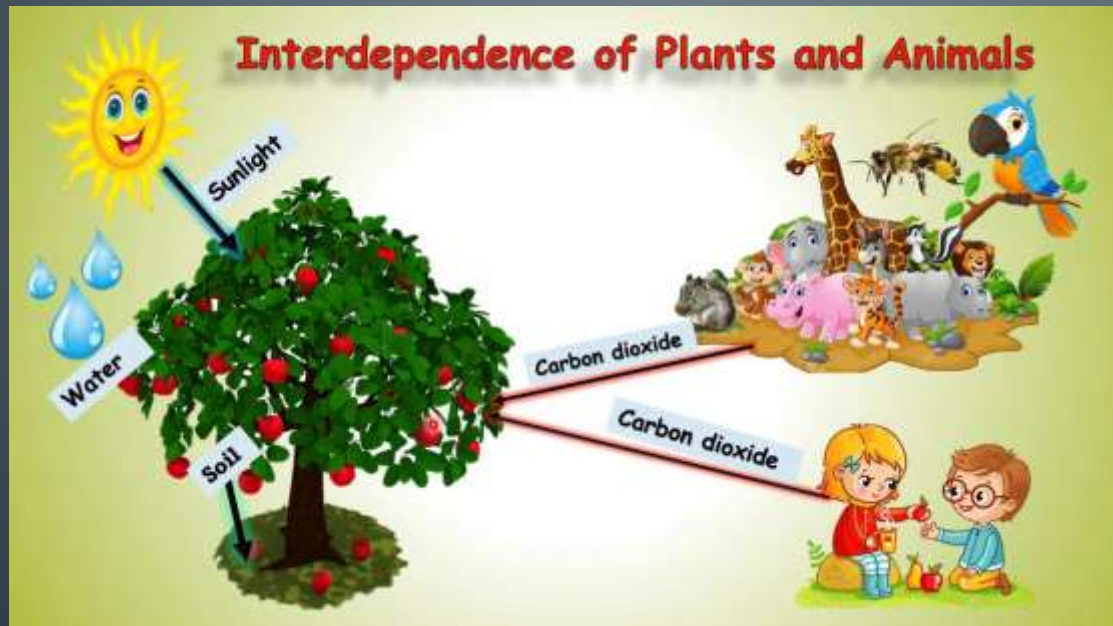


The animals which live inside the soil get oxygen for breathing from the air present between the soil particles.



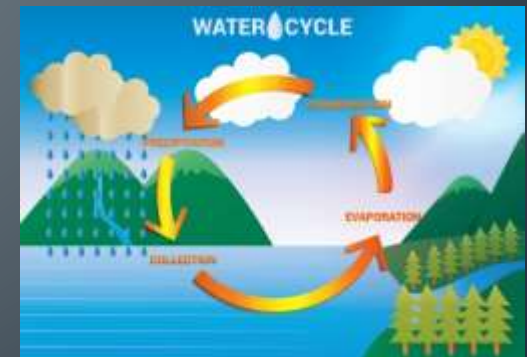
INTERDEPENDENCE OF PLANTS AND ANIMALS

- The balance of oxygen and carbon dioxide in the atmosphere is maintained through respiration in plants and animals and by the photosynthesis in plants.
- This shows the interdependence of plants and animals.



USES OF AIR.

- The wind makes the wind mill rotate. The windmill is used to draw water from tube wells and to run flour mills. Windmills are also used to generate electricity.
- Air helps in the movements of sailing yachts, gliders, parachutes and aeroplanes.
- Birds, bats and insects can fly due to the presence of air.
- Air also helps in the dispersal of seeds and pollen of flowers of several plants.
- Air plays an important role in water cycle.





Thank You