



Uses of Air

Introduction

Air is an essential component of life and plays a vital role in various natural and human activities. It consists of different gases, including oxygen, carbon dioxide, and nitrogen, which serve specific purposes in the environment.

i. Air is Needed for Burning (Combustion)

- Air supports burning, also known as combustion.
- The oxygen present in the air is essential for the burning process.

Activity to Demonstrate:

Light a candle using a matchstick and fix it on a plate.

Cover the burning candle with a glass.

- **Observation:** The candle will go out in a few seconds.

Explanation:

- The candle continues to burn for some time because of the available air inside the glass.
- Once the oxygen is used up, the candle flame extinguishes.
- During combustion, oxygen is consumed, and carbon dioxide is released.

ii. Air is Needed for Breathing (Respiration)

Oxygen in the air is essential for the survival of all living organisms.

Breathing involves two processes:

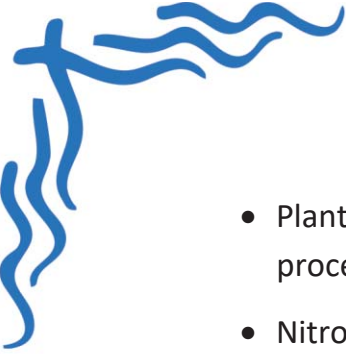
- **Inhalation:** Taking in oxygen-rich air.
- **Exhalation:** Releasing carbon dioxide and other gases.
- An average person inhales about 16 kg of air daily to sustain life processes.

Fun Fact:

- The air we breathe contains about 21% oxygen, which supports respiration.

iii. Air is Needed by Plants

- Photosynthesis:



- Plants use carbon dioxide (CO₂) from the air to prepare their food through the process of photosynthesis.
- Nitrogen for Growth:
- Air contains nitrogen, which is essential for plant growth.
- Plants absorb nitrogen either directly from the air or from the soil in the form of nutrients.

Conclusion

Air is an invisible yet vital resource necessary for various life processes, including burning, breathing, and plant growth. Understanding its importance helps us appreciate the role air plays in sustaining life on Earth.