



Air and its Components

What is Air?

Air is an invisible yet essential part of our lives. It surrounds us and supports life on Earth. When we breathe in, our lungs fill up with oxygen, which is transferred to our bloodstream to sustain our body functions. Without air, life, including plants, animals, and humans, would not be possible.

A thick blanket of air, called the atmosphere, envelops the Earth. This atmosphere is crucial for life, providing oxygen for animals and carbon dioxide for plants. Without it, life as we know it would not exist.

Composition of Air

Air is not a single gas but a mixture of various gases and other components. The primary components of air include:

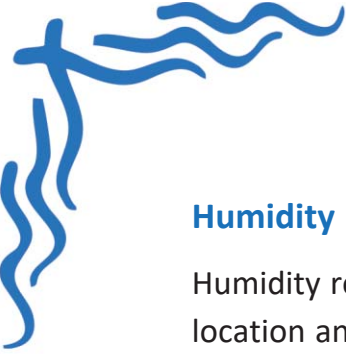
- Nitrogen (78%) – The most abundant gas in the atmosphere, nitrogen is essential for plant growth as it is a vital part of the nitrogen cycle.
- Oxygen (21%) – This gas is essential for respiration in animals and humans.
- Other Gases (1%) – Small amounts of gases like argon, carbon dioxide, neon, helium, hydrogen, and others are also present in the atmosphere.
- Water Vapour – Air also contains varying amounts of water vapour, which plays a crucial role in the water cycle.
- Dust and Smoke – These impurities enter the atmosphere from both natural and human activities and can affect air quality.

Did You Know?

- Indoor air is estimated to be five times more polluted than outdoor air.
- As temperatures rise, it's beneficial to let in fresh air to maintain a healthy environment.

Air as Matter

Matter is anything that has mass and occupies space. Since air meets these criteria, it is classified as matter. To prove that air has mass and takes up space, various experiments can be conducted, which will be discussed later.



Humidity

Humidity refers to the amount of water vapour present in the air. It varies based on location and weather conditions. Areas near large water bodies, like seas or oceans, tend to have higher humidity. For example, Mumbai experiences higher humidity than Delhi because of its proximity to the sea.