

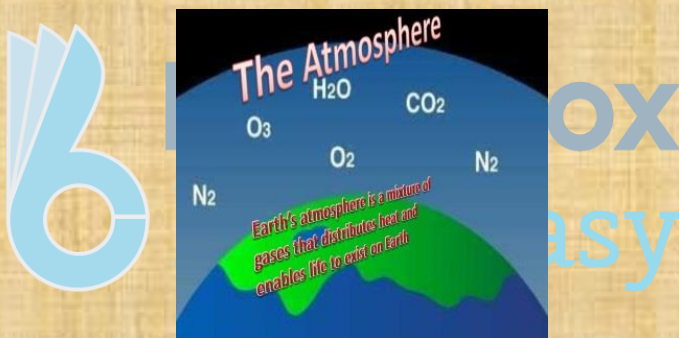
## CHAPTER 08

# AIR, WINDS AND CYCLONES

## AIR AND WIND:

Air, we find it everywhere but we cannot see it. Once breathe in the air around you and you feel relaxed. We all know about the atmosphere. The atmosphere is like a thin blanket of air covering the earth. Air is like a chemical solution containing a mixture of gases.

It consists of oxygen and carbon dioxide, which are essential to us. We breathe in oxygen and breathe out carbon dioxide. Plants do the opposite. They take up carbon dioxide and release oxygen. Nitrogen is the most abundant and three quarters of the air is nitrogen. Other gases like hydrogen, argon, and neon are present in small amounts.



Air is made of matter and has weight. Air exerts pressure. The particles of air push in all directions and the force that exerted are called air pressure. Air can heat up or cool down and thus can become denser and less dense.

The wind is the movement of air due to the pressure difference between two places. In areas, air under high-pressure moves towards the areas of low pressure. Wind speed is measured by using anemometer.

The difference in temperature is also one of the causes of wind.

It is a way of distributing heat throughout the atmosphere. The areas near the equator get much more sunlight energy than polar areas. At the equator, the hot air rises, and at the poles, the cool air sinks.

## Why does the wind move at all? Why do we get these pressure differences?

It is due to the rising and sinking of the air in the atmosphere. We all know that the hot air rises and cold air sinks. Hot air is lighter than cold air. The areas where the air is rising have lower pressure and where it is sinking has higher pressure.



## Why does hot air rise and cold air sink?

Again, it all starts with the sun. Whenever sunlight strikes the Earth, it heats things unevenly. The energy transfers from the Sun to soil, rocks, and trees in the form of heat. This heat causes the air molecules near the earth's surface to move faster. As they do, they spread out – the air becomes less dense. The less-dense hot air rises up and denser cold air rushes in to fill the void it leaves behind. That rising and rushing is wind. Because the sun creates hotter and cooler regions, the wind creates whenever there are gases in the atmosphere. Wind distributes the heat equally around the world.

Wind blowing at a certain speed is called breeze. When it is soothing, we call it a breeze and when it is harsh, we call it wind.

