Atmosphere

Atmosphere: Composition and Importance

The atmosphere: is the layer of air that surrounds the Earth. It is made up of a mixture of gases, the most important of which are nitrogen, which forms 78% of its components, and oxygen, which forms 21%, while the remaining gases (argon and carbon dioxide) form only 1% of its components.

Atmosphere Importance

The sun is the main source of energy on the surface of the Earth.

The atmosphere has essential functions for the continuation of life on the surface of the Earth; the atmosphere:

- A natural reservoir for gases.
- A shield that protects the Earth from meteorites, meteors, and harmful radiation.
- The medium in which different weather phenomena form.
- It works to regulate the spread of light on the surface of the Earth.
- It works to regulate and distribute temperatures through the greenhouse gas phenomenon.

> Greenhouse gases: These are gases that exist in the atmosphere and absorb infrared radiation that is reflected by the Earth, which reduces the amount of heat energy lost from the Earth, which makes it contribute to heating the Earth's atmosphere, and it is useful within its natural concentration.

Atmosphere Layers

- The troposphere: The troposphere forms from 75% to 80% of the mass of the atmosphere, and it extends from sea level and reaches an average height of 18 km, and in it living organisms live, clouds form and rain falls. And its characteristics are a decrease in temperatures by an average of one degree every 150 meters as you go higher.
- The stratosphere: It extends from the top of the troposphere to about 50 km above sea level, and it is characterized by less turbulent weather conditions than the troposphere; so passenger planes fly in its lower part. And the temperature rises as the altitude increases, and in this layer is the ozone layer that absorbs harmful ultraviolet radiation.
- The mesosphere: This layer extends to a height of 85 km above sea level, and in it meteorites burn, and it is characterized by a decrease in temperature as the altitude increases.
- The thermosphere: It extends to a height of 800 km above sea level, and the temperatures in this layer rise significantly, and many satellites rotate in it.
- The exosphere (outer layer): It extends to more than 1000 km above the surface of the Earth, and it contains a low concentration of hydrogen and helium.