

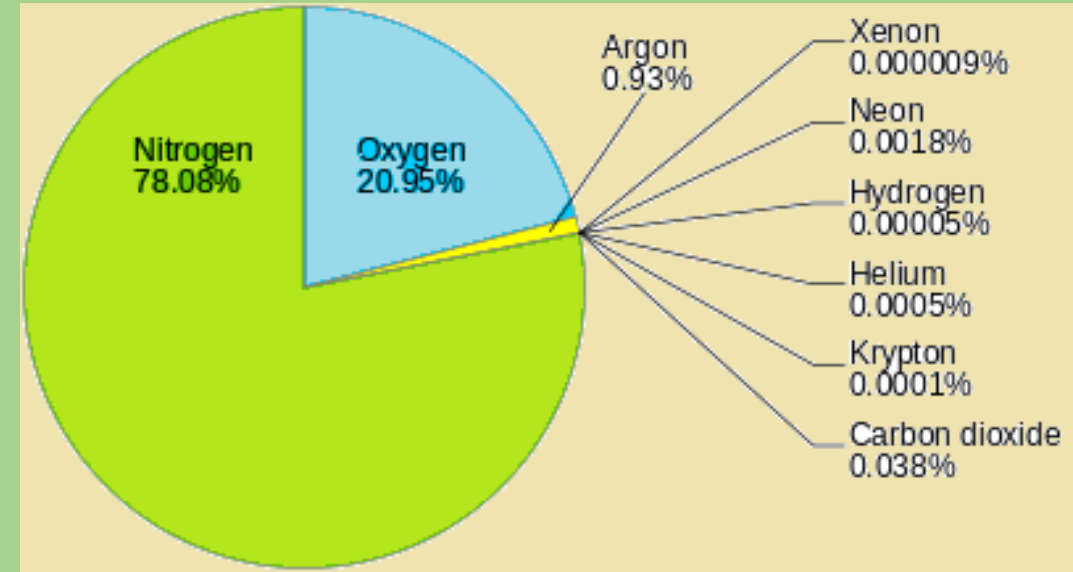
SRUCTURE OF ATMOSPHERE

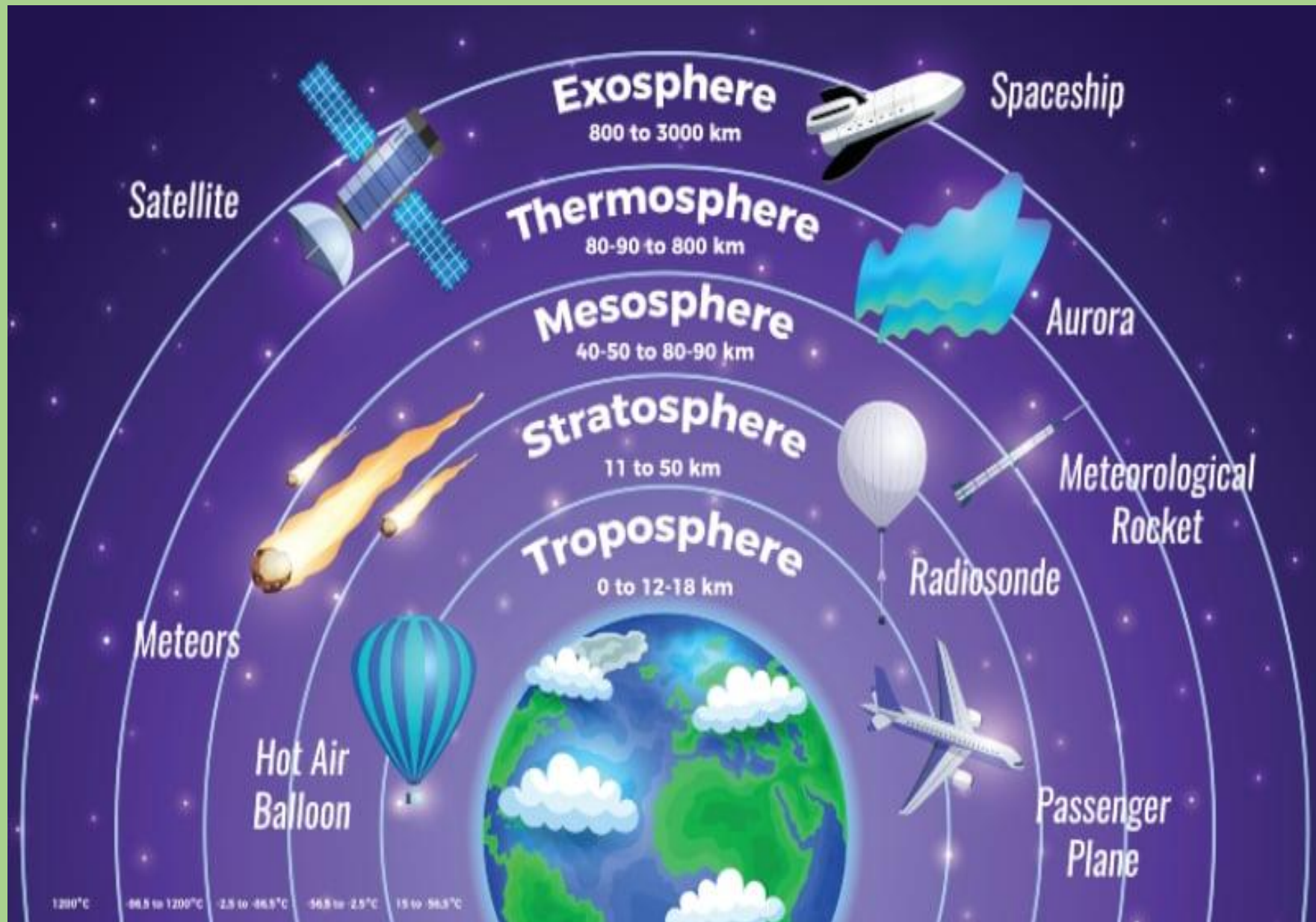
Objectives of Environmental Studies

- To clarify modern environmental concepts like how to conserve Biodiversity?
- To know more sustainable way of living
- To use natural resources more efficiently.
- To know the behaviour of organisms under normal circumstances.
- To know the inter relationship between organisms in populations and communities.
- To aware and educate people regarding environmental issues and problems at local, national and international levels.

Atmosphere

- The thin envelope or blanket of gases forming a protective covering around the Earth.
- The atmosphere of Earth is composed of nitrogen (78%), oxygen (21%), argon (0.9%), carbon dioxide (0.04%) and trace gases including nitrous oxides, methane, helium, neon and ozone.
- Because of atmosphere life is possible on earth as all living animals & plants on the earth need the atmosphere to survive.





Troposphere

- The troposphere starts at the surface of the earth and goes up to a height of 8 kms (poles) to 18 kms (equator).
- The troposphere contains approximately 80% of the total mass of the atmosphere and the bulk of all water vapour, clouds, weather, and air pollution.
- All kinds of weather changes occurs within this layer.
- Temperature decreases with increasing height of atmosphere at the rate of 1 degree Celsius for every 165 m of height. This is called **Normal lapse rate**.
- Tropopause, the transitional zone, separates Troposphere and Stratosphere.

Stratosphere

- It is the second layer of the atmosphere found above the troposphere.
- It extends up to a height of 50 km from the earth's surface.
- This layer is very dry as it contains little water vapour.
- This layer provides some advantages for flight because it is above stormy weather and has steady, strong, horizontal winds.
- The ozone layer is found in this layer.
- The ozone layer absorbs UV rays and safeguards earth from harmful radiation.
- Stratopause separates Stratosphere and Mesosphere.

Mesosphere

- The Mesosphere is found above the stratosphere.
- It is the coldest of the atmospheric layers.
- The mesosphere starts at 50 km above the surface of Earth and goes up to 80 km.
- The temperature drops with altitude in this layer.
- By 80 km it reaches -100 degrees Celsius.
- Meteors burn up in this layer before reaching the earth's surface.
- The upper limit is called Mesopause which separates Mesosphere and Thermosphere.

Thermosphere

- This layer is found above Mesopause from 80 to 400 km.
- The lower Thermosphere is called the Ionosphere.
- The ionosphere consists of electrically charged particles known as ions.
- This layer is defined as the layer of the atmosphere of Earth that is ionized by cosmic and solar radiation.
- Radio waves that are transmitted from the earth are reflected by this layer.
- The temperature starts increasing again with increasing height in this layer.
- Aurora and satellites occur in this layer.

Exosphere

- It is the outermost layer of the atmosphere.
- The zone where molecules and atoms escape into space is mentioned as the exosphere.
- It extends from the top of the thermosphere up to 10,000 km.