PRESENTATION ON STRUCTURE OF ATMOSPHERE

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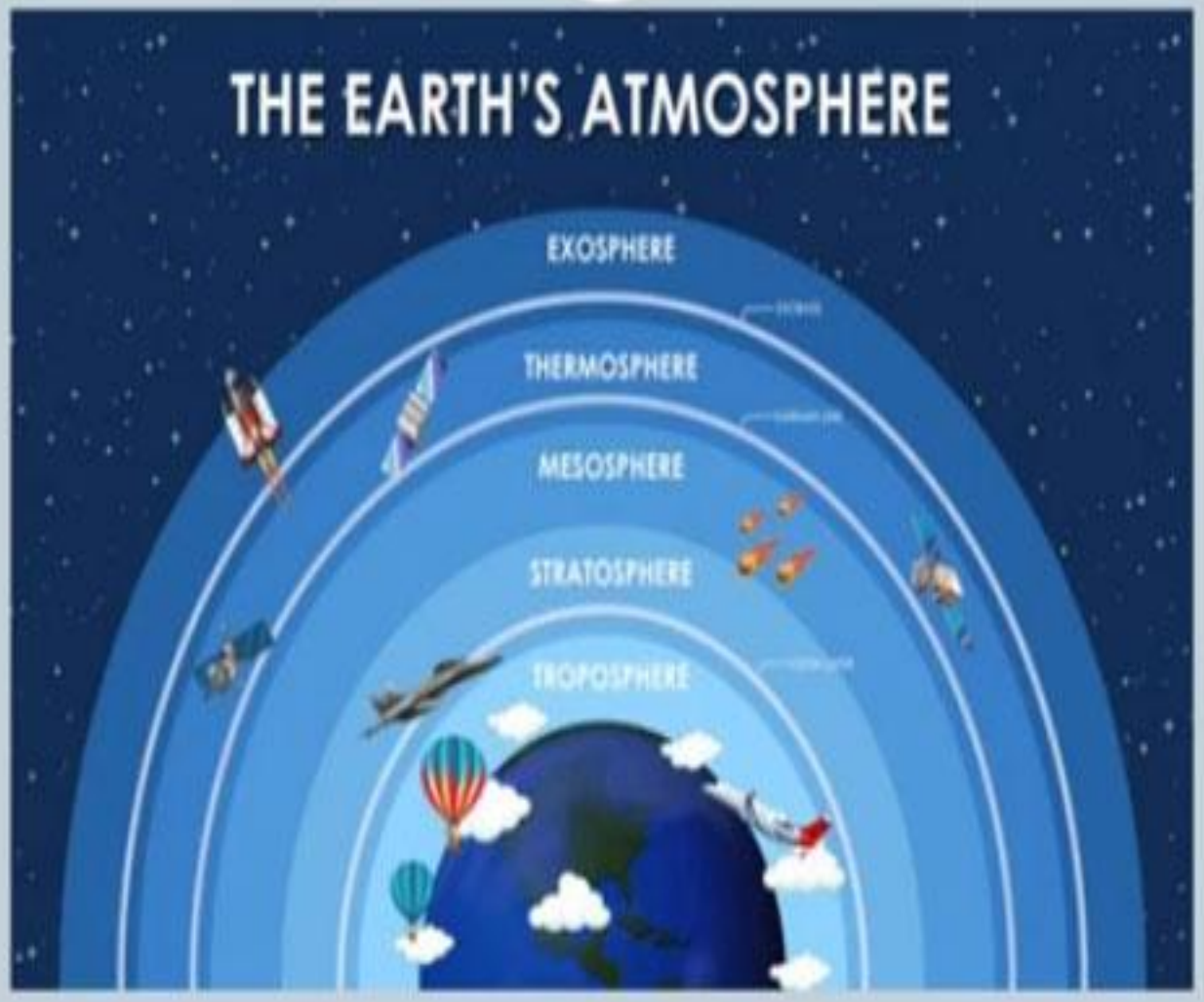
INTRODUCTION

An atmosphere (Greek: ἀτμός + σφαῖρα, *atmos* + *sphaira*, sphere of vapour) is a layer of gas or layers of gases that envelope a planet, and is held in place by the gravity of the planetary body.

The atmosphere of Earth is composed of nitrogen (78%), , oxygen (21%), argon (0.9%), carbon dioxide (0.04%) and trace gases.

Most organisms use oxygen for respiration; lightning and bacteria perform nitrogen fixation to produce ammonia that is used to make nucleotides and amino acids ; plants, algae, and cyanobacteria use carbon dioxide for photosynthesis. The layered composition of the atmosphere minimises the harmful effects of sunlight, ultraviolet radiation, the solar wind, and cosmic rays to protect organisms from genetic damage.

STRUCTURE OF ATMOSPHERE



TROPOSPHERE

The lowest portion of the atmosphere is the troposphere, a layer where temperature generally decreases with height. This layer contains most of Earth's clouds and is the location where weather primarily occurs.

The **troposphere** is the layer closest to Earth's surface. It is 4 to 12 miles (7 to 20 km) thick and contains half of Earth's atmosphere. Air is warmer near the ground and gets colder higher up.

STRATOSPHERE

The **stratosphere** is the second layer. It starts above the troposphere and ends about 31 miles (50 km) above ground. Ozone is abundant here and it heats the atmosphere while also absorbing harmful radiation from the sun. The air here is very dry, and it is about a thousand times thinner here than it is at sea level. Because of that, this is where jet aircraft and weather balloons fly.

MESOSPHERE

The **mesosphere** starts at 31 miles (50 km) and extends to 53 miles (85 km) high. The top of the mesosphere, called the mesopause, is the coldest part of Earth's atmosphere, with temperatures averaging about minus 130 degrees F (minus 90 C). This layer is hard to study. Jets and balloons don't go high enough, and satellites and space shuttles orbit too high. Scientists do know that meteors burn up in this layer.

THERMOSPHERE

The **thermosphere** extends from about 56 miles (90 km) to between 310 and 620 miles (500 and 1,000 km). Temperatures can get up to 2,700 degrees F (1,500 C) at this altitude. The thermosphere is considered part of Earth's atmosphere, but air density is so low that most of this layer is what is normally thought of as outer space. In fact, this is where the space shuttles flew and where the International Space Station orbits Earth.

EXOSPHERE

The **exosphere**, the highest layer, this layer extends upto 10000KM above the earths surface and it is extremely thin and is where the atmosphere merges into outer space. It is composed of very widely dispersed particles of hydrogen and helium.

FACTS ABOUT ATMOSPHERE

1. It's thought that the atmosphere that surrounds the Earth has been there since its formation 4.5 billion years ago.
2. Earth's atmosphere is estimated to weight around 5.5 quadrillion tons.
3. The atmosphere extends out from the surface to a distance of around 10,000km.

4. Our wind and clouds are all a result of our atmosphere – the wind is caused by differences in atmospheric pressure.

5. However, our atmosphere has developed and changed a lot through time. It's thought that Earth's original atmosphere was just carbon dioxide, with smaller amounts of oxygen.

THANK YOU