

Q) What is the sequence of strata of atmosphere and on what factors does it depend?

Introduction:

The atmosphere is a gaseous layer surrounding the Earth. These gases are attracted by the gravity of the planet and retained for a longer duration by the gravity is high and the temperature of the atmosphere is low. Nitrogen and Oxygen are two major gases that makes up the most of the atmosphere and essential for maintaining life and driving a number of processes near the surface of the Earth.

The Strata of Atmosphere:

1. Troposphere:

Troposphere starts at the Earth's surface and goes up about 12 km. Human life exists in this layer and this is where weather happens. This is the layer where the commercial air crafts fly. The temperature and air pressure decreases as you go higher into the troposphere. At the top of the troposphere, there lies the Tropopause, which acts like a lid on the troposphere preventing air from rising upwards into stratosphere.

700-1000 km		Exosphere	Satellite station
80 km	mesopause	Thermosphere	Aurora
50 km	Meteor	Mesosphere	
10 km	Tropopause	Stratosphere	Weather balloon
0 km		Troposphere	

Date: / / 202 Stratosphere:

This layer starts at about 10 km and goes to about 50 km high. Here, the air doesn't flow up or down, but flows parallel to the Earth in a very fast moving air stream. The Ozone layer exist in this layer, also called Ozonosphere, which absorbs ultraviolet light that can be harmful to life on Earth. The top edge of the stratosphere is abundant with ozone.

3 Mesosphere:

The altitude of the mesosphere is approximately 50 km. The temperature of this area is the coldest of all, approximately -130°C . Almost 99.9% of the gases that comprise the atmosphere lie below this area. The air pressure is really low and the air is thin. Mesopause separates the mesosphere from the thermosphere above. Mesosphere is the place where meteors burn.

4 Thermosphere:

The last layer of the atmosphere, contains less than 0.01% of all air. The temperature in this layer is really high. The energetic oxygen molecules in this layer absorbs incoming solar radiation which results in a really high temperature. The outer edge of the thermosphere is called Ionosphere, which is an electrified field of ions and free electrons that absorbs UV radiation.

Discuss the factors separately

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Exosphere:

This is the outer most part of the atmosphere, where the satellites travel. This layer blends into outer space. The temperature of this layer can be really high, but can change depending on the location of the Earth.