

Class 7

Geography

Chapter 4 Atmosphere

I Multiple Choice questions.

1. Troposphere
2. Ozone
3. Nitrogen
4. Global Warming
5. Stratosphere

II Very Short Answer Type Questions

1. The total mass of air surrounding our Earth is known as the atmosphere.
2. Nitrogen, oxygen, argon, carbon dioxide, neon, helium etc. are the major gases of the atmosphere.
3. Troposphere is the lowermost layer of the atmosphere.
4. Any gas that causes the greenhouse effect is called a greenhouse gas.
5. Troposphere, Stratosphere, Mesosphere, Thermosphere and exosphere are the five layers of the atmosphere.

III Short Answer Type Questions

1. A combination of various gases, like nitrogen, oxygen, argon, carbon dioxide, helium, neon, hydrogen, ozone etc.

Table- Composition of the atmosphere (page number 229) Draw

Diagram Composition of the Atmosphere (page number 229) Draw

2. (1) our atmosphere has a layered structure, as the concentration of different gases vary with their height from the Earth's surface.

(2) the dense and heavy gases like nitrogen, Oxygen, carbon dioxide, etc. are found near the Earth's surface, while the lighter gases are found at higher altitudes.

(3) Based on temperature, the atmosphere is divided vertically into five layers. These five layers are troposphere, stratosphere, mesosphere, thermosphere and exosphere.



3. The atmosphere is important for us because:-

- (1) It acts as a huge blanket which provides a protective shield against extreme heat.
- (2) It acts as a greenhouse by keeping the earth warm.
- (3) It provides us air to breathe.
- (4) Communication is possible due to the presence of the atmosphere.
- (5) It provides us rain and other weather phenomena.
- (6) The atmosphere protects us from the falling debris from the space.

4. Five layers of atmosphere are:-

- (1) Troposphere- This is the layer that immediately surrounds us.
- (2) Stratosphere- It lies above the tropopause.
- (3) Mesosphere- This is the third layer of the atmosphere.
- (4) Thermosphere- It extends from Mesosphere to exosphere.
- (5) Exosphere- It is the uppermost layer of the atmosphere.

IV. Long answer type questions.

1. Troposphere-

- (1) This is the most important layer of the atmosphere. The air we breathe exists here.
- (2) Due to presence of dust particles and water vapour at lower levels, all the weather phenomena like rainfall, fog and hail storm take place in this layer of atmosphere.
- (3) Exchange of heat and moisture takes place in this layer because on account of this exchange, ocean currents play a significant role in determining climate conditions.
- (4) This extends from Earth's surface to an average height of 13 km.

2. Stratosphere-

- (1) This zone lies above the tropopause and extends upto 50 km.
- (2) The temperature in this layer increases with height after about first 20 km.
- (3) In the zone of first 20 km, there is high ozone concentration. It has formed its own layer.
- (4) Ozone is a form of Oxygen and its chief function is filtering ultraviolet rays of the sun reaching the earth.



2. The green house effect refers to the problem of the gradual rise in temperature of the earth's atmosphere. This is caused by an increase of gases such as carbon dioxide in the air surrounding the earth which traps the heat of the sun. This process of heating up of the earth is termed as the greenhouse effect. Any gas that causes greenhouse effect is called a greenhouse gas.

The outgoing heat is blocked by a carbon dioxide layer and water vapours present in the air. The excess pollutants in atmosphere from this layer. On account of this trapped energy the earth is getting gradually warmer. It is known as global warming.

The global warming, in turn, is causing climate change. It may lead to extinction of some plants and animals in the long run. Many glaciers on high mountains like the Himalayas and Antarctic are melting at a faster rate on account of global warming.

As a result, the sea level is rising, causing floods in the coastal areas.

3. 1 Mesosphere-

- (1) The thermal layer extends upto it came from the upper layer of stratosphere.
- (2) Temperature in this zone decreases with height.
- (3) At the mesopause, the upper layer of this zone, temperature falls to - 95° Celsius.
- (4) Meteorites burn up here on entering from space.

2. Ionosphere-

(1) This is Chief characteristic of thermosphere is formation of ionosphere by electrically charged particle.

(2) These charged particles reflect outgoing radio waves. It makes radio transmission possible on earth's surface.

(3) Radio waves transmitted from the earth are reflected back to the earth by thermosphere.

(4) The reception of radio signals reflected from ionosphere at night is also very good. The northern life called Aurora Borealis and southern lights called Aurora australis. They are visible at night in the hemisphere.

V. Fill in the blanks.

1. Increase of gases.
2. Troposphere
3. Thermosphere



4. Ions

5. 1600 kilometre.

