

ATMOSHERE

A. Fill in the blanks with appropriate words

1. gravity 2. troposphere 3. stratosphere 4. ozone 5. ionosphere

B. Match the rows. 1. (d) 2. (e) 3. (a) 4. (b) 5. (c)

C. Write true or false. Correct the false sentences in your notebook.

1. True 2. False. Ozone and carbon dioxide are trace gases. 3. True 4. False. The stratosphere lies just above the troposphere. 5. False. The ionosphere is a part of the thermosphere.

D. Choose the correct answer. 1. (b) 2. (a) 3. (b) 4. (c) 5. (c)

E. Answer the following questions in one or two sentences:

1. Define the Atmosphere.

Ans: The atmosphere is a layer of gases that surrounds the earth. It is held in place due to the gravity of the earth.

2. Name the two gases that make most of the atmosphere.

Ans: The two gases that make the most of the atmosphere are nitrogen (78 percent) and oxygen (21 percent).

3. What is the lapse rate?

Ans: The rate at which temperature decreases in the troposphere due to the increase in height is known as the Lapse rate.

4. What is ionosphere?

Ans: The ionosphere is the lowest part of the thermosphere. It contains the electrically charged particles called ions that reflects radio waves back to earth and facilitates wireless communications.

F. Give reasons for the following:

1. Why do radio waves gets reflected from the ionosphere?

Ans: The ionosphere has electrically charged particles that reflect radio waves.

2. Why do some meteorites crash into the earth despite the atmosphere burning most of them?

Ans: Some meteors are larger than others so they do not burn completely before reaching the earth’s surface. . The speed at which the meteors travel also causes some meteors to reach earth before they burn up completely.

G. Answer the following questions in four or five sentences:

1. Why is the atmosphere important to us?

Ans: i. The atmosphere is very important because it contains life-supporting gases such as oxygen, nitrogen and carbon dioxide besides a few others.

ii. It helps to maintain a suitable range of temperature on earth. It also helps to circulate the precious water between the ocean and land.

iii. Meteorites burn out while passing through the atmosphere due to friction. Thus, the earth is protected from their disastrous impact.

2. How are nitrogen and carbon dioxide important?

Ans: i. Nitrogen is the most abundant gas in the atmosphere. It helps in the growth of living beings, especially plants.

ii. Plants absorb atmospheric nitrogen with the help of bacteria in the soil. It is the most vital gas for the survival of plant life on earth.

iii. Carbon dioxide absorbs the sun’s heat and thus helps to maintain a suitable temperature on earth.

iv. It also helps plants to produce food through the process of photosynthesis.

3. Explain the main features of the troposphere.

Ans: i. the troposphere lies immediately above the earth’s surface.

ii. It is about 13 km high at the equator and about 8 km high at the poles. All weather changes take place in this layer.

iii. These changes include cloud formations, rain, snow, hail, storms, lightning, thunder, etc.

iv. As we go higher in the troposphere, the air gets thinner and thinner and, therefore, the temperature drops.

4. Differentiate between the stratosphere and the mesosphere.

STRATOSPHERE	MESOSPHERE
The stratosphere is the layer that lies above the troposphere	The mesosphere is situated above the stratosphere

The narrow ozone layer found here protects us from the harmful ultraviolet rays from the sun.	It extends up to 80 km above the earth’s surface.
	This layer is important as it protects the earth by burning through friction most of the meteorites that enter the atmosphere from space.

5. What do you know about the exosphere?

Ans: The exosphere extends up to about 1,600 km and merges into interplanetary space. The air is extremely rarefied. Only traces of lighter gases like helium and hydrogen are found here. The temperature in this zone is estimated to be beyond 5,500 °C