

14. Natural Resources

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Q1. How is our atmosphere different from the atmosphere on Venus and Mars?

Ans: Earth's atmosphere is quite different from the atmosphere present on Venus and Mars. The atmosphere of earth consists of Nitrogen 79%, Oxygen 21% and Carbon dioxide in very less percentage. Venus and Mars, where no life is known to exist, the major component of the atmosphere is found to be carbon dioxide. In fact, carbon dioxide constitutes up to 95-97% of the atmosphere on Venus and Mars.

Q2. How does the atmosphere act as a blanket?

Ans: The air is bad conductor of temperature. It keeps constant the average temperature of the earth during the day and the whole year. It regulates the raising day temperature. Thus the atmosphere act as a blanket.

Q3. What causes winds?

Ans: The uneven heating of the atmosphere in different regions of the Earth like earth's surface and water surface cause winds. On heating up the air creating a low pressure region. The movement of air from high pressure region to low pressure region creates winds.

There are other factors that influence these winds:

- (i) The rotation of the Earth.
- (ii) The presence of mountain ranges in the paths of the wind.

During the day, the direction of the wind would be from the sea to the land. At night, both land and sea start to cool. Since water cools down slower than the land, the air above water would be warmer than the air above land.

Q4. How are clouds formed?

Ans: When water bodies are heated during the day, a large amount of water evaporates and goes into the air. Some amounts of water vapour also get into the atmosphere because of various biological activities. This air also gets heated. The hot air rises up carrying the water vapour with it. As the air rises, it expands and cools.

Thus vapours condense onto a tiny droplet salt particle called condensation nuclei which form clouds.

Q5. List any three human activities that you think would lead to air pollution.

Ans: Three human activities leading to air pollution are as follows;

- (i) Combustion of fossil fuels like coal and petroleum.
- (ii) Deforestation that causes reduction of carbon dioxide utilisation.
- (iii) Toxic smoke of industries and colloidal particles of incomplete combustion of carbon smog and fog.

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Q1. Why do organisms need water?

Ans: Organisms need water because;

- (i) All cellular processes take place in a water medium.
- (ii) All the reactions that take place within our body and within the cells occur between substances that are dissolved in water.
- (iii) Substances are also transported from one part of the body to the other in a dissolved form.
- (iv) Hence, organisms need to maintain the level of water within their bodies in order to stay alive.

Q2. What is the major source of fresh water in the city/town/village where you live?

Ans: River and ground water.

Q3. Do you know of any activity which may be polluting this water source?

Ans: There are following activities that polluting this water source.

- (i) Adding poisonous and harmful chemical substances used by industries.
- (ii) Leaving dead and decay body into rivers.
- (iii) Human activities like washing clothes, adding home wastes and sewage water etc.

Page 196.**Q1. How is soil formed?**

Ans: The rocks at or near the surface of the Earth are broken down by various physical, chemical and some biological processes. This broken down rocks fine particles forms soil.

Q2. What is soil erosion?

Ans: The upper most layer of soil contains humus and it is quite fertile. It is also lighter. Sometimes soil of this layer carried out by water or wind. The process of removing of soil surfaces is known as soil erosion.

Q3. What are the methods of preventing or reducing soil erosion?

Ans: Deforestation is the main cause of soil erosion, so preventing or reducing this we should encourage the plantation in very large scale. Because the roots of plants ties soil and it stops the removal of soil surface.

Page 201.**Q1. What are the different states in which water is found during the water cycle?**

Ans: The different states in which water is found during the water cycle, solid, Liquid and Gas

Q2. Name two biologically important compounds that contain both oxygen and nitrogen.

Ans:

- (i) Amino acids
- (ii) Deoxyribonucleic acid (DNA) and Ribonucleic acid (RNA)

Q3. List any three human activities which would lead to an increase in the carbon dioxide content of air.

Ans:

- (i) Excessive using/burning fossil fuels in various process like coal, petrolium and industrial uses.
- (ii) Release of harmful gases from vehicles.
- (iii) Human Induces forest in fire and deforestation causes decreased uptake of carbon dioxide and releasing of oxygen.

Q4. What is the greenhouse effect?

Ans: Some gases like carbon dioxide, methane, carbon monoxide and nitrous oxide absorb heat present in atmosphere and prevent the escape of heat from the Earth. This heat is trapped by our atmosphere. This is an atmospheric phenomenon. An increase in the percentage of such gases in the atmosphere would cause the average temperatures to increase worldwide and this is called the greenhouse effect.

Q5. What are the two forms of oxygen found in the atmosphere?

Ans: The two forms of oxygen found in atmosphere are as follows;

- (i) Diatomic molecular atom with chemical formula O_2 .
- (ii) Triatomic molecular atom with chemical formula O_3 .

Exercise:

Q1. Why is the atmosphere essential for life?

Ans: Atmosphere is very essential for life because of following reasons;

- (i) It keeps the average temperature of earth rather steady.
- (ii) Oxygen is available from atmosphere in the form of life air.
- (iii) Ozone layer of our atmosphere protect us from harmful radiation coming from the sun.

Q2. Why is water essential for life?

Ans: Water is essential for life because;

- (i) All cellular processes take place in a water medium.
- (ii) All the reactions that take place within our body and within the cells occur between substances that are dissolved in water.
- (iii) Substances are also transported from one part of the body to the other in a dissolved form.
- (iv) organisms need to maintain the level of water within their bodies in order to stay alive.

Q3. How are living organisms dependent on the soil? Are organisms that live in water totally independent of soil as a resource?

Ans: Living organisms are dependent on soil because;

- (i) Soil is an important resource that decides the diversity of life in an area.
- (ii) The minerals found in this upper layer (Crust) supply a variety of nutrients to life-forms.

(iii) Soil also contains various forms of microscopic life and they get their all forms of need from soil.

(iv) All green plants grow in soil those are used as food energy by animals.

Q4. You have seen weather reports on television and in newspapers. How do you think we are able to predict the weather?

Ans: Students do this themselves.

Q5. We know that many human activities lead to increasing levels of pollution of the air, water-bodies and soil. Do you think that isolating these activities to specific and limited areas would help in reducing pollution?

Ans: Students do this themselves.

Q6. Write a note on how forests influence the quality of our air, soil and water resources.

Ans:

(i) Forests is one of the most important natural resource. Forests also keep balance between carbon dioxide and oxygen. They take CO_2 for photosynthesis and release oxygen from this process. In another process called respiration they take O_2 and release CO_2 .

(ii) Forests prevent soil erosion. the roots of plants hold soil tightly and prevent thier removal by water and wind. Their dead and decay leaves form humus for soil and gain fertility.

(iii) Forests play an important role in maintaining water cycle by transpiration. In the process of transpiration they release water vapour.