

Board –CBSE

Class –10th

Topic – Our Environment

1. Why are some substances biodegradable and some non-biodegradable?

Ans. Some substances such as metal, glass, plastic, etc. which cannot be decomposed by the living organisms are non-biodegradable wastes. These substances are non-biodegradable because the micro-organisms do not have enzymes that can digest these substances. Therefore, we classify them as non-biodegradable wastes. Other substances such as paper, vegetable wastes, etc. that can be easily broken down by enzymes are biodegradable wastes.

2. Give any two ways in which biodegradable substances would affect the environment.

Ans. Biodegradable substances affect the environment in the following ways.

(i) The biodegradable substances such as tree leaves, plant parts, and kitchen wastes can be used as humus after composting. This will enhance soil fertility.

(ii) The biodegradable substances mainly contain carbon. These substances after decomposition release that carbon back into the atmosphere.

3. Give any two ways in which non-biodegradable substances would affect the environment.

Ans. Non-biodegradable substances affect the environment in the following ways.

(i) They contaminate soil and water resources as they cannot be decomposed by micro-organisms.

(ii) These substances, when accidentally eaten by stray animals, can harm them and can even cause their death.

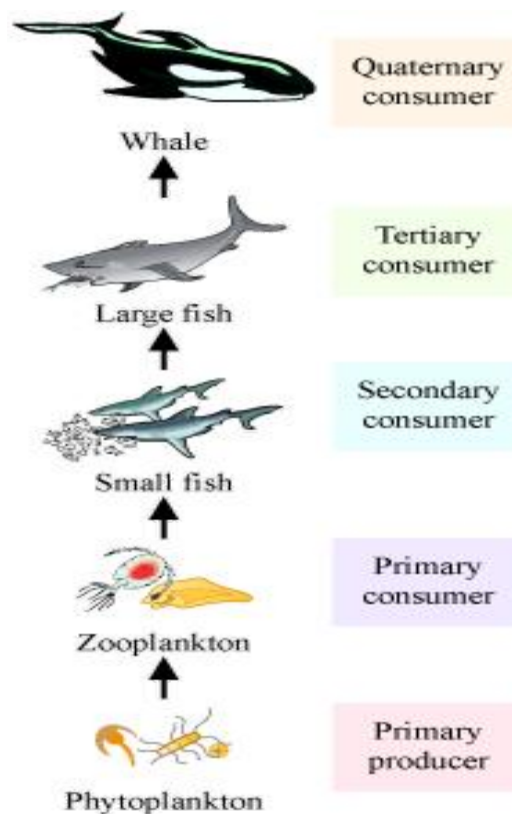
4. What are trophic levels? Give an example of a food chain and state the different trophic levels in it.

Ans. A trophic level is a level of species in an ecosystem on the basis of the source of nutrition such as producers, primary consumers, secondary consumers, etc.

The producers form the first trophic level as they manufacture food. The primary consumers form the second trophic level, the secondary consumers form the third, and the tertiary consumers form the fourth trophic level.



Various trophic levels are connected through food chains. For example, in an aquatic food chain, phytoplankton is the producer, zooplanktons are the primary consumers, and small fish is the secondary consumer, and so on.



Aquatic food chain

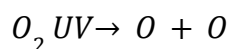
5. What is the role of decomposers in the ecosystem?

Ans. Decomposers include micro-organisms such as bacteria and fungi that obtain nutrients by breaking down the remains of dead plants and animals. They help in the breakdown of organic

matter or biomass from the body of dead plants and animals into simple inorganic raw materials, such as CO_2 , H_2O , and some nutrients.

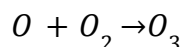
6. What is ozone and how does it affect any ecosystem?

Ans. Ozone is a colourless gas that acts as a screen for ultraviolet radiation. It is continuously formed at the higher levels of the atmosphere due to the action of UV rays on molecular oxygen. The high-energy UV radiations break down O_2 molecules into nascent oxygen.



(Nascent oxygen)

Then, this free oxygen atom combines with an oxygen molecule to form ozone.



(Ozone)

In recent years, the amount of ozone in the atmosphere is getting depleted.

This ozone depletion causes a greater amount of ultraviolet radiation to enter the earth's atmosphere. This has an indirect effect on the ecosystem. (Ecosystem includes both the biological community and the non-living components of an area). It results in the death of many phytoplankton, thereby affecting the process of photosynthesis. Plants utilize atmospheric CO_2 to make their food. In the absence of plants, the levels of CO_2 in the atmosphere will increase, which would, in turn, lead to an increase in global warming.

The depletion in the ozone layer also increases the frequency of infectious diseases as it suppresses the immune systems of both human beings and animals. The frequency of skin cancer also increases in human beings because of the direct exposure to ultraviolet radiation.

7. How can you help in reducing the problem of waste disposal? Give any two methods.

Ans. The problem of waste disposal can be solved by proper waste management including the collection, transport, processing, and disposal of the waste materials.

The problem of waste management can be solved by the following given measures.

- Use separate bins (blue and green) for disposing of non-biodegradable and biodegradable wastes.



Different garbage bins for disposing of biodegradable waste and non-biodegradable waste

- Reduce the usage of non-biodegradable products such as plastics.