

Question 1: Why are some substances biodegradable and some non-biodegradable?

Solution 1: Substances which can be decomposed by microorganisms (decomposers) are called biodegradable. For example- vegetable wastes, paper, cotton etc. On the other hand, materials which cannot be decomposed by the action of microorganisms/decomposers are called non-biodegradable. For example- plastic, glass, polyethene etc.

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

Solution 2: (a) Biodegradable waste serve as breeding ground for flies and mosquitoes which are carriers of diseases like cholera, malaria etc. (b) They produce foul smell and thus can lead to air pollution.

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

Solution 3: (a) Non-biodegradable wastes do not disintegrate into the environment and thus accumulate.

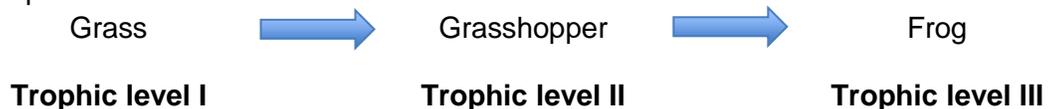
(b) They pollute the land and water.

(c) Non-biodegradable waste accumulation is a grave problem on the global level.

Question 1: What are trophic levels? Give an example of a food chain and state the different trophic levels in it.

Solution :1. Each step in a food chain constitutes a trophic level.

For example:



Question 2:

What is the role of decomposers in the ecosystem?

Solution 2:

Decomposers feed on the dead and decaying matter. They help in cleaning the environment.

Question 1:

What is ozone and how does it affect any ecosystem?

Solution 1:

Ozone is a form of oxygen. Molecular formula of ozone is O₃. It is present at a higher

level in the atmosphere. It prevents the harmful UV rays from reaching the earth. UV rays may cause skin cancer, cataracts and loss of plant and animal life due to radiation.

Question 2:

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

Solution 2:

The following measures can be adopted for reducing the problem of waste disposal:

- a. Reduce, reuse and recycle.
- b. Adopt smart disposal methods like separate dustbins for different types of wastes.

Question 1:

Which of the following groups contain only biodegradable items?

- (a) Grass, flowers and leather
- (b) Grass, wood and plastic
- (c) Fruit-peels, cake and lime-juice
- (d) Cake, wood and grass

Solution 1:

(c) and (d)

Question 2:

Which of the following constitute a food chain?

- (a) Grass, wheat and mango
- (b) Grass, goat and human
- (c) Goat, cow and elephant
- (d) Grass, fish and goat

Solution 2:

(b)

Question 3:

Which of the following are environmental- friendly practices?

- (a) Carrying cloth-bags to put purchases in while shopping
- (b) Switching off unnecessary lights and fans
- (c) Walking to school instead of getting your mother to drop you on her scooter
- (d) All of the above

Solution 3:

(d)

Question 4:

What will happen if we kill all the organisms in one trophic level?

Solution 4:

If we kill all the organisms in one trophic level, the transfer of energy to the next level will stop. It'll lead to over-population at one level. This would disturb the food chain and cause the collapse of the ecosystem.

Question 5:

Will the impact of removing all the organisms in a trophic level be different for different trophic levels? Can the organisms of any trophic level be removed without causing any damage to the ecosystem?

Solution 5:

Yes, the impact of removing all the organisms in a trophic level will be different for different trophic levels.

No, it's not possible to remove organisms of any trophic level without causing any damage to the ecosystem.

Question 6:

What is the biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?

Solution 6:

Biological Magnification:

The accumulation of harmful chemicals in the body of living organisms at different trophic levels in a food chain is called biological magnification.

Yes, the concentration of these harmful chemicals will be different at different trophic levels. It'll be maximum at the highest trophic level.

Question 7:

What are the problems caused by the non-biodegradable wastes that we generate?

Solution 7:

Following are the problems caused by the non-biodegradable wastes that we generate:-

- a. They do not disintegrate and accumulate in the environment.
- b. Harmful non-biodegradable chemicals enter the food chain and cause biological magnification.
- c. They cause air, land, water and soil pollution.
- d. If not treated, the local population of animals, birds, plants and humans is severely affected.

Question 8:

If all the waste we generate is biodegradable, will this have no impact on the environment?

Solution 8:

Excess biodegradable waste will definitely have an impact on the environment. By the action of decomposers, biodegradable waste will be decomposed and release greenhouse gases. These gases will accumulate in the atmosphere causing global warming.

Question 9:

Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?

Solution 9:

Damage to the ozone layer is a matter of global concern. Ozone layer protects life on earth from harmful UV rays of the sun. It acts as a shield against the rays. UV radiations are very harmful as they are carcinogenic in nature to both plants and animals. Exposure to UV rays can cause damage to eyes, skin and the immune system. They can also lead to variations in global rainfall, ecological disturbances and loss of biodiversity. These reasons make ozone depletion a grave concern.

Steps which are taken to limit this damage are as follows:

- (i) Reduction in the use of CFCs which are used as refrigerants and in fire extinguishers.
- (ii) In 1987, the United Nations Environment Programme (UNEP) succeeded in reaching an agreement to stop CFC production at 1986.