

NCERT Solutions for Class 10

Biology

Chapter 15- Our Environment

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

Ans: Substances that might be rotten and diminished to easier substances by microorganisms functioning on are known as biodegradable and people substances that can not be acted upon by microorganisms and aren't diminished into easier substances are units known as non-biodegradable substances. Examples of biodegradables - vegetable wastes, paper, cotton etc. On the opposite hand, materials that can not be rotten by the action of microorganisms/decomposers are non-biodegradable. For example- plastic, glass, polyethene etc.

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

Ans: Two ways within which perishable substances would have an effect on the atmosphere area unit -

- ★ Biodegradable waste is a substance that can be broken down easily and naturally by natural sources like water, oxygen, sun radiation, or microorganisms.
- ★ Biodegradable waste produces a foul smell and that's why they result in pollution.

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:

- ★ They contaminate soil and water resources as they can't be rotten by microorganisms.
- ★ These substances, if accidentally eaten by stray animals, will damage them and might 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 the steps in a food chain.

Consider the following scenario:

For example:

Grass - Trophic level I

Grasshopper - Trophic level II

Frog - Trophic level III

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

Ans: Decomposers eat decomposing and dead materials. They contribute to the clean-up of the environment.

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

Ans: Oxygen in the form of ozone is a type of oxygen. Ozone's molecular formula is O_3 . In the atmosphere, it can be found in higher concentrations. It blocks the sun's damaging ultraviolet radiation from reaching the earth. UV rays have been linked to skin cancer, cataracts, and the extinction of plant and animal life.

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

Ans: The following methods can be taken to alleviate the trash disposal issue:

- Reduce, reuse, and recycle as much as possible.
- Use smart waste disposal techniques such as separate trash cans for different types of waste.

8. Which of the following groups contain only biodegradable items?

- Grass, flowers and leather
- Grass, wood and plastic
- Fruit-peels, cake and lime-juice
- Cake, wood and grass

Ans: (c) and (d)

9. Which of the following constitute a food chain?

- Grass, wheat and mango
- Grass, goat and human
- Goat, cow and elephant
- Grass, fish and goat

Ans: (b)

10. 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

Ans: (d)

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

Ans: If we kill all the organisms in one trophic level, the transfer of energy to the next level will stop.

It'll lead to overpopulation at one level. This would disturb the food chain and cause the collapse of the ecosystem.

12. 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?

Ans: Yes, the impact of removing all the organisms at a trophic level will be different for different trophic levels. For example, on removing producers; herbivores would not be able to survive or they would migrate and the ecosystem would collapse. If herbivores are removed, producers would grow unchecked and carnivores would not get food. If carnivores are removed, herbivores would increase to unsustainable levels and could destroy the producers. If decomposers are removed, the dead animals would pile up due to which the environment would become polluted. In addition to this, if dead animals will not decompose, the recycling of nutrients in the soil will be stopped and its fertility will be reduced. As a result, the green cover of the earth will be lost. Thus to maintain the balance of the ecosystem the presence of organisms is necessary at each trophic level.

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

Ans: Biological magnification is that the increase in the concentration of harmful chemical substances like pesticides within the body of living organisms at every biological process level of an organic phenomenon is named biological magnification. Yes, levels of biomagnification would increase because the biological process level would increase and would be the very best for the uppermost biological process level. it might have an effect on their organic process like growth, replica, etc.

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

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

- They do not disintegrate and get accumulated within the setting.
- Harmful non-biodegradable chemicals enter the organic phenomenon and cause biological magnification.
- They cause air, land, water and soil pollution.
- If not treated, the native population of animals, birds, plants and humans is severely suffering from intense non-biodegradable wastes there in space.

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

Ans: If the quantity of perishable waste will increase, then this excess perishable waste will certainly have an impression on the surroundings. The surplus perishable waste is rotten by the action of decomposers then it releases harmful greenhouse gases. These gases can accumulate within the atmosphere, inflicting warming. Perishable waste is recycled simply by the decomposers like bacteria and fungi. It'll have solely this dangerous impact on our surroundings that several Of the gases discharged throughout the decomposition method might end in global warming.

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

Ans: The ozone layer is the protective layer of the earth from harmful rays. It plays a significant role in protecting all living and nonliving organisms. If a layer is broken no organism will survive. Following measures, the steps being taken to limit this harm.

- We must always minimize the employment of vehicles.
- We must always not encourage the burning of fossil fuels.
- It's currently necessary for all the producing firms to form CFC- free refrigerators throughout the globe.