

Intext Exercise 1**Question 1:**

Why are some substances biodegradable and some non-biodegradable?

Solution 1:

Substances which can be acted upon by microorganisms (decomposer) are called biodegradable. For example- vegetable wastes, paper, cotton etc. On the other hand, materials which are not acted upon by 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) They will serve as breeding ground for flies and mosquitoes which are carriers of disease like cholera, malaria etc. (b) They produce foul smell, thus causing air pollution.

Question 3:

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

Solution 3:

(a) Excess use of non-biodegradable pesticides and fertilizers run off with rain water to water bodies causes water pollution. (b) They may choke the sewer system of city or town that may overflow over roads.

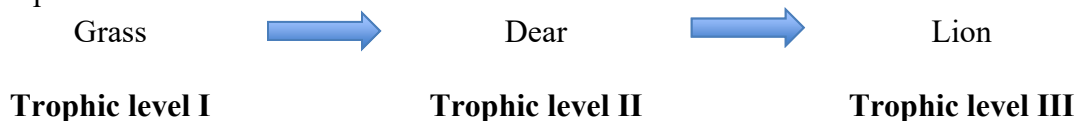
Intext Exercise 2**Question 1:**

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:

They decompose dead remains of plants and animals and their wastes organic products into simple inorganic substances which are released into the atmosphere for reuse by the plants. Thus, they help in recycling of materials.

Intext Exercise 3**Question 1:**

What is ozone and how does it affect any ecosystem?

Solution 1:

Ozone is a form of oxygen. It has the molecular formula O_3 . It is present at a higher level in the atmosphere. It protects the ecosystem from the harmful effects of ultraviolet rays coming from the Sun. UV rays may cause skin cancer, cataract to us.

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:

- (i) Reduce the volume of wastes by burning in incinerator.
 - (ii) Produce compost and biogas from biodegradable waste.
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NCERT Exercise**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 graas

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, then the transfer of energy as well as matter to next higher level will stop. It'll lead to over-population at one particular level causing amongst the individuals. This would seriously disturb the food chain and cause the collapse of an ecosystem even.

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 last trophic levels which is mostly of the top carnivores.

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:-

- (i) They remain for a longer time in the environment hence causing air and soil pollution.
 - (ii) They are responsible for biological magnification.
 - (iii) They affect the fertility of the soil.
 - (iv) Substances like plastics are severely harmful for the cattle.
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Question 8:

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

Solution 8:

As well said, excess of anything is harmful. Same is the scenario with this case because biodegradable substances will be recycled easily by the decomposers such as bacteria and fungi. This is the reason why this situation will turn problematic in the longer run because a lot of

greenhouse gases will be released post decomposition which will add to the already existing gigantic problem i.e., 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:

The ozone shields the surface of the earth from the ultraviolet (UV) radiation of the sun. These radiations are highly harmful as they are cancerous to both plants and animals, cause damage to eyes and immune system. They can also lead to variations in global rainfall, ecological disturbances and dwindling of global food supplies. These reasons make ozone depletion a grave concern.

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

- (i) Decrement 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 freeze CFC production at 1986.
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