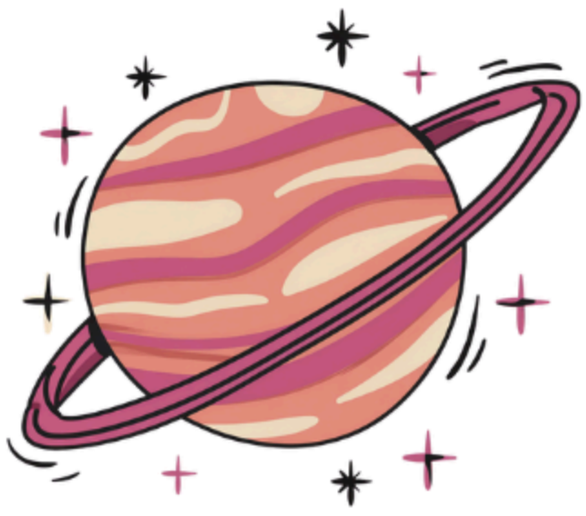

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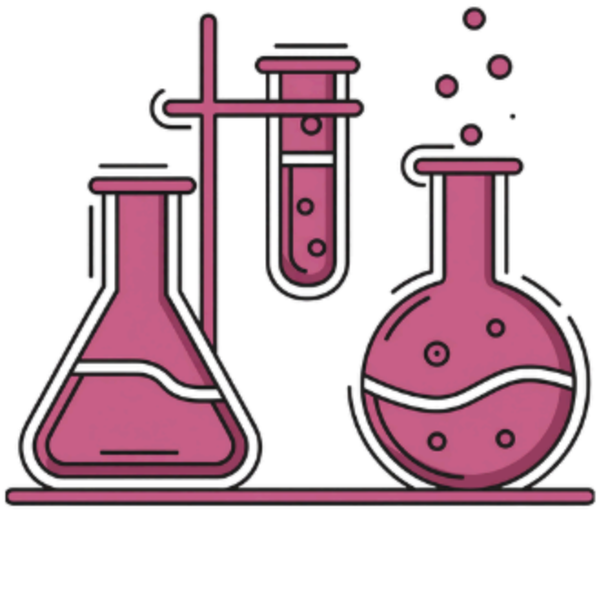
Class - 10th

NCERT Solution

science



NCERT Class 10 Science Chapter 13 Our Environment : Detailed Solutions

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

Answer:

Trophic levels are the different steps or positions in a food chain that show how energy flows from one organism to another. Each level represents a group of organisms that obtain food in a similar way.
For example, in the food chain:
Grass → Goat → Human
Grass – Producer (First trophic level)
Goat – Primary consumer (Second trophic level)
Human – Secondary consumer (Third trophic level)

2.**What is the role of decomposers in the ecosystem?**

Answer: Decomposers like bacteria and fungi break down dead plants and animals into simpler substances. They return nutrients back to the soil, making it fertile again. This helps in recycling matter in nature and keeps the environment clean.

3.**Why are some substances biodegradable and some non-biodegradable?**

Answer: Some substances are biodegradable because microorganisms like bacteria and fungi can break them down naturally into simpler substances. These are usually natural materials like food waste and paper.
Non-biodegradable substances cannot be broken down easily by microorganisms because they are synthetic or chemically complex, such as plastic and glass.

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

Answer: They decompose and enrich the soil by adding nutrients.
If present in large amounts, they may produce foul smell and harmful gases during decomposition.

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

Answer: They accumulate in the environment and cause pollution.
They may enter food chains and cause harm to animals and humans.

6. **What is ozone and how does it affect any ecosystem?**
Answer: Ozone is a gas made up of three oxygen atoms. It forms a protective layer in the upper atmosphere. This ozone layer protects living organisms by blocking harmful ultraviolet (UV) rays from the sun. If this layer gets damaged, it can cause skin cancer, eye problems, and harm plants and animals.

7. **How can you help in reducing the problem of waste disposal? Give any two methods.**
Answer: By following the 3R principle – Reduce, Reuse and Recycle.
By separating biodegradable and non-biodegradable waste at home.

8. **Which of the following groups contain only biodegradable items?**
Answer: Correct option: (a) Grass, flowers and leather

9.**Which of the following constitute a food-chain?**
Answer: Correct option: (b) Grass, goat and human

10. **Which of the following are environment-friendly practices?**
Answer:
Correct option: (d) All of the above

11. **What will happen if we kill all the organisms in one trophic level?**
Answer:
If all organisms of one trophic level are removed, the balance of the ecosystem will be disturbed. Organisms in the next level will not get food, and organisms in the previous level may increase in number uncontrollably. This can damage the entire food chain.

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?**
Answer:
Yes, the impact will be different depending on which trophic level is removed. Removing producers will have the most serious effect because all other organisms depend on them for food. No trophic level can be removed without disturbing the ecosystem because all levels are interconnected.

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

Answer: Biological magnification is the increase in concentration of harmful substances like pesticides at each higher trophic level in a food chain.
Yes, the concentration increases at higher trophic levels. Top consumers usually have the highest amount of harmful chemicals in their bodies.

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

Answer: Non-biodegradable wastes accumulate in the environment and cause soil and water pollution. They may enter food chains and harm living organisms. They also take many years to decompose, leading to long-term environmental damage.

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

Answer:

Even if all waste is biodegradable, it can still cause problems if produced in large quantities. Excess biodegradable waste can produce bad smell, harmful gases, and increase the growth of disease-causing organisms. Therefore, waste management is still necessary.

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

Answer:

Damage to the ozone layer is a serious concern because it allows harmful ultraviolet rays to reach the Earth. These rays can cause skin cancer, eye diseases, and harm crops and marine life.
To limit this damage, harmful chemicals like CFCs (chlorofluorocarbons) are being reduced and banned. Many countries are following international agreements to protect the ozone layer.

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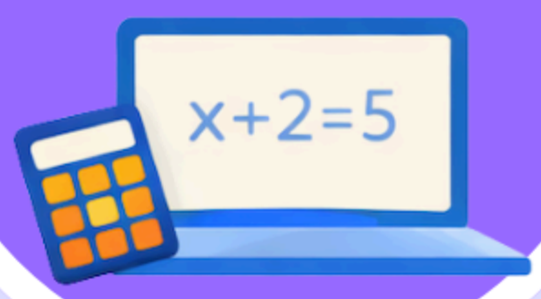

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