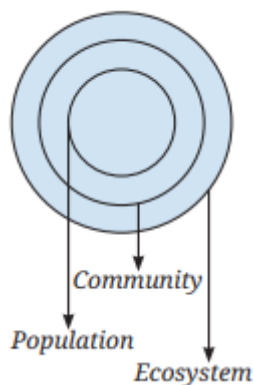


NCERT QUESTIONS WITH SOLUTIONS

1. Refer to the given below diagram and select the wrong statement.

- (i) A community is larger than a population.
- (ii) A community is smaller than an ecosystem.
- (iii) An ecosystem is part of a community.



Ans. (iii) An ecosystem is part of a community.

2. A population is part of a community. If all decomposers suddenly disappear from a forest ecosystem, what changes do you think would occur? Explain why decomposers are essential.

Ans. If all decomposers suddenly disappear from a forest ecosystem then dead plants and animals would pile up. In absence of decomposers, the waste and dead matter accumulate in ecosystem and would not be able to break down into simple substance. In result, nutrient would not return to the soil back so, without then the soil would become poor in nutrient (less fertile).

Decomposers are essential because they break down complex substances in dead matter into simpler ones, recycling nutrients back into the soil to support plant growth and maintain the ecosystem's balance.

3. Selvam from Cuddalore district, Tamil Nadu, shared that his village was less affected by the 2004 Tsunami compared to nearby villages due to the presence of mangrove forests. This surprised Sarita, Shabnam, and Shijo. They wondered if mangroves were protecting the village. Can you help them understand this?

Ans. Yes. Mangroves act as a natural barrier. Their thick roots and dense trees slow down strong waves, reduce flooding, and prevent soil erosion. That is why villages with mangroves are- were protecting the village.

4. Look at this food chain:

Grass → Grasshopper → Frog → Snake

If frogs disappear from this ecosystem, what will happen to the population of grasshoppers and snakes? Why?

Ans. If frogs disappear from ecosystem –
The population of grasshopper will increase because frogs rely on grasshopper for food. Due to no frog to eat them, the grasshopper will multiply quickly.
The population of snake will decrease because frogs are their food. Snake and snake are predators for them. In absence of frog, snake will not get sufficient food and may die or move away.

5. In a school garden, students noticed fewer butterflies the previous season. What could be the possible reasons? What steps can students take to have more butterflies on campus?

Ans. Possible reasons for fewer butterflies:

1. Due to less flowering plants, which means less nectar for butterflies.
2. Use of pesticides that may harm butterflies or their larvae.
3. Pollution or loss of natural habitat of plants and shelter in the garden.
4. Changes in weather or climate affecting butterfly visits.

Steps students can take:

1. Plant more colourful, nectar-rich flowers that attract butterflies.
2. Avoid using harmful chemicals or pesticides in the garden.
3. Create a butterfly-friendly space with shade, water, and native plants.
4. Spread awareness among students about protecting butterfly habitats.

6. Why is it not possible to have an ecosystem with only producers and no consumers or decomposers?

Ans. It is not possible to have an ecosystem with only producers because consumers and decomposers are also needed to maintain the balance in the ecosystem. Producers - make the food further which will be consumed by consumers. Without consumers, no animals eat the plants to keep their population in balance. Decomposers acting as a cleaning agent of the environment and in absence of them dead matter would accumulate.

Ultimately the entire balance of the ecosystem would be disturbed.

7. Observe two different places near your home or school (e.g., a park and a roadside). List the living and non-living components you see. How are the two ecosystems different?

Ans. 1. Park:

Living components: Trees, grass, birds, worms, insects and human beings.

Non-living components: soil, water, sunlight, air and heat.

2. Roadside ecosystem:

- **Living components:** Plants and trees, cattle, dogs, birds, insects and humans
- **Non-living components** – Sunlight, dust, vehicles, heat, air.

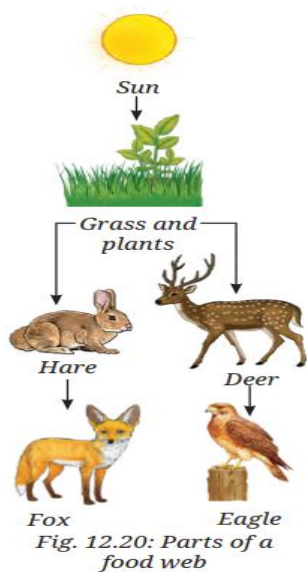
Difference: The park has good biodiversity and fresh air, while the roadside has less vegetation, more pollution, and fewer living organisms.

8. 'Human-made ecosystems like agricultural fields are necessary, but they must be made sustainable.' Comment on the statement

Ans. Human-made ecosystems like agricultural fields are necessary because they provide food and other useful products for humans. But excess use pesticides and chemicals in the soil will harm the fertility of soil and environment. Instead of that, to make the farming sustainable, farmers should use natural manures, rotate crops, save water, and avoid harmful chemicals. This helps keep the soil healthy and the ecosystem balanced.

NCERT Basics : Class 8

9. If the Indian hare population drops because of a disease, how would it affect the number of other organisms?



Ans. If the Indian hare population decreases, which is the prey for animals like foxes and eagles will get less food and may also decrease in number. Hare are predators for grass, and in absence of hare, it will grow more because fewer hares are eating them. This upsets the balance of the food web.