

NEET · CLASS 12 BIOLOGY

Ecosystem — Revision Sheet

Ecology gives some of the easiest marks in NEET, and this chapter is mostly numbers and definitions. Answer these questions, then take the full chapter test in the app so the facts stay fresh.

Quick NCERT recap

- Only about 10% of energy passes to the next trophic level (Lindeman's 10% law).
- Gross primary productivity minus respiration equals net primary productivity.
- The pyramid of energy is always upright; pyramids of number and biomass can be inverted.
- Decomposition steps: fragmentation, leaching, catabolism, humification and mineralisation.
- Ecological succession ends in a stable climax community.

Exam tips

- Memorise the pyramid exceptions — a tree ecosystem for number, a sea ecosystem for biomass.
- Learn the productivity numbers of the earth's ecosystems from the NCERT table.
- Know which nutrient cycle is gaseous (carbon, nitrogen) and which is sedimentary (phosphorus).

Practice questions with answers

Q1. According to Lindeman's 10% law, the energy transferred to the next trophic level is about:

- (A) 1%
- ✓ (B) 10%
- (C) 50%
- (D) 90%

Answer: (B) 10%

Why: Only about 10% of the energy at one trophic level is stored as biomass and made available to the next level; the rest is lost as heat and used in respiration. This is why food chains rarely have more than four or five levels.

Q2. Which ecological pyramid is always upright?

- (A) Pyramid of number
- (B) Pyramid of biomass
- ✓ (C) Pyramid of energy
- (D) All of these

Answer: (C) Pyramid of energy

Why: Energy is lost at every transfer, so the pyramid of energy can never be inverted. Pyramids of number (a large tree) and biomass (a sea ecosystem) can be inverted.

Q3. Net primary productivity is equal to:

- (A) GPP plus respiration
- ✓ (B) GPP minus respiration loss
- (C) Secondary productivity plus GPP
- (D) Total biomass of decomposers

Answer: (B) GPP minus respiration loss

Why: $NPP = GPP - R$. It is the biomass left after the producers use energy for their own respiration, and it is the amount available to herbivores and decomposers.

Q4. The phosphorus cycle differs from the carbon cycle because it:

- (A) Has a large atmospheric (gaseous) reservoir
- ✓ (B) Is a sedimentary cycle with rock as its main reservoir
- (C) Does not involve decomposers
- (D) Occurs only in aquatic ecosystems

Answer: (B) Is a sedimentary cycle with rock as its main reservoir

Why: Phosphorus has no significant gaseous phase; its main reservoir is rock, which releases phosphates by weathering. Carbon and nitrogen cycles are gaseous cycles.

Revise this chapter on the right day

Study Commander AI reminds you to revise each topic on day 1, 3, 8 and 20, so you do not forget what you already learnt. Take the free 10-question test for this chapter:

<https://studycommanderai.live/practice/biology/ecosystem>

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