

ecosystem

Subject: Biology

Study Notes for Biology - Ecosystem

Definition

An ecosystem is a community of living organisms (plants, animals) interacting with each other and their physical environment.

Key Points

1. Ecosystems can be terrestrial or aquatic.
2. They consist of biotic (living) and abiotic (non-living) components.
3. Biotic components include producers (plants), consumers (animals), and decomposers (fungi, bacteria).
4. Abiotic components include water, air, sunlight, and soil.
5. Ecosystems maintain a balance through the cycling of energy and matter.

Important Terms

1. Biodiversity: The variety of plant and animal species in an ecosystem.
2. Food Chain: A sequence of organisms where each one serves as food for the next in the chain.
3. Trophic Levels: Different levels in a food chain, from producers to consumers to decomposers.
4. Niche: The role or function of a species in its environment.
5. Ecosystem Services: Benefits that humans obtain from ecosystems (e.g., clean air, water, and food).

Examples

1. Forest ecosystem: Producers (trees), consumers (deer, birds), decomposers (fungi, bacteria), abiotic components (soil, sunlight).
2. Ocean ecosystem: Producers (algae), consumers (fish, whales), decomposers (bacteria, fungi), abiotic components (water, oxygen).
3. Grassland ecosystem: Producers (grasses, flowers), consumers (rabbits, birds), decomposers (fungi, bacteria), abiotic components (soil, sunlight).

Short Summary

Ecosystems are communities of living and non-living organisms interacting with each other and their

environment. They consist of biotic and abiotic components and maintain a balance through energy and matter cycling. Biodiversity, food chains, trophic levels, niches, and ecosystem services are important concepts in understanding ecosystems.