

# 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.