Section: Flow of Energy in an Ecosystem

Principles of Ecology

Ecology & Ecosystems Reading 3

Before You Read

What is a food chain?

A food chain is a sequence of organisms that pass nutrients and energy from one to another. Each organism is a link in the food chain. Plants are the base of most food chains. Animals that eat plants are called herbivores. Animals that eat other animals are called carnivores. Animals that eat both plants and animals are called omnivores.

Model of Energy Flow

Ecological interactions are complex and involve many different factors. Energy flow in an ecosystem is not a simple process. It involves the transfer of energy from one organism to another. The flow of energy through an ecosystem is influenced by several factors, including the availability of resources, the structure of the ecosystem, and the behavior of the organisms involved.

Principle 3: Decomposers and Detritivores

Decomposers are organisms that break down dead organic material. They convert organic materials into simpler substances that can be used by other organisms. Detritivores are organisms that feed on dead organic material. They include animals such as earthworms, beetles, and fungi. Detritivores play an important role in the decomposition of organic matter and the recycling of nutrients in an ecosystem.

Principle 4: Human Impact on Ecosystems

Human activities can have a significant impact on ecosystems. Deforestation, pollution, and overharvesting of resources can lead to the destruction of habitats and the decline of populations. Conservation efforts are needed to protect ecosystems and the species that depend on them.

Principle 5: Niche and Community Dynamics

Each species in an ecosystem has a specific role, or niche, that it plays. The interactions between species within a community can affect the overall stability and productivity of the ecosystem. Understanding these interactions is important for maintaining healthy ecosystems.