

Energy Flow in an Ecosystem

Chapter 7: Energy Flow in an Ecosystem · Topic 1

Key Concept

Producers (plants) capture solar energy through photosynthesis, forming the base of energy flow in most ecosystems.

Energy flows from producers to primary consumers (herbivores), then to secondary and tertiary consumers (carnivores) in food chains.

At each trophic level, only about 10% of energy transfers to the next level, with the rest lost as heat, following the 10% law.

A food web, consisting of interconnected food chains, more accurately represents the complex energy flow within a real ecosystem.

Quick Revision Notes

- Producers capture solar energy via photosynthesis.
- They form the base of energy flow.
- Energy flows: producers to consumers.
- Primary (herbivores), secondary/tertiary (carnivores).
- Only ~10% of energy transfers per level.
- This is the 10% law. Rest lost as heat.
- Food web: interconnected food chains.
- It represents complex real ecosystem flow.

Practice Questions

- 1 Draw a food chain showing energy flow.
- 2 Draw a food web connecting multiple food chains.
- 3 Discuss the 10% law with an example.
- 4 Discuss why producers are essential for ecosystems.
- 5 Research energy loss in a specific ecosystem.
- 6 Explain energy flow in your own words.