

Checklist

What you should know

After studying this subtopic you should be able to:

- Explain the concept of ecosystems as open systems.
- Describe the role of sunlight in ecosystems.
- Outline the flow of energy through food chains and food webs.
- Construct food chains and food webs to represent feeding relationships in a community.
- Describe the role of decomposers in nutrient cycling.
- Distinguish between autotrophic and heterotrophic modes of nutrition.
- Classify organisms into trophic levels based on their position in a food chain or food web.
- Construct an energy pyramid based on ecological data.
- Explain the factors that contribute to energy losses in food chains.
- Outline the causes and consequences of heat dissipation in food chains.
- Describe the factor that restricts the number of trophic levels in a food chain.
- Compare and contrast primary and secondary productivity.
- Explain the factors that affect primary productivity in an ecosystem.
- Construct an accurate diagram of the carbon cycle.
- Explain the factors influencing an ecosystem's capacity to function as a carbon sink or a source.
- Discuss the impact of deforestation on the carbon cycle.
- Describe how combustion of fossil fuels and biomass affects the carbon cycle.
- Analyse and explain the short-term and long-term trends shown in the Keeling Curve.
- Explain the significance of photosynthesis and aerobic respiration in sustaining life on Earth.
- Explain the importance of cycles of matter in the functioning of ecosystems.

