

Lesson 2

Flow of Energy in an Ecosystem

Focus Question

How does energy flow through an ecosystem?

New Vocabulary

autotroph

heterotroph

herbivore

carnivore

omnivore

detrivore

trophic level

food chain

food web

biomass

Review Vocabulary

energy: the ability to cause change; energy cannot be created or destroyed, only transformed

Energy in an Ecosystem

Autotrophs

- An **autotroph** is an organism that collects energy from sunlight or inorganic substances to make food.
- Autotrophs are the foundation of all ecosystems because they make energy available for all other organisms.

Energy in an Ecosystem

Heterotrophs

- A **heterotroph**, or consumer, is an organism that gets its energy by consuming other organisms.
 - An **herbivore** eats only plants.
 - A **carnivore** eats animals.
 - An **omnivore** eats both plants and animals.
 - A **detritivore** eats fragments of dead matter.

Models of Energy Flow

- Food chains and food webs model the energy flow through an ecosystem.
- Each step in a food chain or food web is called a **trophic level**.
- Organisms at each level get their energy from the trophic level below them.

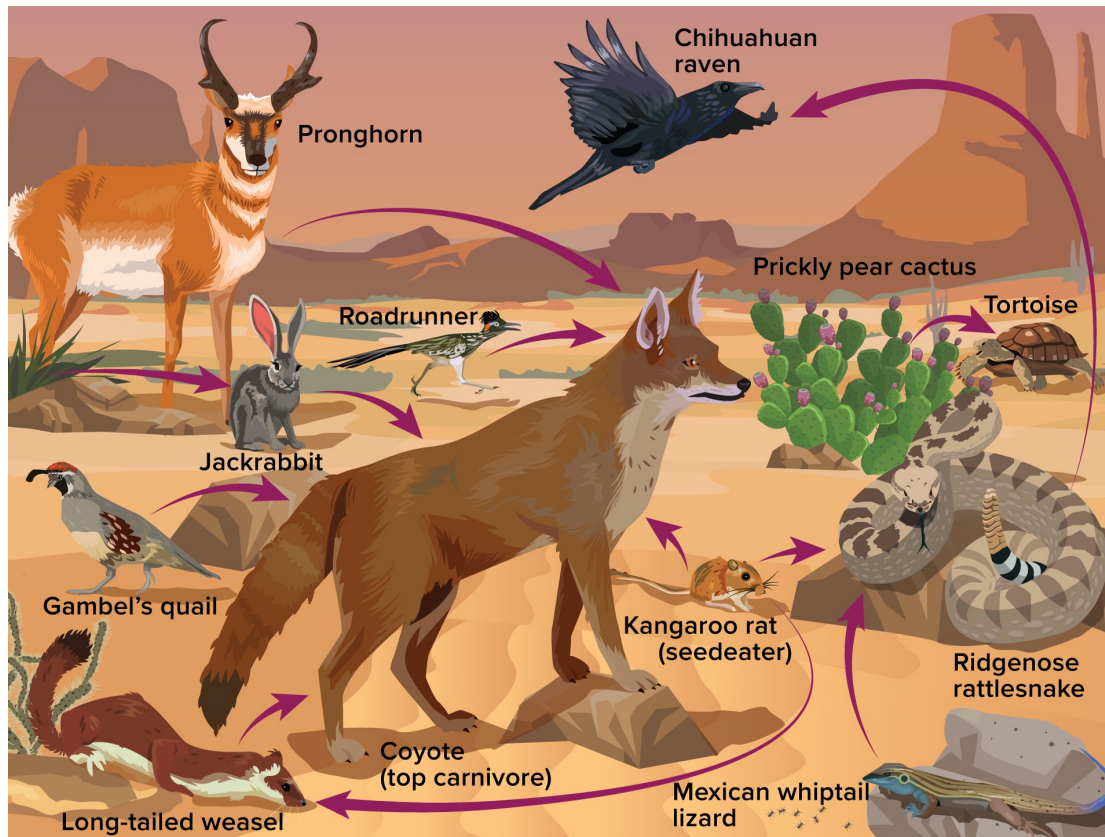
Models of Energy Flow

A **food chain** is a simple model that shows how energy flows through an ecosystem.



Models of Energy Flow

A **food web** is a model representing the many interconnected food chains and pathways in which energy flows through a group of organisms.



Models of Energy Flow

- An ecological pyramid is a diagram that shows the relative amounts of energy, biomass, or numbers of organisms at each trophic level.
- **Biomass** is the total mass of living matter at each trophic level.

