

Name \_\_\_\_\_

Date \_\_\_\_\_

### Reinforcement 13.4: Food Chains and Food Webs

**KEY CONCEPT** Food chains and food webs model the flow of energy in an ecosystem.

A **food chain** is a model that shows a sequence of feeding relationships between a producer and consumers. There are several types of consumers.

- **Herbivores** eat only plants.
- **Carnivores** eat only animals.
- **Omnivores** eat both plants and animals.
- **Detritivores** eat detritus, or dead organic matter.
- **Decomposers** are detritivores that break down organic matter into simpler compounds.

Food chains are very helpful to explain the feeding relationships of very selective eaters.

**Specialists** are consumers that mainly eat only one specific organism or a very small number of organisms. In contrast, **generalists** are consumers that have a varying diet.

**Trophic levels** are the levels of nourishment in a food chain. Energy flows up the food chain from the lowest trophic level to the highest.

- Primary consumers (herbivores) are the first consumer above the producer trophic level.
- Secondary consumers (carnivores) eat primary consumers.
- Tertiary consumers (carnivores) eat secondary consumers.

A food web is a model that shows the complex network of feeding relationships and the flow of energy within and sometimes beyond an ecosystem. At each link in a food web, some energy is stored within an organism, and some energy is dissipated into the environment.

1. What are the four main types of consumers?

\_\_\_\_\_

2. What is the difference between a specialist and a generalist?

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3. What are the trophic levels in a food chain?

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4. What is the difference between a food chain and a food web?

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5. What happens to energy at each link in a food web?

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## Section Quiz 13.4: Food Chains and Food Webs

Choose the letter of the best answer.

- \_\_\_\_\_ 1. A model that shows a single sequence of feeding relationships is called a
- trophic level.
  - food chain.
  - food web.
  - feeding chain.
- \_\_\_\_\_ 2. Decomposers are important to ecosystems because they
- return vital nutrients to the environment.
  - are producers.
  - capture energy from the Sun.
  - can be omnivores.
- \_\_\_\_\_ 3. Giant pandas eat bamboo almost exclusively. For this reason giant pandas are an example of a(n)
- carnivore.
  - omnivore.
  - generalist.
  - specialist.
- \_\_\_\_\_ 4. A food chain contains oak trees (producer), mice (herbivore), black rat snakes (carnivore), and bald eagles (carnivore). How many trophic levels does this food chain have?
- one
  - two
  - three
  - four
- \_\_\_\_\_ 5. Food webs are models that show
- one sequence of producers and consumers.
  - networks of feeding relationships.
  - stored energy in food chains.
  - only primary consumers in an ecosystem.