

About Food Webs and Trophic Levels

Energy flows through an ecosystem as animals eat plants or other animals in a complex **food web**. The source of all energy comes from the green plants changing sunlight into food through the process of **photosynthesis**.

Some energy is lost each time an animal eats.

- Energy is lost as heat, as the predator uses its muscles to chase its prey (and often doesn't even catch it).
- Energy is lost because not all of the prey can be digested and some is passed as waste.
- Some energy goes to growth and reproduction, but some is simply used to fuel the animals activities every day.

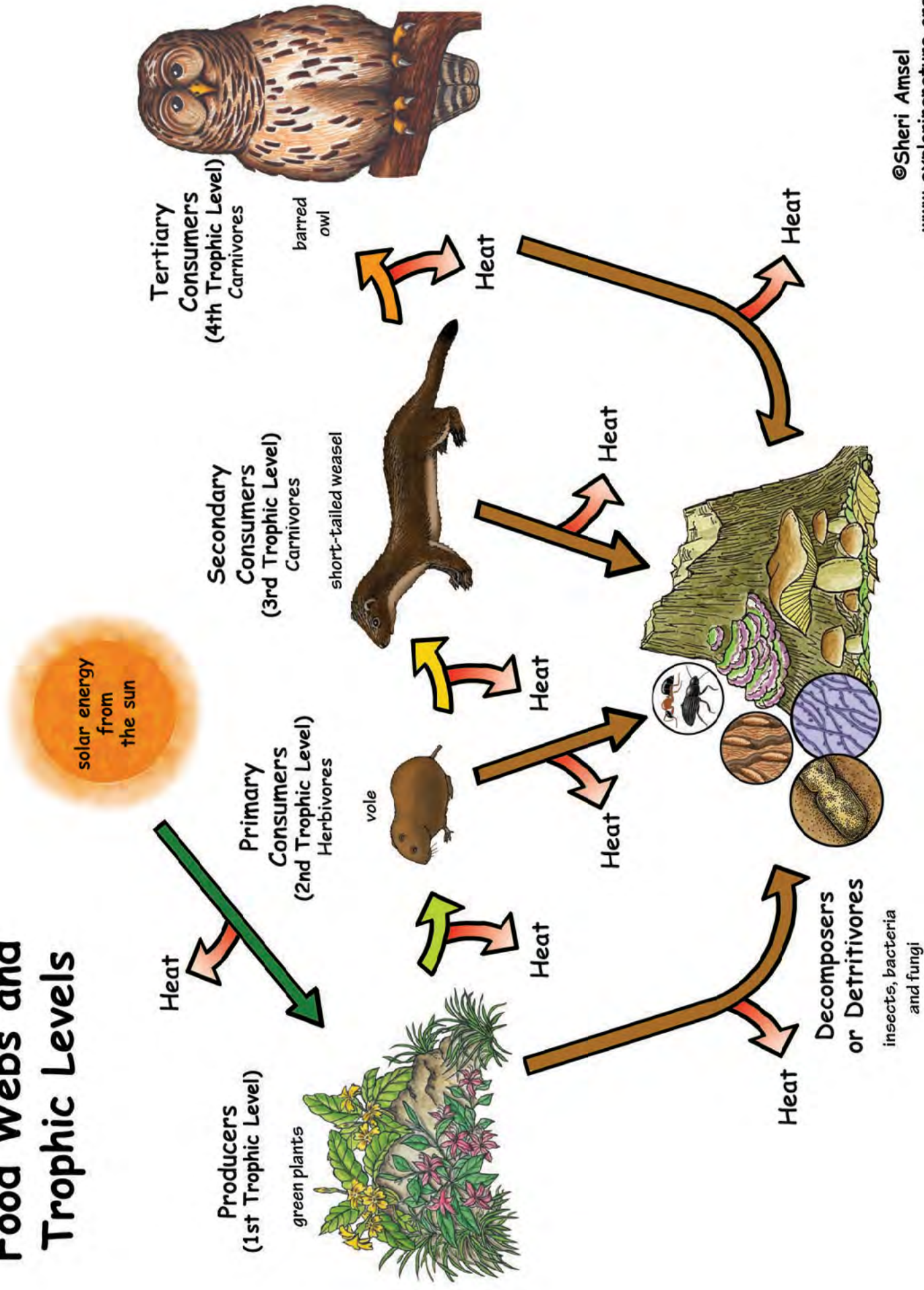
This means that one lynx has to eat a lot of snowshoe hares to maintain its energy, reproduce and grow. And every snowshoe hare must eat a lot of grass and plants to maintain its energy, reproduce and grow. Because there is energy lost at each level of the food chain, it takes a lot of plants to keep one big predator fed up the chain.

Each part of this food chain is a **trophic level** and has a name. The plants that make their own food – using water, sunlight and carbon dioxide (photosynthesis) – are called **producers**. The animals (insects, mice, chipmunks, squirrels, rabbits, deer, etc.) that eat the plants are **primary consumers**. If they eat only plants, they are called **herbivores**. The animals (spiders, birds, snakes, weasels, etc.) that eat the primary consumers are the **secondary consumers**. If they eat both plants and meat, they are called **omnivores**. If they eat only meat, they are called **carnivores**. The animals (fox, coyotes, eagles, owls, hawks, etc.) that eat the secondary consumers are **tertiary consumers**. The living things that eat and recycle dead animals and plants are called the **decomposers** or **detritivores**. These include insects, bacteria, mushrooms, and other fungi. At each trophic level, energy is lost as **heat**.

Essential Questions to think about:

1. Why are there more producers in a food web than consumers?
2. In what ways is energy lost as you move up through a food web?
3. What is the source of all the energy that feeds food webs?

Food Webs and Trophic Levels



About Food Webs and Trophic Levels Short Answer Quiz

Energy flows through an ecosystem as animals eat plants or other animals in a complex **food web**. The source of all energy comes from the green plants changing sunlight into food through the process of

_____.

Some energy is lost each time an animal eats.

- Energy is lost as _____, as the predator uses its muscles to chase its prey (and often doesn't even catch it).
- Energy is lost because not all of the prey can be digested and some is passed as _____.
- Some energy goes to growth and _____, but some is simply used to fuel the animals activities every day.

This means that one lynx has to eat a lot of snowshoe hares to maintain its energy, reproduce and grow. And every snowshoe hare must eat a lot of grass and plants to maintain its energy, reproduce and grow. Because there is energy lost at each level of the food chain, it takes a lot of plants to keep one big predator fed up the chain.

Each part of this food chain is a **trophic level** and has a name. The plants that make their own food – using water, sunlight and carbon dioxide (photosynthesis) – are called _____.

The animals (insects, mice, chipmunks, squirrels, rabbits, deer, etc.) that eat the plants are **primary consumers**.

If they eat only plants, they are called _____.

The animals (spiders, birds, snakes, weasels, etc.) that eat the primary consumers are the _____

consumers. If they eat both plants and meat, they are called _____

_____. If they eat only meat, they are called _____

_____. The animals (fox, coyotes, eagles, owls, hawks, etc.) that eat the secondary consumers are **tertiary consumers**.

The living things that eat and recycle dead animals and plants are called the _____

_____ or **detritivores**. These include insects, bacteria, mushrooms, and other fungi. At each trophic level, energy is lost as **heat**.

Food Webs and Trophic Levels Multiple Choice

Name: _____ Date: _____ Class: _____

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The source of all energy comes from green plants changing sunlight into food through the process of:

- A** Consumption
- B** Photosynthesis
- C** Decomposition
- D** Tropism



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The living things that eat and recycle dead animals and plants are called:

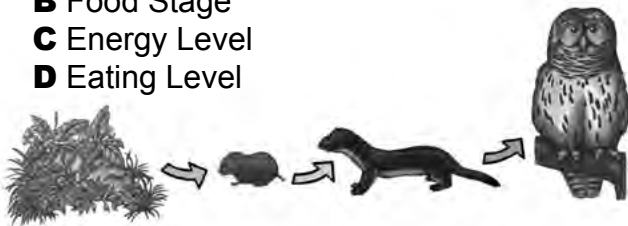
- A** Consumers
- B** Carnivores
- C** Animals
- D** Detrivores



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Each part of this food chain is called a:

- A** Trophic Level
- B** Food Stage
- C** Energy Level
- D** Eating Level



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The animals (insects, mice, chipmunks, squirrels, rabbits, deer, etc.) that eat the plants are:

- A** Producers
- B** Carnivores
- C** Primary Consumers
- D** Secondary Consumers



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Plants that make their own food – using water, sunlight and carbon dioxide are called:

- A** Consumers
- B** Herbivores
- C** Producers
- D** Decomposers



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Energy flows through an ecosystem as animals eat plants or eat other animals in a:

- A** Food Web
- B** Herbivore Web
- C** Producer Web
- D** Decomposer Web



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Animals that eat both plants and animals are called:

- A** Carnivores
- B** Herbivores
- C** Omnivores
- D** Decomposers



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Animals that eat only plants are called:

- A** Carnivores
- B** Herbivores
- C** Omnivores
- D** Decomposers

