Oct 7 Matter and Energy in Food Webs Activity

Part 1: Producers, Consumers, Carnivores, Herbivores, Omnivores

Directions: Next to each organism, label it as a **P**roducer, **H**erbivore, **O**mnivore, or **C**arnivore. Use the first letter of each type for the label.

lion	cow	squirrel	grass
phytoplankton	goat	algae	cheetah
tiger	snake	mouse	rabbit
spider	tree	wheat	grasshopper
human	chicken	corn	whale
shark	bacteria	worm	kale



Part 2: Matter and Food Energy Reading

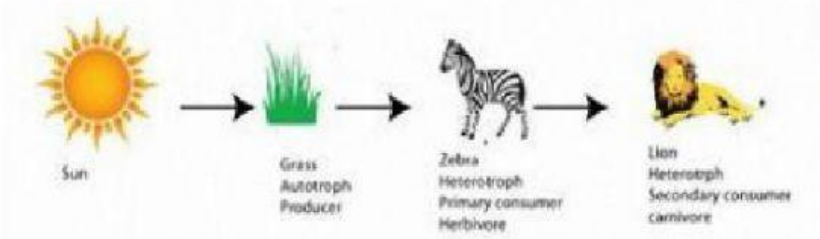
Directions: Read the following text, then answer the questions that follow.

Energy flows through food chains and food webs. Maintaining life on Earth requires a continuous input of energy from the Sun. Energy from the Sun travels through a number of different organisms in a food chain.

Primary producers are plants and algae that produce their own food using the sun's energy. Primary producers are also called autotrophs because they produce their own food. "Auto " refers to self and "troph" refers to feeding, so autotrophs are self-feeders.

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Click on the "autotroph" in this food chain below.



A food chain shows a path of food energy in an ecosystem.

Consumers, also called heterotrophs, are organisms that obtain their energy by eating other organisms. Different types of heterotrophs are classified according to what they eat.

Herbivores eat producers (plants and algae). Herbivores are primary consumers because they are the first consumer level in a food chain. Examples of common primary consumers include rabbits, squirrels, and cows.

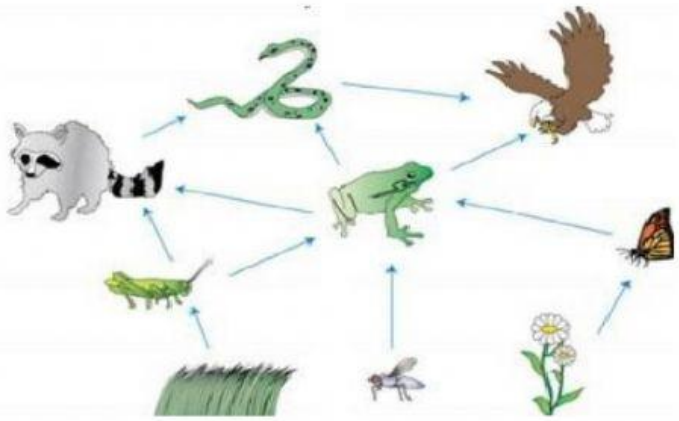
The next level of consumers, called **secondary consumers**, eats primary consumers. Secondary consumers are also called **carnivores** because they eat other animals. Some common secondary consumers include wolves, eagles, and lions.

A consumer that eats secondary consumers is a **tertiary**, or third level, consumer. Snakes and hawks are common tertiary consumers in a food chain.

Omnivores are a unique group of consumers because they eat both producers and other organisms. Raccoons, brown bears, and many humans are omnivores.

Organisms called **decomposers** feed on organisms from all levels of a food chain. These organisms break down the remains and wastes of other organisms. Decomposers are important because they help return important nutrients to the environment. Certain bacteria and fungi act as decomposers.

Look at the picture of the food web to the right.



An example of a producer in this food web is _____.

An example of a primary consumer (or herbivore) in this food web is _____.

An example of a secondary consumer (or carnivore) in this picture is _____.

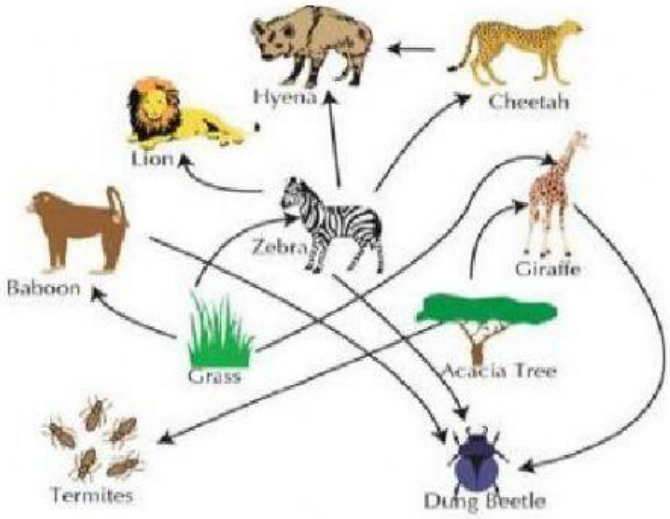
An example of a tertiary consumer in this picture is _____.

An example of a decomposer in this food web is _____.

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Take a look at the terrestrial food web to the right. **Identify each organism as a producer (autotroph), primary consumer (heterotroph), secondary consumer (heterotroph), or tertiary consumer (heterotroph). Click and drag each organism into the correct part of the T-chart.**

Producer	Primary	Secondary	Tertiary



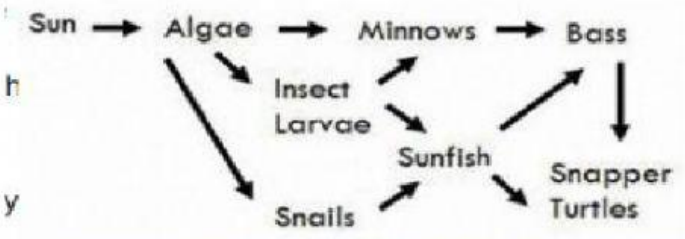
Decomposer:

Terrestrial refers to land, so a terrestrial ecosystem is located on land rather than in water.

Aquatic ecosystems include marine and freshwater ecosystems. Marine ecosystems are saltwater environments like oceans, coral reefs, and salt marshes. Freshwater ecosystems are water environments with a very low salt content, and include rivers, streams, and ponds.

Tiny aquatic plants called **phytoplankton** are the main **producers** in aquatic ecosystems. Algae are a common type of phytoplankton.

What would happen to this food web if all minnows were removed?



Algae are common producers in aquatic food webs.

Every organism in a food web plays an important role. For example, in some terrestrial ecosystems, frogs are a food source for organisms like eagles and snakes. If frogs were not available, eagles and snakes would have less food and would decrease in number. Frogs are also regulators of the populations below them on the food chain. Frogs are

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secondary consumers. They eat insects, spiders, and small fish. If there were not enough secondary consumers to eat the primary consumers, the number of primary consumers would increase. If there were too many primary consumers, they could completely consume and destroy the plant populations.

Study the images below. Identify the trophic levels shown in each image. Write "**producer**," "**primary consumer**," "**secondary consumer**," or "**tertiary consumer**" next to the correct image in the right column of the table.

Image	Trophic Level
	Squirrel: Nut:
	Bear: Fish:
	Caterpillars: Leaf:
	Bird: Insect:

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