

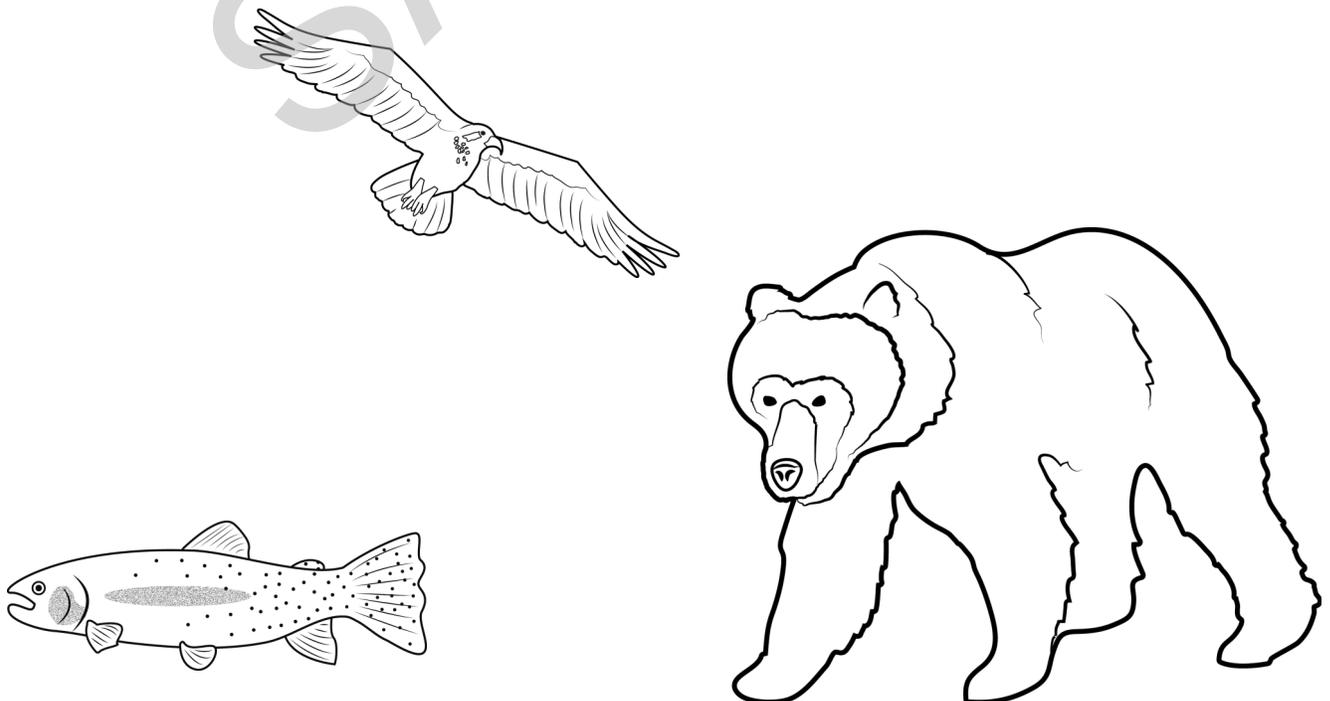
# Ecosystems

Producers and consumers. Populations and communities. Decomposers, invasive species, and energy pyramids. These are just some of the terms related to ecosystems that we are going to explore in this unit, but before we sort all those terms out, let's start at the top. What is an ecosystem?

An **ecosystem** is everything in an area, both living and nonliving things. Think of it as a world within a world. We live on planet Earth, but we all live in very different places. Some places are hot and dry; other places are cold and wet. Some places are filled with forests; some places are filled with skyscrapers and apartment buildings. People don't all live in the same type of place, and neither do plants and animals. The easiest way to study plants and animals is to break them into ecosystems so we can study groups at a time. An ecosystem is the largest type of group. It includes everything—both living and nonliving—in an area.

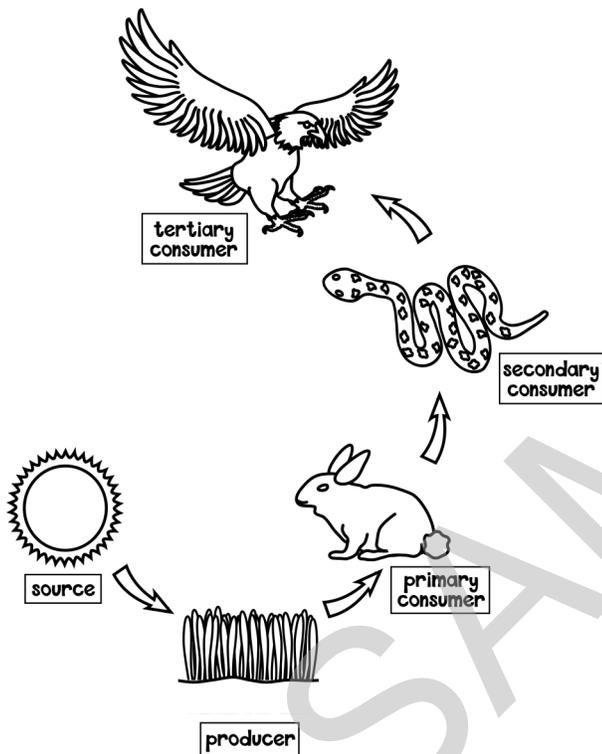
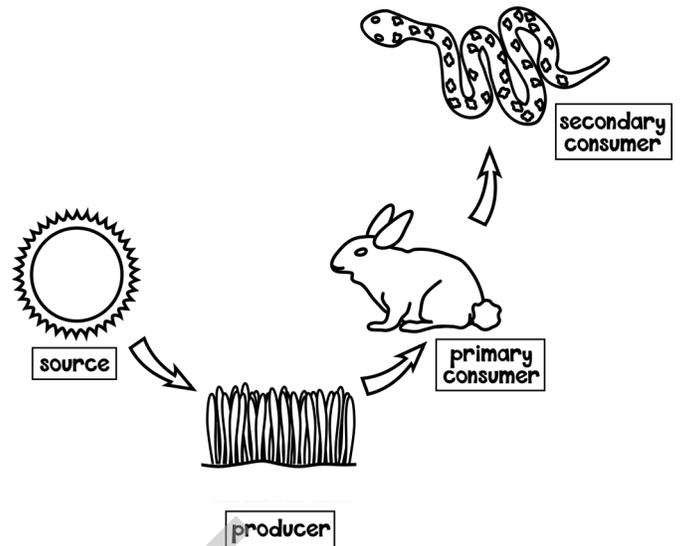


Let's look at an example. Yellowstone National Park is one area of North America in the United States. You can find all sorts of animals there, such as the Yellowstone cutthroat trout, the osprey, and the grizzly bear.



But, the food chain doesn't end with the rabbit. A snake might come along and eat the rabbit. If a living thing eats only other animals for food, it is a **secondary consumer**. Animals that only eat other animals are also called **carnivores**.

If a living thing, such as an animal or a person, eats both plants and animals, they are called **omnivores**.



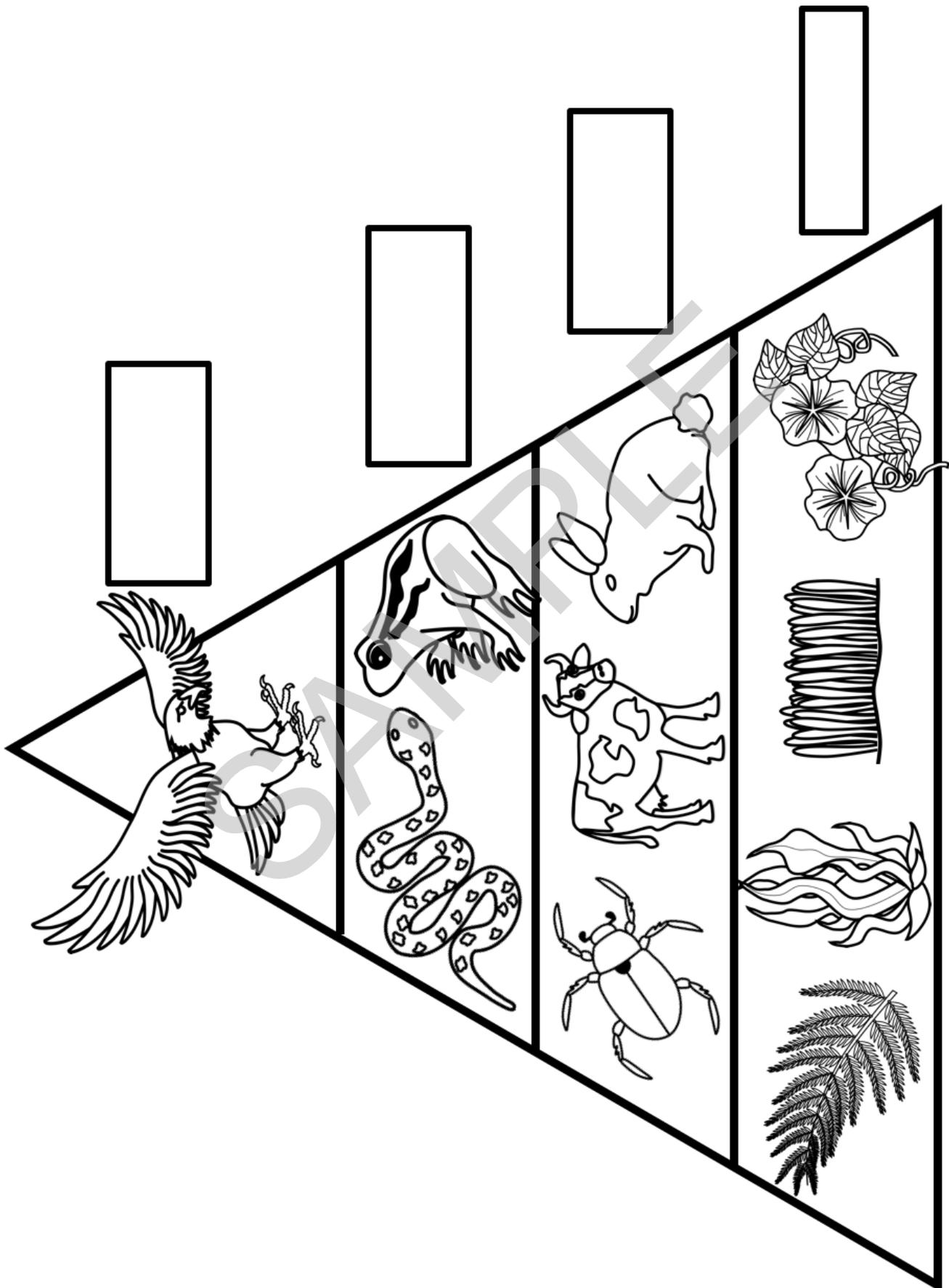
But some animals eat both the primary consumers and the secondary consumers. A hawk might eat a rabbit or a snake. An animal that eats both types of consumers is called a **tertiary consumer**.

There's one more type of creature that is critical to an ecosystem that you don't see on a food chain. Some creatures get their energy by eating dead animals or plants. It sounds rather disgusting, but without these **decomposers**, the world couldn't exist. The dead things would spread poison and toxins that would destroy everything that was left. When plants or animals die, decomposers go to work. Decomposers often live in the soil,

like earthworms. Fungi and some bacteria are also decomposers. When they break dead things down, they put important nutrients back into the soil that helps plants stay healthy.

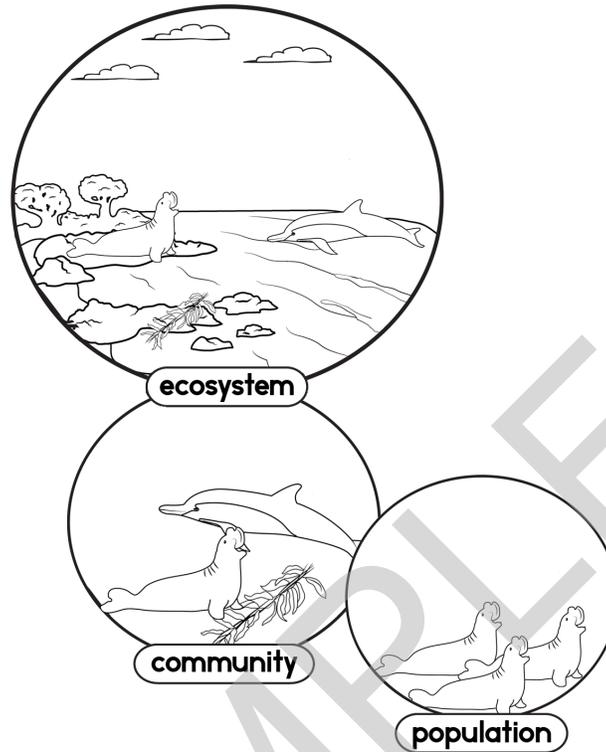
As we've seen in our food chain, the sun gives energy to plants, such as grass. The grass uses the energy to make food. Rabbits come along and eat the grass, using the energy from the grass to live. A snake comes along and eats the rabbit, using the energy from the rabbit to live. Then a hawk comes along and eats the snake or the rabbit and uses that energy to live. We can see this flow of energy by diagramming it in an **energy, or trophic, pyramid**.

Label the role of the living creatures in each level of the energy pyramid.



# Review Answer Key

Label the three parts of an ecosystem we discussed.



Label the role of the living creatures in each level of the energy pyramid.

