

# BACKYARD FOOD WEB

## *Wildlife Champions at Home Science Experiment*

*2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.*

### **What is a food web?**

All living things on earth are either producers, consumers or decomposers. **Producers** are organisms that create their own food through the process of photosynthesis. Photosynthesis is when a living thing uses sunlight, water and nutrients from the soil to create its food. Most plants are producers. **Consumers** get their energy by eating other living things. Consumers can be either herbivores (eat only plants – like deer), carnivores (eat only meat – like wolves) or omnivores (eat both plants and meat - like humans!) **Decomposers** are organisms that get their energy by eating dead plants or animals. After a living thing dies, decomposers will break down the body and turn it into nutritious soil for plants to use. Mushrooms, worms and bacteria are all examples of decomposers.

A food web is a picture that shows how energy (food) passes through an ecosystem. The easiest way to build a food web is by starting with the producers. Every ecosystem has plants that make their own food through photosynthesis. These plants are eaten by herbivorous consumers. These herbivores are then hunted by carnivorous consumers. Eventually, these carnivores die of illness or old age and become food for decomposers. As decomposers break down the carnivore's body, they create delicious nutrients in the soil which plants will use to live and grow!

When drawing a food web, it is important to show the flow of energy (food) using arrows. These arrows typically start from the picture of prey and point towards the predator that consumed it. It is also important to think about *all* of the ways a living thing could die. For example an herbivore (deer) could be eaten by a carnivore (wolf), *but* the herbivore (deer) could also die of old age and feed decomposers instead! In reality, most living things can eat or be eaten by many different species in their ecosystem. Building a food web takes practice, so let's give it a try!



# Nature at Home

## Directions

Find two different habitats around where you live and draw a food web for each. Some habitats you might use include your front yard, a back yard, or a nearby park.

**Materials:** 2 pieces of paper, 1 pencil, coloring materials (optional)

Step 1. Choose the first habitat you would like to explore. Go outside and check it out!

Step 2. At the bottom of your first piece of paper, draw pictures of all the different species (types) of plants you see.

Step 3. Above your plant pictures, draw all of the herbivore consumers you see or think live there.

Step 4. Above your herbivores, draw all of the carnivorous consumers you see or think live there.

Step 5. Above your carnivores, draw all of the decomposers you see or think might live there. *Remember* – many of them might live underground like worms or on top of dead things like mushrooms and bacteria!

Step 6. Draw arrows to show the flow of energy (food) through the ecosystem. Start by choosing one picture and draw one arrow pointing to one way it might die. If there are multiple ways the organism could die, draw arrows to each of them.

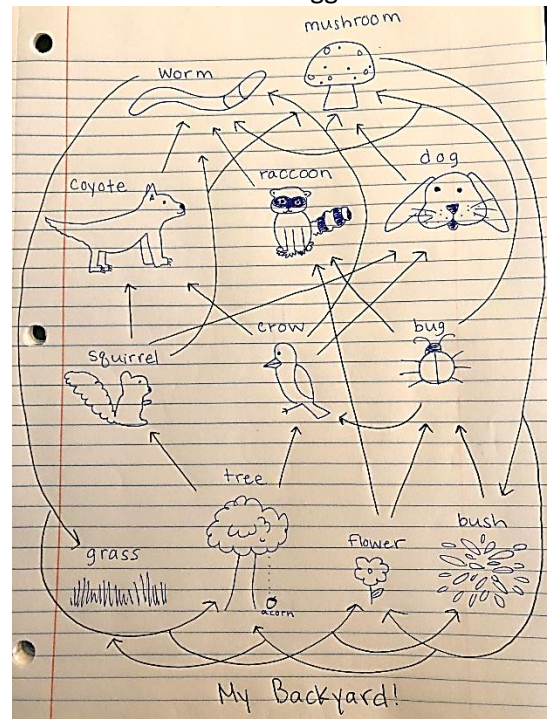
Step 7. Repeat Step 6 for each of the drawings on your paper.

Step 8. Admire your hard work, scientist! You just created a food web for an ecosystem! Now, choose the next habitat you would like to explore and create a new food web with all the different plants and animals you see.

Step 9. Compare the food webs you created. Color in or circle all of the plants and animals that live in both habitats.



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## Reflection

- How many producer species did you find in each habitat?
- How many consumer species did you find in each habitat?
- How many decomposer species did you find in each habitat?
- Many decomposers are very tiny and live in the soil. What could you use to help see them?
- Were your food webs very different or similar to one another? Do you think if one of the habitats you observed was in a warmer, drier place it would be more or less similar? Why?

## Helpful Links

<https://www.youtube.com/watch?v=FFloV2J-eKI>



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