

BIODIVERSITY



Grades 3–6

Food Web Biodiversity

Objective: Students will be able to identify why food webs are important and the different roles plants and animals play in the food web and their environments.

Vocabulary: Food Web, Carnivore, Omnivore, Herbivore, Decomposer, Producer

Materials:

- Animal and plant cutouts (If you do not have a printer for the Animal Cutouts, use some paper and draw the animals in pencil or pen. You can also use a variety of plastic/toy animals.)
- Yarn
- Optional: Printout of the sample food web and food chain (included in this lesson)

Lesson:

What is a food web?

All plants and animals need nutrients to survive. All the plants and animals that live in the same habitat are connected to each other in a food web. The different roles in the food web are:

- **Herbivore** – an animal that eats plants (primary consumer)
- **Carnivore** – an animal that eats meat
- **Omnivore** – an animal that eats plants and meat
- **Decomposer** – an organism that breaks down organic material over time
- **Scavenger** – an animal that eats dead animals
- **Producer** – an organism such as a plant that uses the sun's energy to make food
- **Consumer** – an animal that eats producers (plants) or other animals

Food webs are filled with **complex interactions**:

- Animals may play different roles in the food web. An animal may be a predator to a smaller animal, but also prey to another animal.
- Decomposers and Scavengers are important to help recycle dead animals and organic material back into the soil, which helps plants grow.
- To have a healthy food web, you need multiple species of each type (producer, consumer, decomposer) to keep the ecosystem balanced.

What if you remove a species altogether?

Discuss with the students what would happen if part of a food web is broken.

- Example: If you remove all the snakes from the food web, the mice may increase because they lost a predator, but the foxes and owls lose one of their prey sources.

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What is a simple food chain?

- Example: Algae/diatoms live in the water, the mayfly eats the algae, the trout eats the mayfly, the osprey eats the trout.

Multiple food chains make up a food web.

Decomposers such as worms break down organic material in the soil and add nutrients back into the soil.

Activity: *Building a Food Web*

Use the cutouts below to create a food web. If you do not have a printer, you can use a paper and pencil or toy animals instead. Remember that the sun provides energy for the plants to grow.

- Place your plants toward the bottom of the food chain.
- Choose an herbivore to eat one of the plants. Place a piece of yarn between the plant and the herbivore as a connector and show the herbivore gets energy from the plant.
- Choose an omnivore or carnivore to eat the herbivore, and place a piece of yarn between them.
- After you build up your connections, take a look at your food web.
 - Are there any other possibilities?
 - What if one of your predators eats something different?
 - What happens if you take one animal out of your food web entirely?

Tools:

- Video:
 - What's a Food Chain?
 - <https://why.pbslearningmedia.org/resource/thnkgard.sci.ess.chain/think-garden-whats-a-food-chain/>

PA Academic Standards:

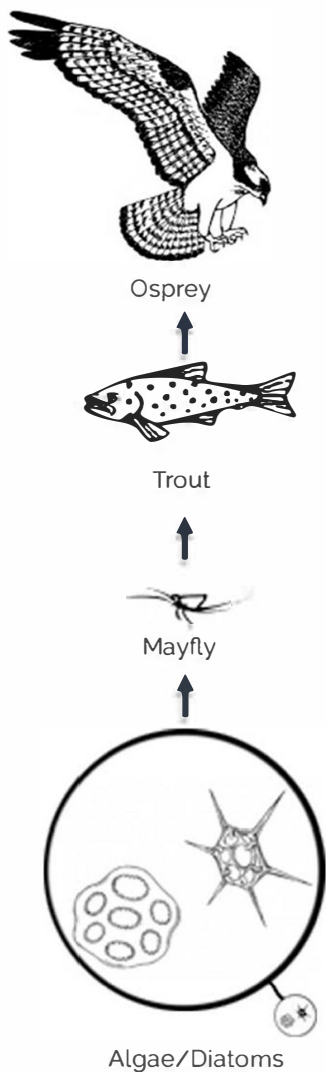
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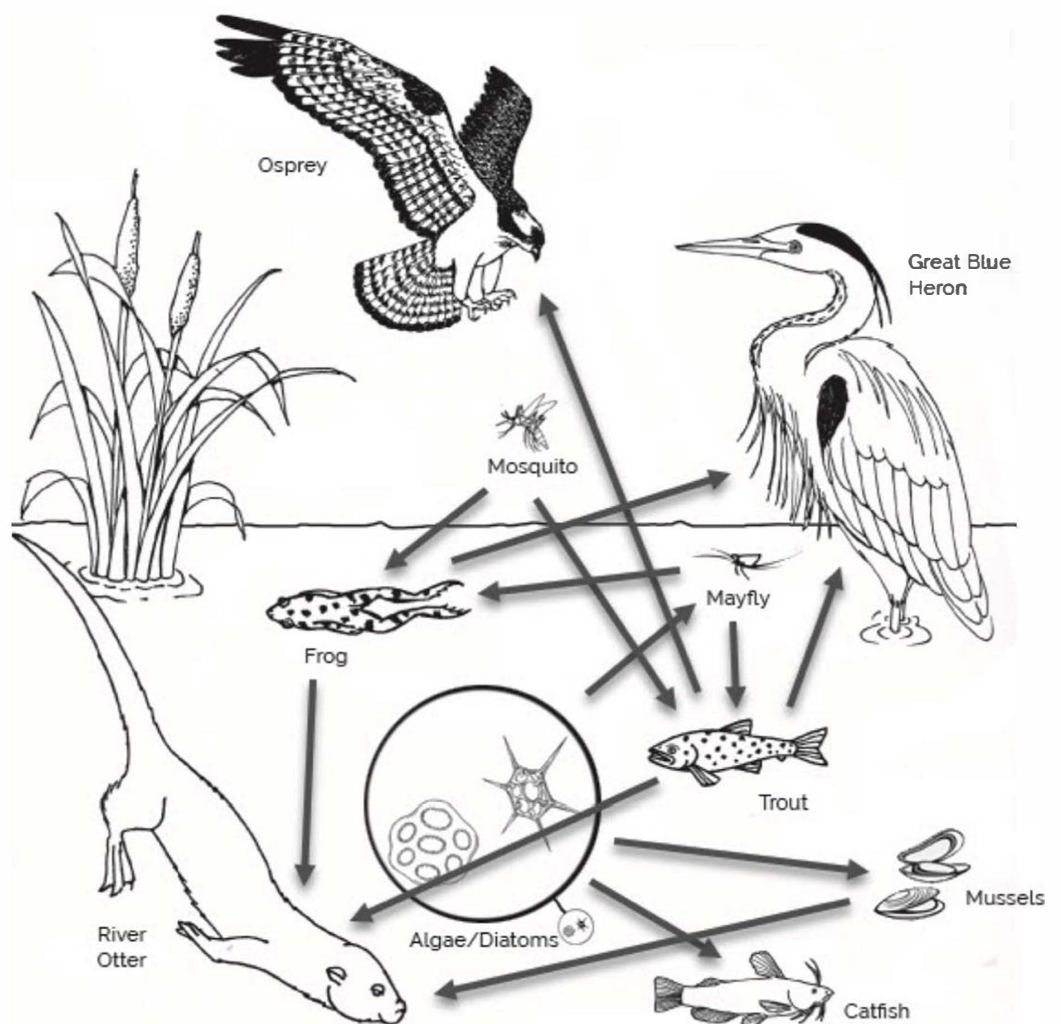


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FOOD CHAIN



FOOD WEB



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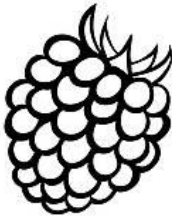

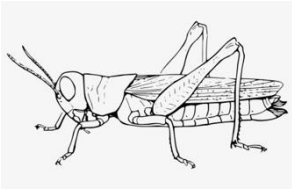


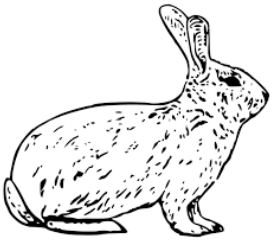
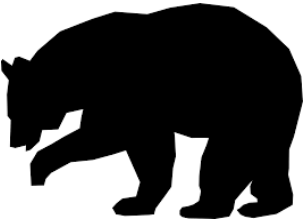



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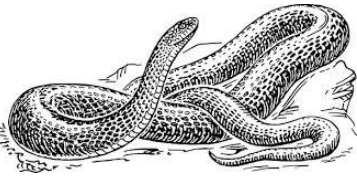


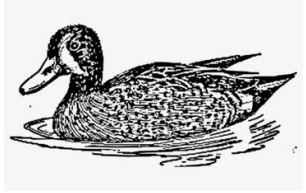
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Grass 	Leaves 	Fruit 	Seeds 
Grasshopper 	Ant 	Mouse 	Rabbit 
Black Bear 	Fox 	Skunk 	Great Horned Owl 

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Snake 	Frog 	Raccoon 	Duck 



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