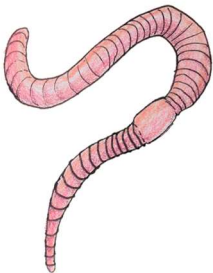
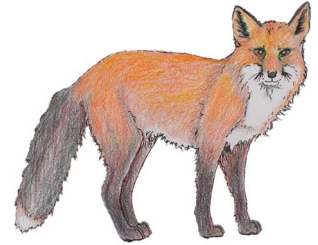


Food Webs

A Wild Earth Lab science unit

Suggested Use:

First, read "What are Feeding Relationships?" and complete the activity while looking at the Ecosystem Poster. Next, print the 32 Ecosystem Member Cards and the Information Cards. Use the cards to complete the three Flash Card Activities. As an extra challenge, ask students to invent their own game or activity using the flash cards. Answer the Reflection Questions about the Flash Card Activities. There are two final project options: Students can complete the "Food Webs are Everywhere!" worksheet while visiting an outdoor area, or for a more challenging final project, students can complete a Local Wildlife Research Project to determine the role of a favorite local animal in your area's ecosystem!

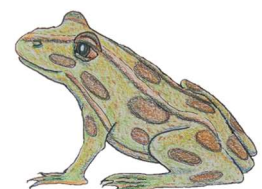


For a list of suggested online resources for completing the Local Wildlife Research Project, visit:



WildEarthLab.com/wildlife-research-project

The activities in this pack should be completed with adult supervision. Outdoor activities may involve certain risks; do not complete the outdoor activities in unsafe areas or conditions (steep terrain, bad weather, etc.).



For more science and nature learning resources, visit WildEarthLab.com

Instructor Guide for Ecosystem Members in the Food Webs Unit

Organism	Producer, consumer, or decomposer?	Herbivore, omnivore, carnivore, or scavenger?	What eats it?	Diet*
Algae	Producer	-	Aquatic insects, crayfish, some fish, some waterfowl	-
Aquatic Insects	Consumer, sometimes a decomposer	Varies by species	Fish, other aquatic insects, crayfish, turtles, frogs, birds	Algae, dead plant matter, other aquatic insects
Bass	Consumer	Carnivore	Waterfowl, raptors, larger fish, bears	Other fish, crayfish, aquatic insects, flying insects, frogs
Bat	Consumer	Varies by species	Raptors, snakes	Flying insects, fruits, flower nectar
Bear	Consumer	Omnivore and scavenger	A top predator in many ecosystems; but may be hunted by larger predators such as wolves in some ecosystems	Fish, berries, grasses, insects, deer, rodents, other young and/or small mammals, dead animal flesh
Bee	Consumer	Herbivore	Songbirds, rodents, reptiles, other insects	Flower nectar and pollen
Berries	Part of a producer	-	Songbirds, insects, bears,	-
Blue jay	Consumer	Omnivore	Hawks and other raptors	Insects, small rodents, small amphibians, snails, seeds, berries
Butterfly	Consumer	Herbivore	Songbirds, rodents, reptiles, other insects	Flower nectar, leaves
Crayfish	Consumer	Omnivore and scavenger	Fish, waterfowl, frogs, turtles	Aquatic insects, worms, algae, very small fish, dead plants, and dead animal flesh
Crow	Consumer	Omnivore and scavenger	Hawks and other raptors, foxes, snakes	Seeds, berries, insects, small crayfish, bird eggs, dead animal flesh
Deer	Consumer	Herbivore	Bears and other large predators such as wolves and mountain lions	Grass, leaves
Earthworm	Decomposer	-	Waterfowl, amphibians, reptiles, omnivorous/carnivorous mammals	Small pieces of decaying plant matter, animal feces

Organism	Producer, consumer, or decomposer?	Herbivore, omnivore, carnivore, or scavenger?	What eats it?	Diet*
Flower	Part of a producer	-	Rabbits, pollinators such as butterflies, bees, moths, and beetles.	-
Fly	Consumer	Varies by species	Frogs, fish, reptiles, birds, bats	Animal feces, plants, fruits and berries, flower nectar, dead plants, dead animal flesh
Fox	Consumer	Carnivore or omnivore	A top predator in many ecosystems; may be hunted by larger predators such as wolves or bears in some ecosystems	Rabbits, rodents, songbirds and waterfowl, reptiles, amphibians, bird eggs, insects, worms, sometimes plant matter such as berries
Frog	Consumer	Carnivore	Waterfowl, songbirds, snakes	Insects, snails, other frogs, any small animal that it can catch and fit in its mouth
Goose	Consumer	Herbivore	Foxes, snakes, hawks, their eggs also may be eaten by a variety of scavenging animals	Plants, leaves, grasses, berries, aquatic plants
Grass	Producer	-	Deer, rabbits, waterfowl, some invertebrates such as snails and millipedes	-
Hawk	Consumer	Carnivore and scavenger	A top predator in many ecosystems; may be hunted by larger raptors such as owls and eagles in some ecosystems	Small birds, fish, bats, small mammals, snakes, frogs, dead animal flesh
Heron	Consumer	Carnivore	Foxes, hawks, their eggs also may be eaten by a variety of scavenging animals	Fish, amphibians, small reptiles such as turtles and snakes, small rodents, insects, crayfish, worms
Leaf	Part of a producer	-	Deer, rabbits, insects such as caterpillars (butterfly larvae)	-
Millipede	Consumer, sometimes a decomposer	Scavenger	Reptiles, amphibians, songbirds	Dead and living plant matter
Minnow	Consumer	Varies by species	Larger fish, waterfowl, large crayfish	Algae, aquatic plants, aquatic insects, smaller fish, small crayfish, snails

Organism	Producer, consumer, or decomposer?	Herbivore, omnivore, carnivore, or scavenger?	What eats it?	Diet*
Mushroom	Decomposer	-	A variety of omnivores such a squirrels and snails	-
Moth	Consumer	Herbivore	Songbirds, bears, fish,	Flower nectar, leaves
Rabbit	Consumer	Herbivore	Foxes, hawks, snakes	Grass, leaves, flowers
Seeds	Part of a producer	-	Squirrels, songbirds	-
Snail	Consumer, sometimes a decomposer	Varies by species	Fish, crayfish, songbirds, amphibians	Worms, fungi, dead and living plant matter, animal feces, other snails
Snake	Consumer	Carnivore	Hawks, foxes	Amphibians, insects, small birds, small mammals, eggs, worms, any small animal that it can catch and fit in its mouth
Squirrel	Consumer	Omnivore	Hawks, foxes, snakes	Seeds, berries, fungi, insects, bird eggs
Turtle	Consumer	Omnivore	Waterfowl, foxes, their eggs also may be eaten by a variety of scavenging animals	Worms, snails, crayfish, insects, grasses, berries, aquatic plants

*Note: Many of these organisms have additional food sources beyond the examples included in this table. Diets will vary depending on the habitat, availability of food, and the specific species of the organism. For example, some bat species eat insects while other bat species eat fruit.

Flash Card Activities

Page 4

Reflection Questions: **ANSWER KEY**

Discuss these questions with your classmates and/or instructor. Write your answers below the questions or on a separate piece of paper.

- Which do you think represents an ecosystem best: a food chain or a food web? Why?

A food web.

Because a food chain is too simple. Ecosystems have lots of complex feeding relationships like food webs.

- Do you think most ecosystems have more predators or more prey? Why?

More prey.

Because it takes a lot of prey to feed and support one predator.

- Imagine an ecosystem where grass is eaten by rabbits, and rabbits are eaten by foxes. One year, an unusually wet springtime causes more grass to grow than usual. What do you think happens to the rabbits? The foxes?

There are more rabbits than usual, and more foxes than usual that year.

- Imagine an ecosystem where aquatic plants are eaten by fish, and fish are eaten by herons. One year, an aquatic plant disease causes fewer aquatic plants to grow than usual. What do you think happens to the fish? The herons?

There are fewer fish than usual, and fewer herons than usual that year.

- Imagine an ecosystem where deer are eaten by wolves. Due to noise from a growing nearby city, the wolves are scared out of the area and don't come back. What do you think happens to the deer, now that their predators are gone?

There are more deer now that their predator is gone.

- Ecosystems typically have lots of plants (like grasses or trees), but very few top predators (like hawks or wolves). Explain why in your own words.

It takes many plants to feed a plant-eater. It takes many plant-eaters to feed a predator. And so on with each step up the food chain. Therefore, an ecosystem needs lots of plants to support even one top predator.

Additional Instructor Suggestions

- If you complete the flashcard activities outside, you may choose to use small stones to prevent cards from being blown away by the wind
- Some students may find it helpful to study the diets of animals in this unit before beginning the flashcard activities. Consider assigning each student 1 to 3 animals from this unit. Each student can complete a short research project on what their animals eat, then share short presentations with your class or homeschool group.