

# Plant and Animal Interactions

## Overview

Wildflowers don't exist in isolation — they are part of complex ecological communities where plants and animals depend on each other for survival. In this unit, students investigate the relationships between plants — especially wildflowers — and the animals and other plants that interact with them. Using real-world examples, students explore how these interactions influence survival, reproduction, and ecosystem balance.

This unit introduces the concept of symbiosis, which includes mutualism, commensalism, and parasitism. Students will investigate how wildflowers and animals interact through pollination, seed dispersal, food webs and habitat sharing, and they'll discover that protecting wildflowers means protecting entire communities of life.

Building on knowledge of pollination and adaptations from earlier units, students will now explore the broader web of relationships connecting wildflowers to insects, birds, mammals, and other organisms. Activities emphasize critical thinking, observation and discussion as students consider how organisms are connected and how changes to one part of an ecosystem can affect many others.

This unit supports understanding of ecological relationships and helps students recognize wildflowers not as isolated plants, but as active participants in complex living systems. Understanding these interactions helps students appreciate why biodiversity and habitat conservation matter.

## Activities

1. Cohort Combos
2. Insect Evidence Survey
3. Food Web Connections
4. Habitat Highways

## Vocabulary

benefit  
carnivore  
cohort  
commensalism  
food web  
herbivore  
host  
hypothesis  
interaction  
mutualism  
omnivore  
parasite  
parasitism  
predator  
prey  
producer  
relationship  
symbiosis

*Vocabulary words are italicized within the introduction text and activities.*

## Standards

Grade 3: ELA.3.C.1.3, ELA.3.C.2.1,  
ELA.3.C.4.1, SC.3.L.14.2,  
SC.3.N.1.1, SC.3.N.1.2,  
SC.3.N.1.3, SC.3.N.1.6,  
SC.3.N.1.7, SC.3.N.3.2,  
SC.3.N.3.3

Grade 4: ELA.4.C.1.3, ELA.4.C.2.1,  
ELA.4.C.4.1, SC.4.E.6.5,  
SC.4.L.16.2, SC.4.L.17.2,  
SC.4.L.17.3, SC.4.L.17.4,  
SC.4.N.1.1, SC.4.N.1.2,  
SC.4.N.1.4, SC.4.N.1.6,  
SC.4.N.1.7, SC.4.N.3.1

# Plant and Animal Interactions

## Introduction

Plants, including wildflowers, **interact** with animals and other plants in many different ways. Wildflowers don't live alone. They're surrounded by insects that pollinate them, animals that eat their seeds and spread them to new places, caterpillars that munch on their leaves, and birds that hunt those caterpillars. All of these relationships connect wildflowers to the animals around them in a web of life, and these **relationships** affect the survival of both the plants and the organisms that depend on them.

One type of interaction is called **symbiosis**, which is a close relationship between two different kinds of organisms. In the plant world, there are three main types of symbiotic relationships:

- **Mutualism** – both organisms **benefit** from the relationship
- **Commensalism** – one organism benefits, while the other is neither helped nor harmed
- **Parasitism** – one organism (the **parasite**) benefits while the other (the **host**) is harmed

Symbiotic relationships can occur between two plants, between a plant and an insect, or between a plant and an animal. Plants, insects and animals that share these relationships are sometimes referred to as **cohorts**, because their survival is connected.

Some of these relationships help both the wildflower and the animal. Other relationships might help one more than the other. In this unit, you'll investigate how wildflowers and animals depend on each other, and discover why protecting wildflowers means protecting entire communities of living things.

## Habitat Highways

Many pollinators, especially insects, live and gather food within small areas. That's why it's important for neighborhoods and communities to have wildflower habitat. Even a small strip of wildflowers can feed a hungry pollinator! It's even better when these wildflower areas are connected or close together – this creates "habitat highways" that allow pollinators to move through developed areas safely. When your school plants Florida wildflowers, your garden becomes part of that habitat highway.

# Cohort Combos

## Objective

Students will be able to distinguish different types of symbiotic relationships between plants and animals.

## Directions

1. Hand out the classroom set of "Cohort Combos Matching Cards," one card per student.
2. Tell students to find their "cohorts," i.e. the student with a card bearing the same number but different organism.
3. When all the cohorts are together, tell each pair of students to make a **hypothesis** about how their relationship might work. (If the students have not been introduced to the term hypothesis, define the word for the students at this time. You may also wish to go over the definition of the word *cohort*.)
4. Give them some leading questions, such as:
  - Do the cohorts depend on each other?
  - Does one partner accidentally assist the other?
  - Does one partner cause problems for the other?
5. After the students have had a few minutes to discuss their relationship with each other, have them write down their hypothesis. Then hand out the appropriate "Cohort Combo Information Sheet" to the corresponding students.
6. Ask the students to discuss with their partners what they now know about the symbiotic relationship between their animal or plant cohort, and how it differs from their hypothesis.
7. Have students plan a way to present their relationship to the rest of the class. (Encourage students to use the terms **mutualism**, **commensalism** and **parasitism**, and to "act out" the relationship. Be sure to have the term definitions on the white board, a chart, or another prominent place in the room).
8. Correct any misconceptions with an explanation as the acts proceed.

## Extension

1. Have the cohorts gather in three groups: mutualism cohorts, commensalism cohorts, and parasitism cohorts.
2. Ask them to compare and contrast the different examples of each symbiotic relationship within their larger group.
3. Have students return to their seats for a follow-up discussion to review what they learned in this lesson. (Topics should include terms and types of relationships.)

## Materials

- "Cohort Combo Matching Cards" (enough sets so that each student gets one card)
- "Cohort Combo Information Sheets" (enough copies so each pair gets their appropriate sheet)

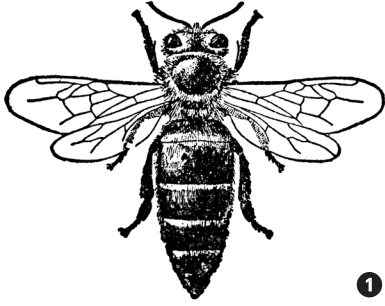
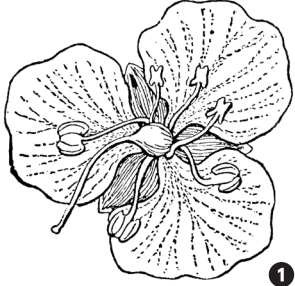

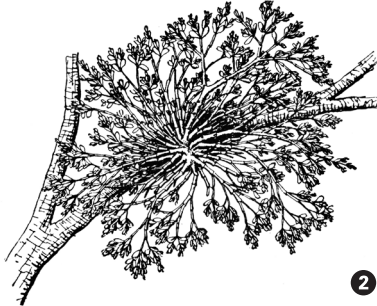

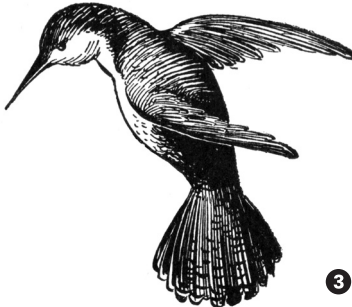
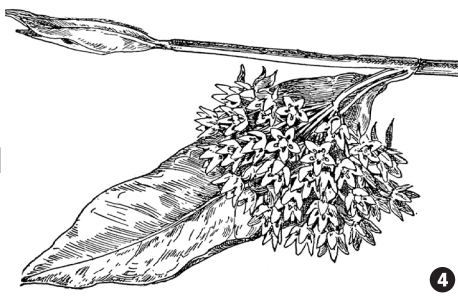


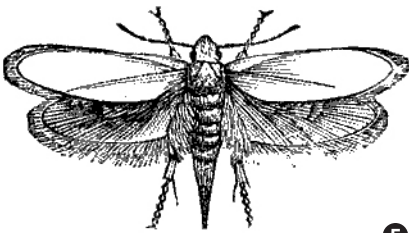
## Standards

Grade 3: SC.3.L.14.2, SC.3.N.1.1,  
SC.3.N.1.6, SC.3.N.1.7

Grade 4: SC.4.L.16.2, SC.4.L.17.4,  
SC.4.N.1.1, SC.4.N.1.4, SC.4.N.1.7

**Note:** Print cards and information sheets on card stock and laminate for multiple uses.

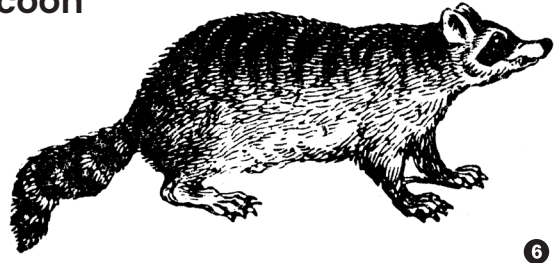
# Cohort Combo Matching Cards

<p>Bee</p>  <p>1</p>	<p>Spiderwort</p>  <p>1</p>
<p>Blue jay</p>  <p>2</p>	<p>Mistletoe</p>  <p>2</p>
<p>Cardinalflower</p>  <p>3</p>	<p>Hummingbird</p>  <p>3</p>
<p>Milkweed</p>  <p>4</p>	<p>Monarch butterfly</p>  <p>4</p>
<p>Yucca</p>  <p>5</p>	<p>Yucca moth</p>  <p>5</p>

Beggarticks



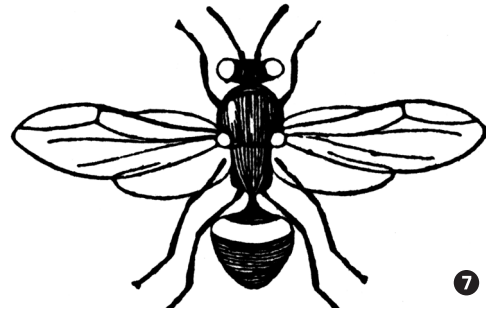
Raccoon



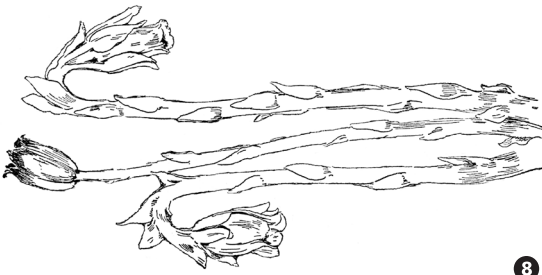
Goldenrod



Gall fly



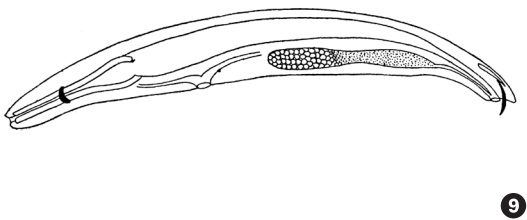
Indian pipes



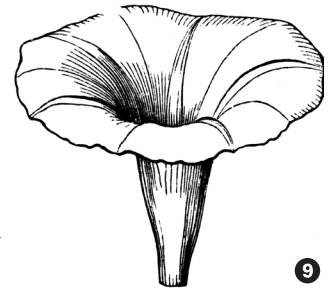
Soil fungi



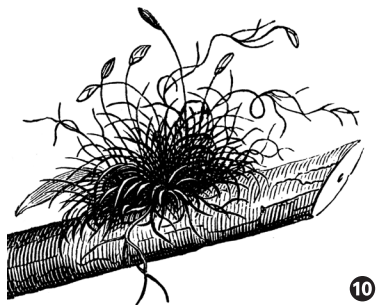
Nematode



Morning glory



Spanish moss



Live oak



# Cohort Combo Information Sheets

Teachers: Reproduce these sheets and cut them into information slips for each Cohort Combo pair.

## **Bee and Spiderwort**

Bees are attracted to this wildflower's showy petals. When a bee's head enters the flower to draw up the nectar with a proboscis, sticky pollen on the flower's hanging stamens is caught by the bee's hairy body. When the bee goes to the next flower, some of the pollen is left behind on the flower's pistil, where it will fertilize the ovules. Plants have no use for nectar other than as an attractant for pollinators. The flower provides food for the bee, and the bee carries the pollen between blossoms to fertilize the flowers.

## **Blue jay and Mistletoe**

The blue jay eats the mistletoe berries. Inside each berry is a seed that is inedible, and the blue jay tries to spit it out. However, the seed is sticky, making it difficult to shake, so the bird scrapes it off on tree bark. This is where mistletoe needs to grow to survive. If the blue jay accidentally swallows the seed, it passes through the bird and is left on another tree branch in the bird's waste. Either way, the blue jay carries the beginnings of the plant to new homes, while enjoying a meal in the process.

## **Goldenrod and Gall fly**

The female goldenrod gall fly injects her fertilized eggs into the stem of the goldenrod. In about 10 days, the eggs hatch and the larvae begin to eat the goldenrod stem. The saliva of the larvae has a chemical that irritates the stem and causes a sphere-shaped scar, or "gall," to form. This is where the larvae will live and feed for the next year until they burrow out to look for mates.

## **Spanish moss and Live oaks**

Although it is called a moss, Spanish moss is not a moss at all, but is a bromeliad related to pineapples. The Spanish moss sits on the branches of live oak trees, where it can gather sunlight, rainwater and nutrients. It does not penetrate the tree bark. Spanish moss seeds are blown off by wind and carried to nearby trees, wires, and other supports. The trees are usually not bothered by the Spanish moss, but it can sometimes slow a tree's growth by reducing the amount of light the tree can receive.

## **Morning glory and Root knot nematodes**

Nematodes are a type of roundworm that live in the soil. Nematodes burrow into the roots of morning glories (as well as several other plants). They feed on the roots and lay their eggs within the roots. As the nematode eggs hatch, large galls are formed that prevent the root from properly absorbing water and nutrients.

### **Cardinalflower and Hummingbird**

Because hummingbirds do not have a sense of smell, the cardinalflower does not need a strong scent to attract the hummingbird. Rather, hummingbirds are attracted to the flower's bright red color. The cardinalflower's nectar is almost all sugar. To feed, the hummingbird inserts his long, thin beak into the tube-shaped flower. Pollen is brushed off the flower stamens onto the bird and carried to the next flower's pistil where it is deposited. The cardinalflower provides food to the hummingbird, and the hummingbird helps the flower make new seeds by pollinating it.

### **Indian pipes and Soil fungi**

Indian pipes do not have chlorophyll so they cannot make their own food as green plants commonly do. Instead, it gets its food from a fungus found in or on the soil. The roots of the Indian pipe tap into the root-like structures (mycelium) of the fungus and steal the nutrients that the fungus is simultaneously gathering from nearby trees.

### **Milkweed and Monarch butterfly**

Monarch butterfly larvae feed on plants in the milkweed family. Monarchs lay their eggs on milkweed leaves and, when the eggs hatch, the small larvae feed on the plant's leaves. Milkweed plants contain a chemical that is toxic to vertebrates (animals with backbones). The butterfly larvae are able to store this chemical. When a bird catches the butterfly and eats it, the milkweed chemicals cause the bird to get sick and throw up. The recovered bird avoids eating another Monarch butterfly and teaches its young to stay away.

### **Yucca and Yucca moth**

The yucca plant is fertilized only by this special moth. The moth climbs in and gathers pollen under her chin. She then carries the pollen to another yucca flower and, after depositing the pollen ball, breaks into one of three chambers of the ovary of the plant and lays her eggs. Her developing larvae feed on one of the ovules (developing seeds) but leave the other two chambers with ovules alone. Pollen fertilizes those two ovules, which mature into seeds.

### **Beggarticks and Raccoon**

Beggarticks is also called pitchfork weed because its seeds have two or more prongs that stick to almost anything—especially to the fur of a small animal like a raccoon as it wanders through a patch of the plant. The raccoon carries the seeds to another location where they are scratched or rubbed off, away from their former site, to grow in an area with less competition from the parent plant.

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# Insect Evidence Survey

## Objective

Students will look for and be able to identify evidence of insects.

## Directions

This activity can be done in pairs.

1. Give each student an “Insect Evidence Survey” worksheet and a hand lens. Explain that they will be conducting a survey of insect damage on plants.
2. Lead students into a natural or landscaped area of the school campus.
3. Tell them to look for evidence of insects on the plants and record it on their “Insect Evidence Survey” worksheet.
  - In the “Evidence” column, have students draw the damage that they see.
  - In the “Location” column, students will write where on the plant they saw the insect damage.
  - If students see an insect causing the damage, have them note that and indicate if it is an insect other than the example given.
4. Select a tree or shrub and lay the cloth under it. Shake the plant gently, but vigorously. Then invite students to examine the cloth to see what kinds of insects fell from the plant. Be sure to select a plant that is not fruiting so that the fruit is not lost.

## Discussion

- Ask students to hypothesize what the different types of damage may mean. Have them provide support for their hypothesis.
- Ask students how a plant might protect itself from insects.
- Have students make a list of possible plant defenses.

## Materials

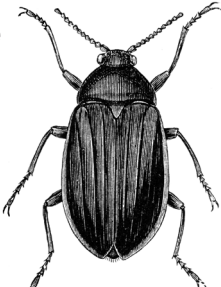


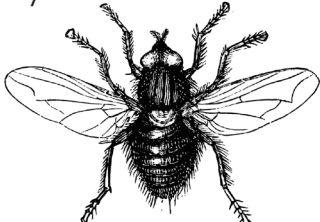
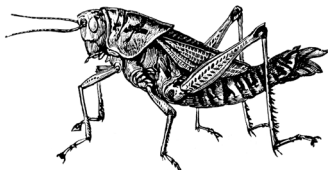
- “Insect Evidence Survey” worksheet (one per student)
- large white cloth or sheet
- hand lens (one per student)

## Standards

Grade 3: SC.3.N.1.1, SC.3.N.1.2,  
SC.3.N.1.3, SC.3.N.1.6

Grade 4: SC.4.E.6.5, SC.4.N.1.1,  
SC.4.N.1.2, SC.4.N.1.4, SC.4.N.1.6

# Insect Evidence Survey

Evidence	Plant	Location on Plant	Examples of insects
Tunnels			Beetle 
Wrapped leaf			Bee 
Chewed leaf			Butterfly 
Galls			Fly 
Foam			Grasshopper 

# Food Web Connections

## Objective

Students will be able to identify how plants and animals are connected in a food web and determine how the disappearance of one plant or animal impacts the entire web.

## Directions

This activity can be done as a whole class, in two larger groups or in small groups, depending on class size.

1. Review what students have learned so far about food webs. Ask them to define **food web** and give examples.
2. Create a T-Chart labelled with "Plants" and "Animals." Ask students which types of plants and animals are part of a food web in Florida and list them on the chart. Emphasize specific wildflowers to include under producers. Prompt them with examples: Tickseed (*Coreopsis* spp.), Blazing star (*Liatris* spp.), Milkweed (*Asclepias* spp.), Black-eyed Susan (*Rudbeckia hirta*). Discuss which animals rely on these specific wildflowers for food – not just the nectar and pollen, but also seeds and leaves.
3. After the chart has been filled in, discuss the different roles of organisms in a food web: **producers, herbivores, carnivores, omnivores**. Define each role for students.
4. Create a new chart with four columns labeled "Producers," "Herbivores," "Carnivores" and "Omnivores." Use the previous chart of plants and animals to categorize those organisms into the new chart according to their role in the food web.
5. Split students into groups and give each group 20 cups.
6. Have students label eight cups with different Florida producers (emphasizing wildflowers), eight with herbivores and/or omnivores, and four with carnivores. Students may use the "Food Web Organisms" cards or use the blank template to create their own cards.
7. Give each group a "Sun Mat" (a large sheet of yellow paper labeled "SUN"). Explain that this represents the energy source for all life in the food web. Instruct students to place their producer cups on the "Sun Mat," arranging them in a row or cluster. Explain that producers get their energy from the sun through photosynthesis.
8. Ask students which herbivores and/or omnivores eat the producers they chose. Instruct them to stack those herbivore/omnivore cups on top of the corresponding producer cups. Remind them that herbivores eat only plants, while omnivores eat both plants and animals.
9. Then ask which carnivores eat the herbivores and omnivores they chose. Instruct them to stack carnivore cups on top of the herbivore/omnivore cups they feed on. This creates a food chain pyramid showing energy transfer.

## Materials

- "Food Web Organisms" picture cards (one set per group) (see Tip)
- "Sun Mat" (one per group)
- chart paper or whiteboard
- paper/plastic cups (20 per group)
- scissors
- Scotch tape or glue

## Standards

Grade 3: SC.3.N.1.1, SC.3.N.1.6,  
SC.3.N.3.2

Grade 4: SC.4.L.17.2, SC.4.L.17.3,  
SC.4.L.17.4, SC.4.N.1.1, SC.4.N.3.1

## Tip

Students can use the blank Food Web Organism template to create their own cards as a preparatory activity. This builds research skills and helps students better understand each organism's role before building the food web. Provide each group with blank card templates and have them research Florida organisms to illustrate and label.

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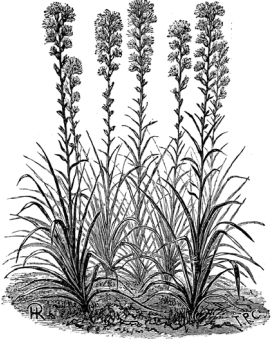






10. Remind students that in nature, most organisms are part of multiple food chains that interconnect. If time allows, students can use string or yarn to connect cups that have feeding relationships to show the complexity of a food web.
11. When each group has completed their food web pyramid, conduct the following experiment:
  - a. First, have students carefully remove one producer cup from the bottom. What happens to the cups above it?
  - b. Rebuild the pyramid, then have students remove one herbivore/omnivore cup from the middle. What happens?
  - c. Rebuild again, then have students remove one carnivore cup from the top. What happens?
  - d. Discuss: Which removal had the biggest impact? Why? What would happen if that organism became extinct in real life?

## Discussion

Use the questions below to lead a discussion with students about what happens when organisms disappear from their food webs.

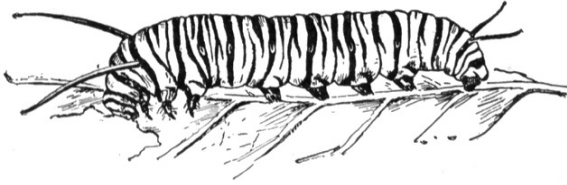
- How are plants and animals in a food web connected?
- Why are all plants and animals in an environment important?
- If you remove a carnivore from the top of the pyramid, the pyramid does not fall. Infer what could be a consequence in the food web if a carnivore became extinct. (Possible answer: Herbivore populations might increase, leading to overgrazing of plants; balance would be disrupted.)
- How are wildflowers an important part of a food web?
- What would happen to the food web if wildflowers disappeared from their environment?
- Why do we say it's a food "web" instead of a food "chain"? (Answer: Most animals eat many different foods and are eaten by many different **predators**, creating an interconnected web rather than a simple chain)
- Besides providing food, what other roles do wildflowers play for animals in the ecosystem? (Possible answers: shelter, nesting materials, hiding places from predators)

# Food Web Organisms

<p><b>PRODUCER</b></p> <p><b>Tickseed</b> Nectar and pollen for bees and butterflies; seeds for birds</p> 	<p><b>PRODUCER</b></p> <p><b>Blazing star</b> Nectar and pollen for bees, butterflies and hummingbirds; seeds for birds</p> 
<p><b>PRODUCER</b></p> <p><b>Black-eyed Susan</b> Nectar and pollen for bees and butterflies; seeds for songbirds and small mammals</p> 	<p><b>PRODUCER</b></p> <p><b>Milkweed</b> Host plant for Monarch caterpillars; nectar for many butterflies</p> 
<p><b>PRODUCER</b></p> <p><b>Sunflower</b> Nectar and pollen for bees and butterflies; seeds for birds</p> 	<p><b>PRODUCER</b></p> <p><b>Dewberry</b> Nectar and pollen for bees and butterflies; berries for many mammals</p> 
<p><b>PRODUCER</b></p> <p><b>Blueberry</b> Nectar and pollen for bees and butterflies; berries for birds and many mammals</p> 	<p><b>PRODUCER</b></p> <p><b>Oak</b> Host plant for caterpillars; pollen for insects; acorns for many animals</p> 

# Food Web Organisms

HERBIVORE



**Monarch caterpillar**  
Eats only Milkweed leaves

HERBIVORE



**Bumble bee**  
Drinks nectar and collects pollen from wildflowers

HERBIVORE



**Spicebush swallowtail**  
Drinks nectar from wildflowers

HERBIVORE



**Goldfinch**  
Eats seeds from wildflowers

HERBIVORE



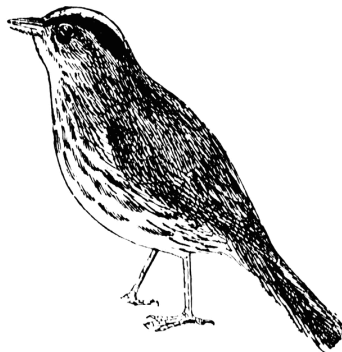
**Cottontail rabbit**  
Eats grasses, wildflower leaves and stems

HERBIVORE



**White-tailed deer**  
Browses on wildflower leaves, grasses and shrubs

OMNIVORE



**Ovenbird**  
Eats seeds and insects

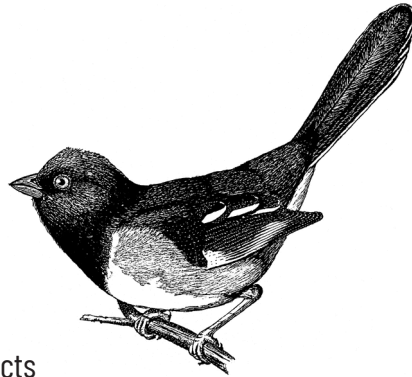
OMNIVORE



**Gray squirrel**  
Eats seeds, nuts and occasionally insects

# Food Web Organisms

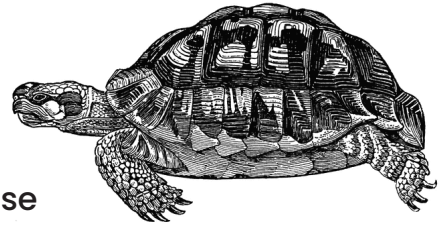
OMNIVORE



**Towhee**

Eats seeds and insects

OMNIVORE



**Gopher tortoise**

Eats grasses, fruit, seeds,  
occasionally insects, bones and carrion

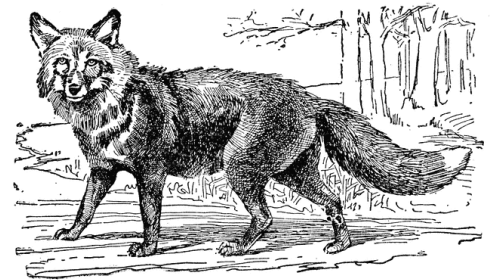
OMNIVORE



**Raccoon**

Eats fruit, nuts and small invertebrates

OMNIVORE



**Red fox**

Eats fruit, eggs, insects, small rodents and birds

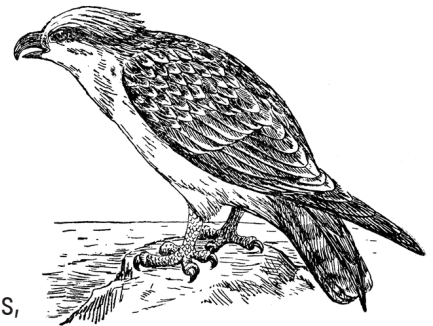
CARNIVORE



**Loggerhead shrike**

Eats insects and small reptiles,  
amphibians, rodents and birds

CARNIVORE



**Osprey**

Eats mostly fish,  
occasionally rodents,  
birds and small reptiles

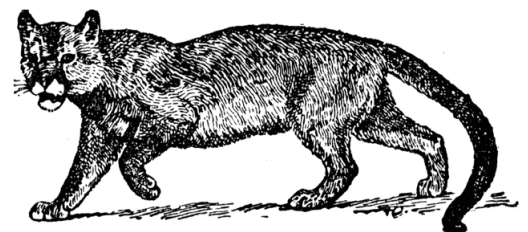
CARNIVORE



**Green anole**

Eats insects, spiders and  
other small invertebrates

CARNIVORE



**Florida panther**

Eats mostly deer, occasionally armadillos,  
rabbits and birds

# Food Web Organisms

<p><b>PRODUCER:</b> Used by:</p>	<p><b>PRODUCER:</b> Used by:</p>
<p><b>HERBIVORE:</b> Eats:</p>	<p><b>HERBIVORE:</b> Eats:</p>
<p><b>OMNIVORE:</b> Eats:</p>	<p><b>OMNIVORE:</b> Eats:</p>
<p><b>CARNIVORE:</b> Eats:</p>	<p><b>CARNIVORE:</b> Eats:</p>

# Habitat Highway

## Objective

Students will be able to define a “habitat highway,” identify examples of wildflowers that can create them and pollinators that benefit from them, and conduct research to create an argument for improving the “habitat highways” in their community.

## Discussion

Because most insects live and gather food within small areas, it is very important that our neighborhoods and communities have natural or planted habitat. Even a small strip of wildflowers can be of use to a hungry pollinator. It is even better for pollinators if such areas are connected or within close proximity to one another. That helps form “habitat highways” through developed areas, which allows insects to move about and thrive. Pollinators can travel between these areas of wildflowers within a developed area to have a place to eat and rest on their journey.

When your school plants Florida wildflowers and other native plants, your garden serves as part of that habitat highway.

## Directions

Students should work in pairs.

1. Review the list of pollinators from “Pollination Game” Unit 3, Activity 1 or have students name some **pollinators** (e.g., bees, hummingbirds, moths, bats, butterflies, beetles, flies) and write them on the board.
2. Take a walk around your school grounds and note any pollinator gardens on the school property. Have students bring a clipboard, paper, and pen or pencil to list pollinators and wildflowers that they see present. Take photos if possible.
3. Once students have recorded their observations, have them create a rough sketch of your school’s garden area / green space. You can also create your own sketch ahead of time for your class to use.
4. Once students have completed their observations and sketches, return to class and have students share out what they have learned. Students can show the photographs they’ve taken or find digital photographs of the pollinators that were observed.
5. After sharing out observations, have students research 5-10 wildflowers that grow well in your area and direct them to then identify and list pollinators that are attracted to those wildflowers.
6. Using the students’ sketches or the pre-drawn sketch as a guide, have students come up with a plan to modify your school’s existing garden area to encourage more pollinator activity. Students should keep the following elements in mind when researching and coming up with their plan:
  - What do the wildflowers need to thrive in terms of sunlight, water, etc.?
  - What resources are already existing and available vs. what will you need to outsource with donations and/or purchasing?

## Materials

- paper
- clipboards (one per pair)
- pencils
- camera/tablet to take photos (optional)

## Standards

Grade 3: ELA.3.C.1.3, ELA.3.C.2.1,  
ELA.3.C.4.1, SC.3.N.1.6, SC.3.N.3.2,  
SC.3.N.3.3

Grade 4: ELA.4.C.1.3, ELA.4.C.2.1,  
ELA.4.C.4.1, SC.4.L.16.2, SC.4.L.17.4,  
SC.4.N.3.1

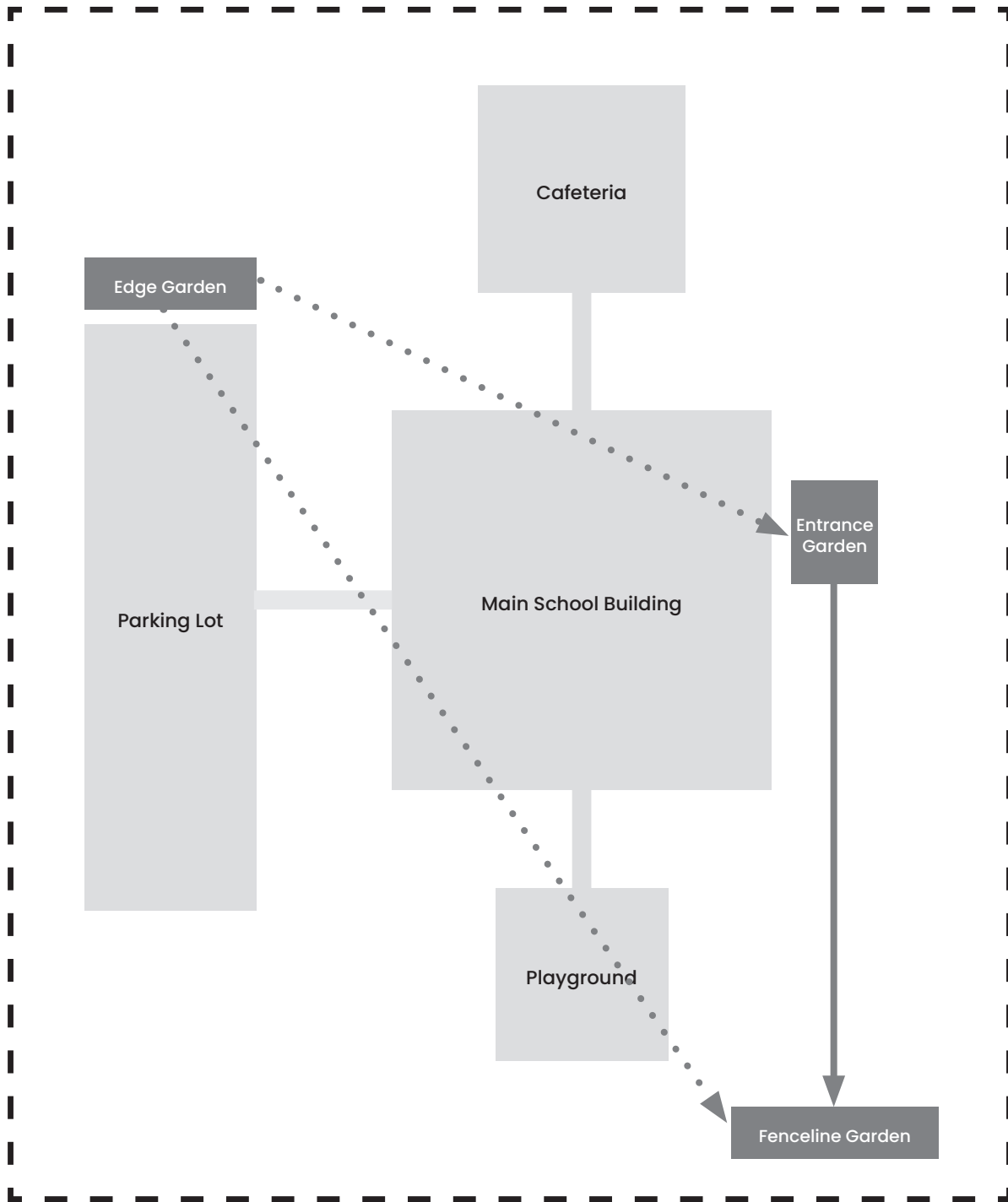
(Continued on following page)

- How much time will the garden area need to be tended to?
  - What type of care will the garden need throughout different seasons? Will the plants need to be cut back, covered, replanted, etc.
  - **Optional Extension:** You can also give students a budget to work within for this activity.
7. Have students use their research, sketches, and observations to write a persuasive pitch for altering your garden's space. Have them include why encouraging more pollinators would be beneficial to the environment and school community. This pitch can be presented orally, with a visual presentation, or could even be written as a persuasive letter to your school's leadership team.
  8. Use the questions below to lead a discussion with students about pollinators and "habitat highways."

### **Discussion**

- How can models like your "habitat highway" sketch be used to create a plan of action?
- How could this model help pollinators?
- Do you think your school has enough habitats for pollinators to create a "habitat highway"?
- Where do you think more pollinator habitats are needed to create a better "habitat highway" for pollinators in your environment? Think both within your school community and within your local community as well!
- How can you help pollinators?

# Sample School Campus

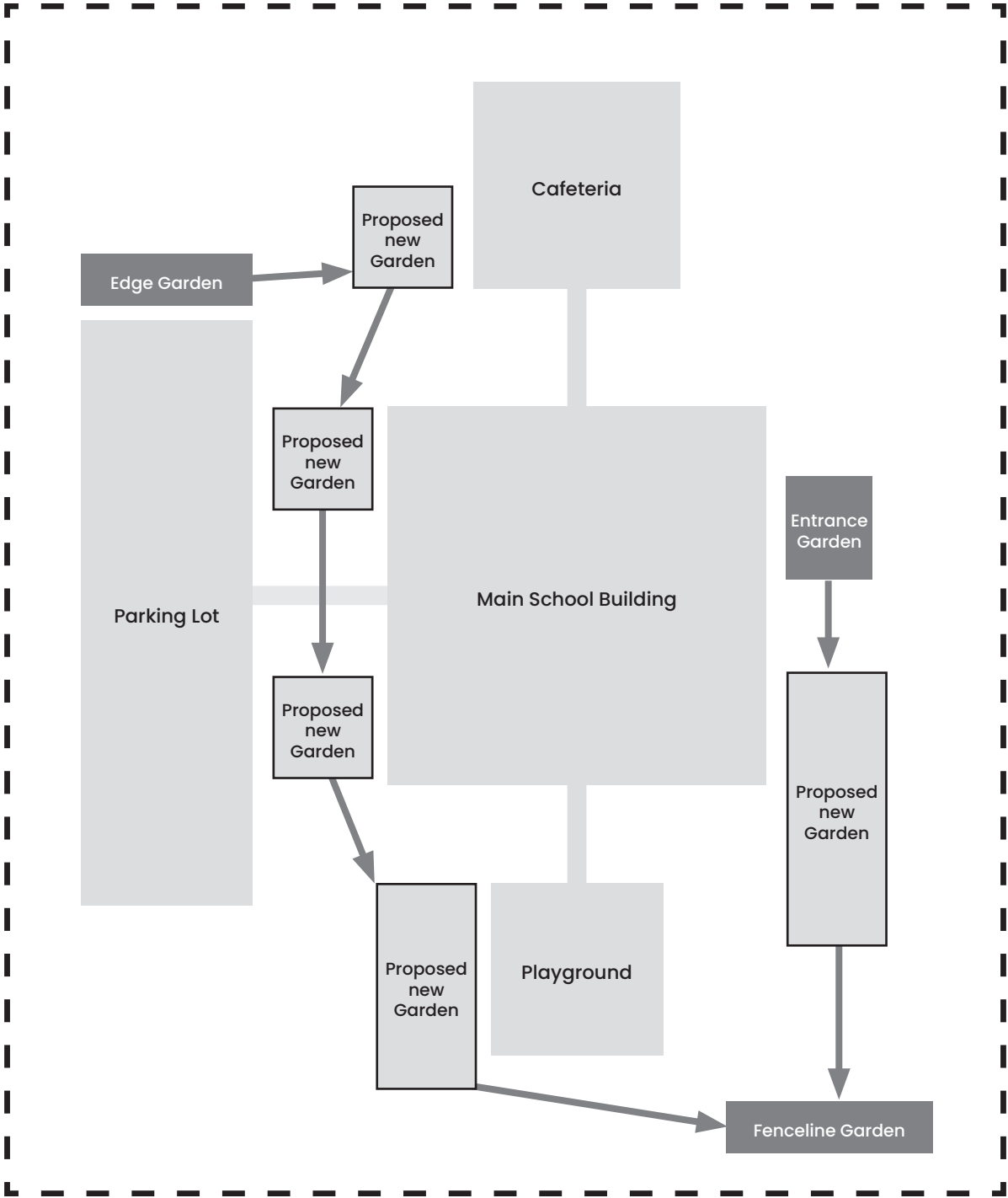


## Legend:

- Existing pollinator habitat
- Mowed grass areas
- Buildings and paved areas
- Current habitat highway connection
- Potential connection

Note: This sketch shows limited pollinator habitats with large gaps between them. Pollinators must travel long distances across mowed grass and paved areas to reach food sources.

# Sample School Campus Habitat Highway



**Legend:**

- Existing pollinator habitat
- Mowed grass areas
- Buildings and paved areas
- Proposed pollinator habitat
- Current habitat highway connection
- Potential connection

Note: This improved plan shows new pollinator garden options strategically placed to create continuous pathways. Now pollinators can easily travel across campus with regular “rest stops” for food and shelter.

# Glossary

**benefit:** a service provided; something that promotes or enhances well-being; an advantage

**carnivore:** an animal that eats only other animals

**cohort:** a group or pair that has something in common; plants, insects, and animals that have symbiotic relationships

**commensalism:** a relationship between two organisms (plants and/or animals) in which one benefits, while the other obtains neither benefit nor harm

**community:** all the different plants, animals and other organisms living together in the same area

**food chain:** a simple diagram showing who eats whom in an ecosystem; for example: wildflower >> caterpillar >> bird

**food web:** a diagram showing how many food chains connect and overlap in an ecosystem, and how most animals eat more than one thing

**herbivore:** an animal that eats only plants

**host:** in a symbiotic relationship, an organism that supplies nutrients, support or additional resources to another organism

**hypothesis:** something not proved but assumed to be true for purposes of argument or further study or investigation

**interaction:** a particular way in which organisms affect one another

**mutualism:** an association between two different organisms in which both organisms benefit

**omnivore:** an animal that eats both plants and animals

**parasite:** an organism that lives on or inside another (called the host) and obtains nutrients at the host's expense

**parasitism:** an association between two different organisms in which one benefits while the other is harmed

**predator:** an animal that hunts and eats other animals; an organism that naturally preys on other organisms

**prey:** an animal that is hunted and eaten by other animals

**producer:** an organism (usually a plant) that makes its own food using energy from the sun

**relationship:** the way in which two (or more) organisms are connected

**symbiosis:** two different organisms (plant and/or animal) living together in close association, typically benefitting both organisms

## Tip

Turn the vocabulary words into a Jeopardy-style game for a fun, interactive way to review with your students. Free online templates are available at [JeopardyLabs.com](http://JeopardyLabs.com), or you can download templates for PowerPoint or Google Slides.

# Plant and Animal Interactions Definition Match

Match the vocabulary words in the Word Bank to their definitions.

<u>Word Bank</u>				
benefit	commensalism	hypothesis	mutualism	relationship
cohor	host	interaction	parasitism	symbiosis

\_\_\_\_\_ A relationship between two organisms (plants and/or animals) in which one benefits, while the other obtains neither benefit nor harm.

\_\_\_\_\_ An association between two different organisms in which one benefits while the other is harmed.

\_\_\_\_\_ The way in which two (or more) organisms are connected.

\_\_\_\_\_ In a symbiotic relationship, an organism that supplies nutrients, support, or additional resources to another organism.

\_\_\_\_\_ A service provided or something that promotes or enhances well-being; an advantage.

\_\_\_\_\_ A particular way in which organisms affect one another.

\_\_\_\_\_ Two different organisms (plant and/or animal) living together in close association, typically benefitting both organisms.

\_\_\_\_\_ An association between two different organisms in which both organisms benefit.

\_\_\_\_\_ Something not proved but assumed to be true for purposes of argument or further study or investigation.

\_\_\_\_\_ A group or pair of plants, insects, or animals that have symbiotic relationships or something in common.

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benefit	commensalism	hypothesis	mutualism	relationship
cohort	host	interaction	parasitism	symbiosis

## commensalism

A relationship between two organisms (plants and/or animals) in which one benefits, while the other obtains neither benefit nor harm.

## parasitism

An association between two different organisms in which one benefits while the other is harmed.

## relationship

The way in which two (or more) organisms are connected.

## host

In a symbiotic relationship, an organism that supplies nutrients, support, or additional resources to another organism.

## benefit

A service provided or something that promotes or enhances well-being; an advantage.

## interaction

A particular way in which organisms affect one another.

## symbiosis

Two different organisms (plant and/or animal) living together in close association, typically benefitting both organisms.

## mutualism

An association between two different organisms in which both organisms benefit.

## hypothesis

Something not proved but assumed to be true for purposes of argument or further study or investigation.

## cohort

A group or pair of plants, insects, or animals that have symbiotic relationships or something in common.

# Resources

## Literary connections

*Bugs in the Garden* by Beatrice Alemagna

*From Flower to Flower. Animals and Pollination* by Patricia Lauber

*The Garden Next Door* by Collin Pine

*Insects and Flowers* by Oda Hidetomo

*Max and the Milkweed* by Auggie Grand

*The Milkweed and Its World of Animals* by Ada & Frank Graham

*The Nature And Science Of Flowers (Exploring the Science of Nature)* by Kim Taylor and Jane Burton

*On One Flower. Butterflies, Ticks and a Few More* by Anthony Fredericks

*Poppy, Buttercup, Bluebell and Dandy* by Fiona Woodcock

*Seeds, Bees, Butterflies, and More! Poems for Two Voices* by Carole Gerber

## Reference books

*Complete Guide to Florida Wildflowers* by Roger Hammer

*Florida Wildflowers in Their Natural Communities* by Walter Kingsley Taylor

*Surviving the Wilds of Florida* by Reid Tillery

## Websites and other web resources

Florida Wildflower Foundation (plant profiles, photos and other resources on Florida natives)  
[www.FlaWildflowers.org](http://www.FlaWildflowers.org)

Florida's Wildflowers and Butterflies (Florida Museum of Natural History)  
[www.FloridaMuseum.ufl.edu/wildflowers/wildflower-search](http://www.FloridaMuseum.ufl.edu/wildflowers/wildflower-search)

iNaturalist SEEK (image recognition app for identifying plants and animals)  
[www.iNaturalist.org/pages/seek\\_app](http://www.iNaturalist.org/pages/seek_app)

Lady Bird Johnson Wildflower Center (national database; search by state, family or habitat)  
[www.Wildflower.org/plants-main](http://www.Wildflower.org/plants-main)

Plant defense against herbivory  
[en.wikipedia.org/wiki/Plant\\_defense\\_against\\_herbivory](http://en.wikipedia.org/wiki/Plant_defense_against_herbivory)