



## Enchanted Forest Sanctuary Teacher Information Packet

Dear Educator,

Thank you for your interest in bringing your students to the Enchanted Forest Sanctuary (EFS), where we are committed to providing exceptional experiential learning opportunities in the natural environment. All programs are correlated to the *Sunshine State Standards* to provide students with an engaging, interactive and enjoyable learning experience. Please review the Teacher Summary for grade level details. The EFS offers hiking trails, interactive exhibits, outdoor and indoor educational facilities, butterfly gardens, a picnic area and restrooms.

To provide students with a meaningful experience, **group size is limited to 72 students**. We can accommodate larger groups by dividing them into separate field days.

It is advised that you call to schedule your group as soon as possible to reserve your preferred date(s). Two to three weeks prior to your field day, I will contact you to discuss logistics and planning. This discussion will include team sizes, length and purposes of activities, minimum and maximum numbers of chaperones permitted and other required topics of discussion. Of course, you may contact me at any point in time with questions or comments!

There are **no entrance fees or activity fees** at the Enchanted Forest Sanctuary! Volunteers with the non-profit Friends of the Enchanted Forest conduct many of our guided hikes and educational activities. The Friends accept donations to support their efforts. The Friends also offer gift bags for students containing educational items for a \$1 per student donation from the school. This is an excellent method to ensure all students receive a souvenir from his/her experience at EFS. Please let us know prior to your visit if you would like bags for your group.

The Enchanted Forest Sanctuary also offers in-service training workshops for teachers. For more information, please contact us. We look forward to meeting your group and exploring the beautiful natural environment of the Enchanted Forest Sanctuary with them. Please call to discuss curriculum and scheduling options or if you have any questions.

Thank you,

Joan Faulls  
Sanctuary Steward

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Enchanted Forest Sanctuary  
444 Columbia Blvd., Titusville, FL 32780  
Phone: 321-264-5185, Fax: 321-264-5190  
Website: [www.eelbrevard.com](http://www.eelbrevard.com)  
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# Enchanted Forest Sanctuary (EFS) Teacher Checklist

## Pre-Trip

- ✓ Review the Teacher Information Packet
- The EFS Naturalist will call two to three weeks before your visit to discuss program details. This *required* conversation is essential in coordinating the logistics of your study trip.
- Distribute the Parent Information handout to all participating parents and chaperones.
- Distribute the Chaperone Information handout to each chaperone.
- Divide your students into the specified number of teams as discussed with Sandy using the Teams Roster included (also available on-line) or a school form. **Requirement:** at least one adult from your school should be assigned to each team. Remember: no more than 18 students and 20 people total per team.
- Create a list of student names (first and last) that includes allergy and special medical conditions for all applicable students. Use either the Teams Roster or a school form. **This is required to participate in EFS study trips!**
- Notify us with any changes in student numbers, schedule or program options.

## Day of Study Trip

- Be sure to bring Parent Permission Forms with you. **Note: This is required to participate in EFS study trips!**
- Please bring at least *two* copies of the Teams Roster (or applicable school form) with allergy and medical conditions listed. **Note: This is required to participate in EFS study trips!**

## Post-Trip

- Please complete and send to us the teacher survey.

Thank you!!



# Enchanted Forest Sanctuary Grades 6-8 Study Trips Teacher Summary

**Title:** FBI: Forest Biodiversity Investigators

**Objectives:**

1. To provide 100% of students with an opportunity to experience and explore nature.
2. To provide 100% of students with an opportunity to study several annually assessed benchmarks:
  - a. 75% of students will be able to give at least one example of a plant or animal adaptation to the scrub environment (SC.G.1.3.2, content sampled).
  - b. 75% of students will be able to describe why the data from their survey is important in the continuing effort to understand the Enchanted Forest Sanctuary (EFS) (SC.H.1.3.1, annually assessed).
  - c. 75% of students will be able to name at least one land management activity and describe its positive effect(s) (SC.G.2.3.4, annually assessed).
  - d. 90% of students will collect data for a plant survey (MA.E.1.3.1, annually assessed).
  - e. 75% of students will be able to display their data from the plant survey in graphic or written form and share it with the class (MA.E.1.3.1, annually assessed).

**Benchmarks:**

The Enchanted Forest Sanctuary study trips specifically focus on the above annually assessed benchmarks, but others may also be addressed.

**Philosophy:**

The philosophy of the Enchanted Forest Sanctuary (EFS) study trips for grades K-5 is to expose students to the outdoors to create an awareness and appreciation for local plants, animals and ecosystems. For middle and high school students, our philosophy encourages exploration of land and habitat management, human impacts upon the environment, and personal reflection of environmental stewardship.

All students are encouraged to explore, wonder, comment, question and reach conclusions on their own. By exploring the natural world around them, students are more likely to interact with nature in the future and apply what they've learned. This hands-on, interactive approach is called experiential learning. The Enchanted Forest Sanctuary primarily accomplishes experiential learning through guided hikes, nature-based activities and exploratory exhibits.

**Example Agenda (Grades 6-8):**

*This agenda is flexible depending upon scheduling, weather, and EFS staffing.*

Orientation	15 minutes
Guided Hike	1 hour 45 minutes
Lunch	30 minutes
Activities	1 hour 30 minutes

# Chaperone Information for the Enchanted Forest Sanctuary Study Trip

## Location of the Study Trip

The Enchanted Forest Sanctuary (EFS) is one of many Sanctuaries managed by the Brevard County Environmentally Endangered Lands (EEL) Program. The mission of the EEL Program is protecting and preserving biological diversity through responsible stewardship of Brevard County's natural resources. The Enchanted Forest Sanctuary is over 450 acres located in the southern city limits of Titusville on State Road 405, just ½ mile west of US 1.

## Chaperone Role

Chaperones play an important role at the EFS in providing a fun, positive learning experience for students. Chaperones are expected to supervise students during their visit. Chaperones primarily assist by **providing close supervision and maintaining discipline** to:

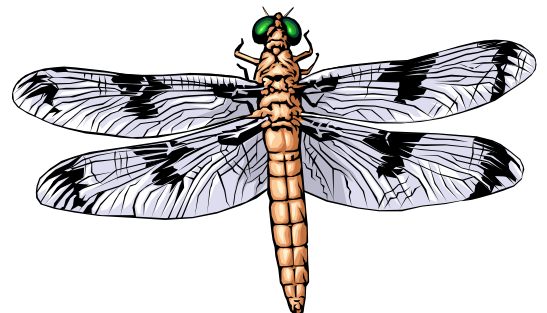
- ✓ Ensure student safety;
- ✓ Enhance student interactions and learning opportunities; and
- ✓ Protect the natural ecosystems from unintentional damage.

Chaperones also support hike guides and EFS staff with conducting any educational activities. The number of chaperones assisting with the guided hikes will depend on the size of the group. Guided hikes are limited to 20 people per team including students, teachers and chaperones. At least one chaperone is asked to walk at the back of the line on guided hikes to ensure that no students fall behind. Additional chaperones are welcome to enjoy the facilities until the hike groups return, and then assist with other activities. These activities may include hands-on exploration in the Discovery Room and Exhibit Room or assisting with environmental education activities. Chaperones may also be asked to assist with the coordination of lunch or snack times and assist students with restroom visits.

Please take a minute to review the Parent and Chaperone Information handout prior to the study trip. This handout will advise you on what to bring and how to dress for the day. You may also wish to visit [www.eelbrevard.com](http://www.eelbrevard.com) to familiarize yourself with the EFS. A schedule for your study trip can be obtained from the lead teacher of your group. If you have any questions about EFS, please contact us.

Have fun!

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Email: [enchantedforest@brevardparks.com](mailto:enchantedforest@brevardparks.com)



# Parent Information for the Enchanted Forest Sanctuary Study Trip

## Location of the Study Trip

The Enchanted Forest Sanctuary (EFS) is one of many Sanctuaries managed by the Brevard County Environmentally Endangered Lands (EEL) Program. The mission of the EEL Program is protecting and preserving biological diversity through responsible stewardship of Brevard County's natural resources. The Enchanted Forest Sanctuary is over 450 acres located in the southern city limits of Titusville on State Road 405, just ½ mile west of US 1.

## Study Trip Activities

Your child's visit will be supervised by teachers, chaperones and trained EEL staff and volunteers to ensure safe exploration of EFS. Activities may include guided hikes, hands-on exploration in the Management and Education Center (Center) or other environmental education activities. All activities are led or monitored by trained EEL staff or volunteers. The EFS provides trails, a picnic area, outdoor amphitheatre, screened porch, classrooms and butterfly garden. The Center and some interpretive trails are accessible to all people regardless of age or ability.

## What should students and chaperones wear?

Students are likely to be hiking along dirt trails and must be appropriately attired.

*Clothing* Weather-appropriate and comfortable clothing suitable for the outdoors is strongly recommended. A light-colored cotton t-shirt and loose cotton pants or shorts are ideal in spring, summer and fall, while a jacket or sweatshirt is recommended in winter.

*Footwear* Comfortable hiking footwear such as sneakers or hiking boots is essential. Flip-flops, open-toe sandals and heels are NOT recommended.

## What should students bring?

- **A large bottle of water! (which can be re-filled at the Center)**
- Sunscreen and/or insect repellent
- Camera and/or binoculars (optional)

## What students should NOT bring:

- Hand-held video games (Gameboy, etc.)
- Music players or noisemakers of any kind
- Cell phones are required to be on vibrate or off during their visit



## Planning a Family Visit:

The Enchanted Forest Sanctuary provides many exciting activities for families. The Center is open daily from 9:00 a.m. to 5:00 p.m. Guided hikes are available on Saturdays at 10:00am for the general public. Please contact us for more information. There are no entrance fees to the EFS.

*Enchanted Forest Sanctuary Management & Education Center*

444 Columbia Blvd, Titusville, FL 32780

Phone: 321-264-5185

[www.eelbrevard.com](http://www.eelbrevard.com)

[enchantedforest@brevardparks.com](mailto:enchantedforest@brevardparks.com)

## Enchanted Forest Sanctuary Teams Roster

School or Group Name: \_\_\_\_\_ Date of Study Trip: \_\_\_\_\_  
*Please bring this form with you the day of your field trip!*

**Team Name:** \_\_\_\_\_

Teacher(s) for this team:	
Chaperone(s) for this team:	
Student Names (First and Last)	Allergies/Medical Conditions/Special Needs? Please describe.
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	

**Team Name:** \_\_\_\_\_

Teacher(s) for this team:	
Chaperone(s) for this team:	
Student Names (First and Last)	Allergies/Medical Conditions/Special Needs? Please describe.
1.	
2.	
3.	
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18.	

# Enchanted Forest Sanctuary

## Pre- and Post-Study Trip Curriculum

### Grades 6-8

## Objectives

To prepare students for a study trip to the Enchanted Forest Sanctuary (EFS) by introducing or reviewing key concepts and studying several assessed benchmarks using interactive activities. Specific objectives are listed for each activity. Vocabulary words are underlined the first time they occur and are defined on the last page of this packet.

## Purpose

These activities will introduce or review key concepts and vocabulary words for students to prepare for a study trip or review a study trip to the EFS. *While not required*, conducting one or more of these activities will provide students with a foundation from which to understand topics to be discussed at EFS or review topics after the trip.

## Who We Are

The Environmentally Endangered Lands (EEL) Program was established in 1990 by Brevard County citizens to protect the natural habitats of Brevard County by acquiring environmentally sensitive lands for conservation, passive recreation, and environmental education. The EFS is one sanctuary of many totaling over 20,000 acres of land managed by the EEL Program.

Brevard County Environmentally Endangered Lands (EEL) Program  
Enchanted Forest Sanctuary  
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## Pre-Trip Curricula

### Topic: Wildlife Surveys

**Objectives:** 95% of student groups will be able to classify species into groups as part of a scientific survey

85% of students will be able to describe why the data from their survey is important in the continuing effort to understanding local ecosystems

**Benchmarks:** SC.G.1.3.3. Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.

SC.H.1.3.1. Knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.

**Materials:**

- One pound bean and pasta mixture with several types of each
- Small plastic bags (to hold mixture for each group)
- Quadrats
- Quadrat data sheet
- Ruler/stiff paper to scoop mixture into bags
- Paper or pipe cleaners

**Duration:** One 45-minute session

**Group Size:** Any, though fewer than 30 is recommended

**Background:** Scientists use a variety of tools and methods to obtain data that will help find answers to questions. Some tools and methods involve technology that is complex, while others are simple. One method a scientist can use to gather data is a survey. A survey gathers information about a particular subject of interest. Scientists can use surveys to determine the quantity and type of organisms living in an area or to learn about their life history. This information is used to determine management practices, or whether a species may need protection as provided by local, state and federal laws. Knowing the quantity and types of organisms in an area can be important when purchasing or developing land. Scientists must do an environmental impact statement (EIS) to

determine the impacts of planned development on the environment. To create an EIS, scientists often need to be able to quantify the different categories of organisms and/or species living in an area.

Often it is difficult, if not impossible, to count all the organisms in a given area. In this case, sampling techniques are used. A sample represents the whole population and its characteristics when the entire population cannot be studied or counted. A sample is a portion of the entire population that gives researchers an idea of what the characteristics are of the entire population. Sampling is used to estimate the number of individuals in a population or community. A quadrat is a simple tool scientists can use to get an estimate. A quadrat is a square of a determined size (say one meter<sup>2</sup>) which is placed on a portion of the area to be studied. By counting how many organisms are inside the quadrat and multiplying that number by how many quadrats would fit into a certain area, estimates can be made about population sizes for each type of organism that lives in that area.

In the following activity, students will practice sampling techniques using a quadrat in preparation for a visit to the Enchanted Forest Sanctuary, where they will conduct surveys of Sanctuary wildlife.

### **Procedure:**

#### *Getting Ready:*

1. Create quadrats using paper or pipe cleaners. A quadrat is a square that is open inside. A pattern is provided for you.
2. Create the pasta/bean mixture using several varieties of both pasta and beans (kidney beans, lima beans, navy beans, black-eyed peas, butterfly pasta, penne pasta, helix pasta, and macaroni, etc.) Place approximately one cup of the mixture in a zip-lock baggie. Prepare enough mixture to have one bag for every 2-3 students (depending on if you want pairs or groups of three working together).

#### *With Students:*

1. Introduce the role of math as a tool in scientific sampling. Tell students they will use addition and multiplication in this activity. Another tool scientists use is categorization (putting things into similar groups). Scientists also use estimation to determine an approximate number of individuals in an area. For example, let's say you have a large park, and you'd like to find out how many dandelions are in the park. You could count all the individual dandelions, but that would take a very long time! Or, you could count the number of dandelions in a small area and then estimate the total number of dandelions in the whole park based upon the number in the small area. You can illustrate this idea with a

simple diagram on the board. Draw a large square with many X's for the dandelions. Outline a smaller square within the big one and have students count the "dandelions" in the small square. Then, ask students how many small squares it would take to fill up the large square and multiply by that number. The resulting number is the estimated total population of dandelions for the park. You can count the actual number to see how close they were.

2. Next introduce the quadrat, a square of known size or area that can be used by scientists to estimate a population size. Students just used a quadrat in estimating the number of dandelions in the park. A scientist would place the quadrat over an area she wished to study and count the number of organisms in it. A typical quadrat size is one meter<sup>2</sup>. Next, she would estimate the number of quadrats that would fit in the entire community, and then multiply this number by the number of organisms inside the quadrat to calculate the total population size of the community.
3. Tell students they will study a make-believe community in preparation for conducting real surveys at the Enchanted Forest Sanctuary on their study trip visit. Divide the class into pairs or groups of three. Pass out the bean and pasta mixture, quadrat and Quadrat Craze Data Sheet to each group. Lead students through the following directions:
  - a. Students will spread their "community" of beans and pasta on a table or desktop. Two teams can work independently on the same community if you prefer.
  - b. Students are to identify six categories of "organisms". It is up to students to determine how to categorize their organisms. It can be done by color, shape, pasta vs. beans or a combination of these characteristics. They can choose real or made-up names.
  - c. Students should write each category and its description on the Quadrat Craze Data Sheet in columns one and two respectively. Review the data sheet columns with students – there are five: the first for the name of the category; the second for a description of the category; the third for the number of individuals counted in the quadrat; the fourth is for the number of quadrats that fit into the whole community; and the last column is for the estimated total number of organisms.
  - d. Next, have students place the quadrat anywhere inside their community.
  - e. Students will then count how many organisms of each category are

- inside the quadrat and record the number in column three. For example, if students categorized their organisms by color, then have them count the number of each color and record it in column three. Each group should determine whether or not to count those that cross over the quadrat line and then consistently use that determination throughout their measurements.
- f. Next, students will determine how many quadrats fit into the whole community. This number goes in column four.
  - g. Students will now estimate the total number of organisms within their community by multiplying column three (the number of organisms in the quadrat) and four (the number of quadrats that fit in the whole community) and recording this number in column five. This is the total number of organisms within their community.
  - h. Have each team report their findings to the class.
4. Lead a class discussion on each group's findings.
- a. Why are there differences between estimates of teams at the same table (two teams would have had to use the same community)?  
*Answer: Different objects may have been clustered together due to weight, texture, etc.*
  - b. Could this occur in the natural environment?  
*Answer: Yes, animals and plants may group together because of food sources, temperature and other conditions.*
  - c. What are some problems with estimation?  
*Answer: It is a rough guess and not completely accurate.*
  - d. What are some of the benefits of estimation?  
*Answer: Scientists would not otherwise be able to count everything in an area. This provides a way to measure populations.*
  - e. How do you think sampling is used at the Enchanted Forest Sanctuary?  
*Answer: To estimate animal and plant populations so that we can provide the best land management possible.*

### Evaluation:

In a class journal or individual journal, have students answer any or all of the following questions:

1. Describe why the data collection method used in your survey is important in the continuing effort to understand local ecosystems.
2. Why would a scientist want to know how many organisms live in a community?
3. What are the advantages and disadvantages of using sampling techniques to estimate the number of organisms in a community?

**Acknowledgement:**

This activity was adapted from “Key to the Sea” Heal the Bay.  
310-453-0395. 3220 Nebraska Ave., Santa Monica, CA 90404

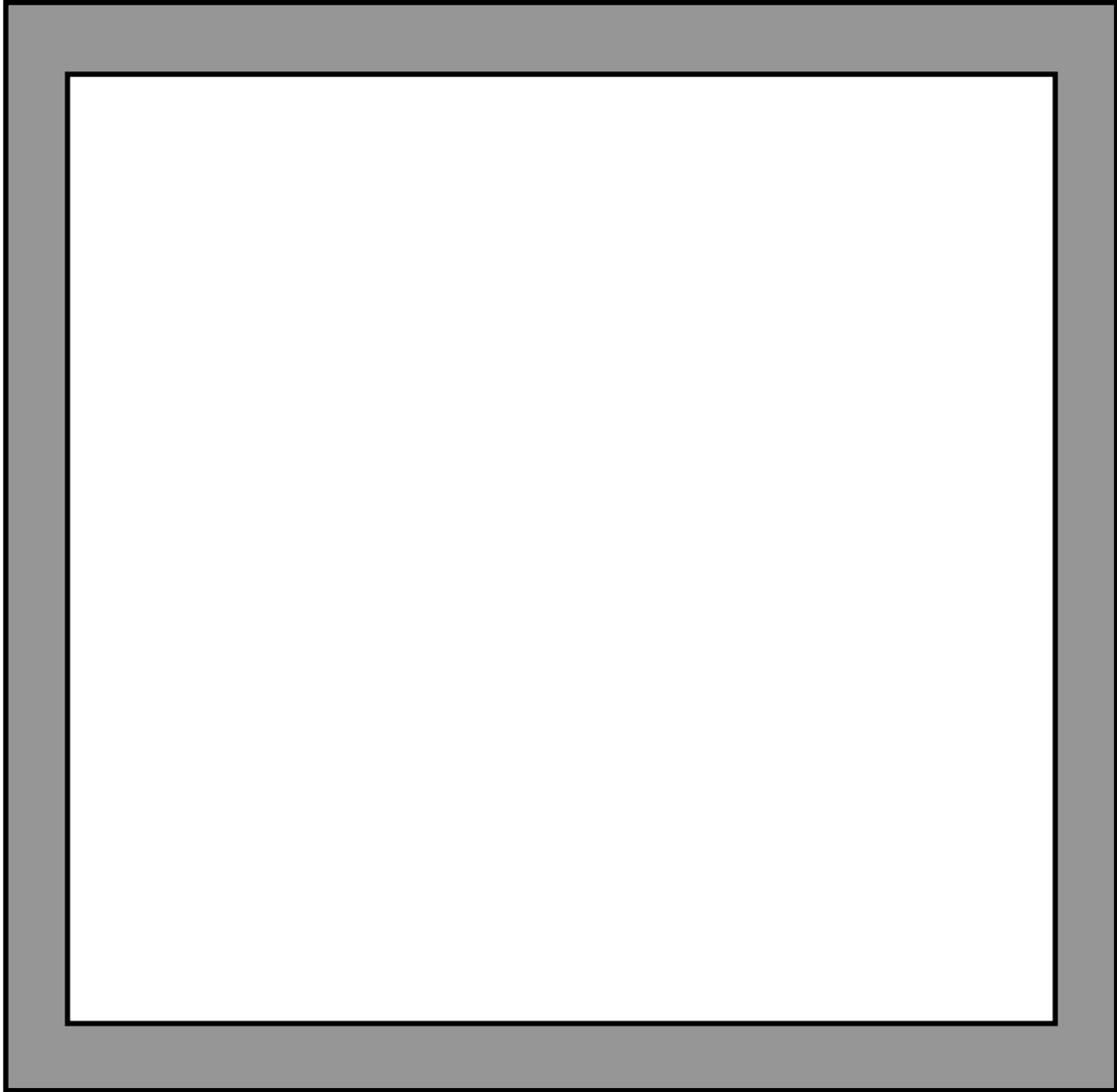
# Quadrat Craze Data Sheet

Date: \_\_\_\_\_

Names: \_\_\_\_\_

Organism Category Name	Category Description	Number of organisms in the quadrat	Number of quadrats in the community	Total number of organisms in the community

# Quadrat Pattern



**Topic: Food Web**

**Objective:** 75% of students will be able to draw a food web that includes at least one of each of the following: producer (plant), herbivore, primary consumer, secondary consumer, top predator, decomposer and/or scavenger with at least two abiotic components for a total of at least 10 components.

**Benchmarks:** SC.G.1.3.4 Knows that the interactions of organisms with each other and with the nonliving parts of their environments result in the flow of energy and the cycling of matter throughout the system.

SC.G.2.3.2 The student knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.

**Materials:** Species cards (attached), badge clips or clothespins, a ball of string, an open area

**Duration:** One 20-minute session

**Group Size:** 20, though more is possible (see below)

**Background:** Animals and plants interact with one another for survival. They depend on each other for food, water, shelter and/or space. A food web is a picture of the relationships between plants and animals. The abstract concept of these relationships is sometimes easiest to understand when shown visually. A food web is simply a more complex version of the food chain that is taught in elementary school. The difference is that a food chain is linear, while a food web shows interconnections and interdependence. A food web more closely represents the conditions in nature and the flow of energy in an ecosystem.

**Procedure:***Getting Ready:*

1. Cut out and if possible laminate the species cards provided. Punch a hole in the top of the card and attach a badge clip, clothespin or similar device to each card. There are 20 species cards. If you have more students, you can add or adapt the cards to your situation or play the activity more than once.

2. Select an open area on the school grounds (or clear desks from the classroom) where your class can stand in a circle.

*With Students:*

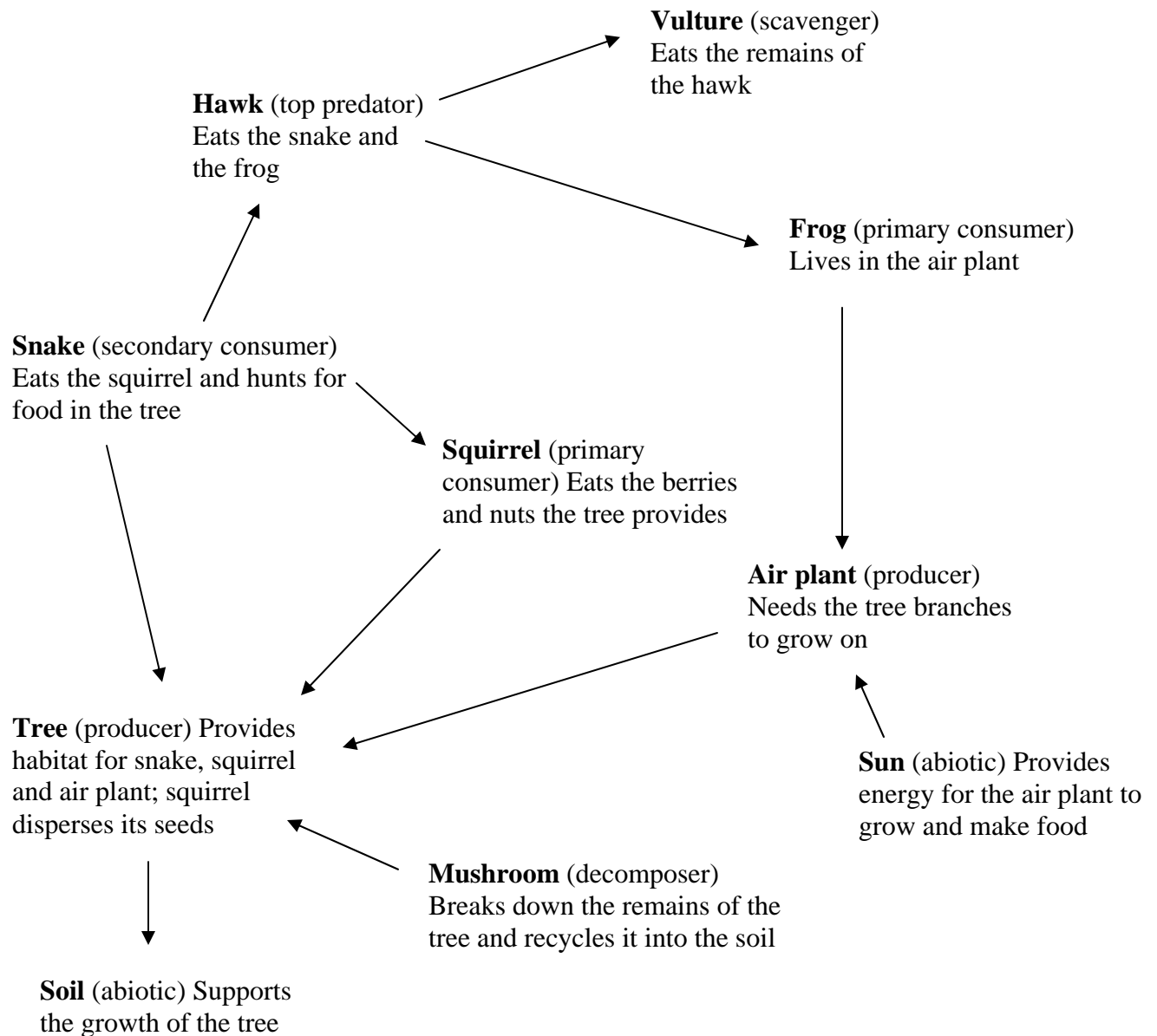
1. Begin by asking students how animals and plants depend on each other for survival (food, water, shelter or space). Ask for examples (a hawk depends on mice for food, a gopher tortoise depends on plants for food, an air plant depends on a tree branch for the space it needs to grow, a rabbit depends on shrubs to provide shelter and protection from predators, etc.).
2. Have students stand in a circle. Pass out the species cards and have students pin the card to their shirt. Tell students they will be participating in an activity to examine relationships between biotic and abiotic things. Ask students to tell you the difference between biotic and abiotic. Choose one person to start and have them identify if they are biotic or abiotic. For those who have a biotic component, also have them identify their role in the ecosystem (producer, primary consumer, secondary consumer, decomposer, etc.). Next, the student will identify a relationship between the component he/she represents and another component within the circle. Stretch the string between these two students and stop at the second student with the ball of string in hand (do not cut the string). Tell the group the string represents a connection between these two components. When both components are biotic, explain that the string represents the flow of energy from one species to the next. For example, if a frog is connected to a bird, explain that the energy from the frog is passed to the bird when the bird eats the frog.
3. Tell students to hold onto the string once they get it. The string should be taut without any sagging. Ask the second student to identify if they are biotic or abiotic. For those who have a biotic component, have them identify their role in the ecosystem (producer, primary consumer, secondary consumer, decomposer, etc.). Next, the student should identify a relationship (other than the one just used) between themselves and another component in the circle. Students should be looking at all components in the circle, not just the ones directly across from them. There could be a relationship right next to them. Students can be selected more than once, ultimately having several pieces of string to hold onto, though it's best if everyone gets the string at least once. Run the string from the second student to the third and stop. Again state that this represents a relationship or connection between these two components in the ecosystem.
4. Continue the activity, having students state if they are biotic or abiotic and the role they play in the ecosystem if they are biotic. They should

also identify the relationship between themselves and the component they choose.

5. When a top predator is included in the connection, explain that this animal has the combined energy of all the species below it (an alligator might have the energy from the bird it ate, the frog the bird ate, and the mosquitoes the frog ate). When a student represents a top predator, encourage this student to look for a component that it would connect to when it dies. There should now be a connection between the top predator and either a decomposer or scavenger. Ask students to explain why this component of the ecosystem is important (they break down organic matter which provides nutrients in the soil for plants to grow, thus beginning the cycle all over again).
6. Continue until all students have at least one string in hand. There will be a network or “web” of string stretching back and forth across the circle. Ask students what the web represents (the interdependence or interconnectedness of all things in nature). Next, randomly select a student and have them either take a step back or sit down while holding onto their string. Ask if anyone felt anything. This action should tug on other students and demonstrate how one component in an ecosystem affects other components. Discuss how this might affect the natural environment. What might happen if a prey species declines due to water pollution or loss of habitat? What might happen if a top predator is eliminated from the ecosystem? What might happen if an abiotic component such as a gopher tortoise burrow is lost? Students should understand that the connections of biotic and abiotic components in the ecosystems affect everything else.

**Evaluation:** Each student will draw a food web that includes at least one of each of the following: producer (a plant), primary consumer (also called herbivore), secondary consumer, top predator, decomposer and/or scavenger and at least two abiotic components. Students should have a minimum of 10 components in their drawing. The drawing should include the role in the ecosystem that all components (biotic and abiotic) play. On each arrow, the student should describe the connection between the two components. Show them the example food web (provided) if desired.

# Sample Food Web



## Fire



## Gopher Tortoise Burrow



## Sun's Energy



## Tree



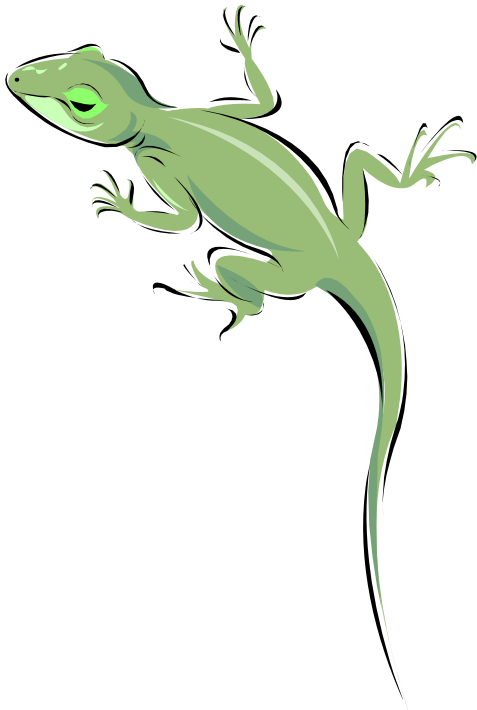
## Cardinal



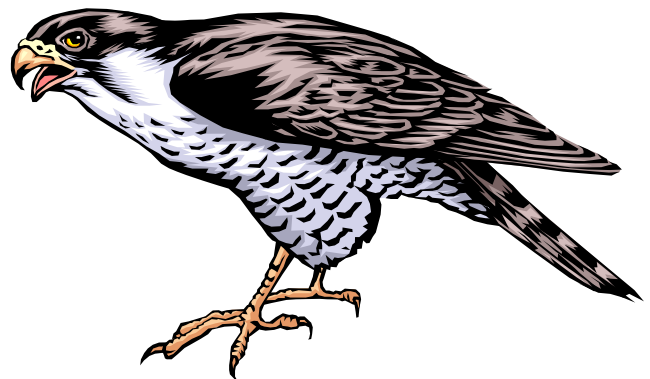
## Snake



## Lizard



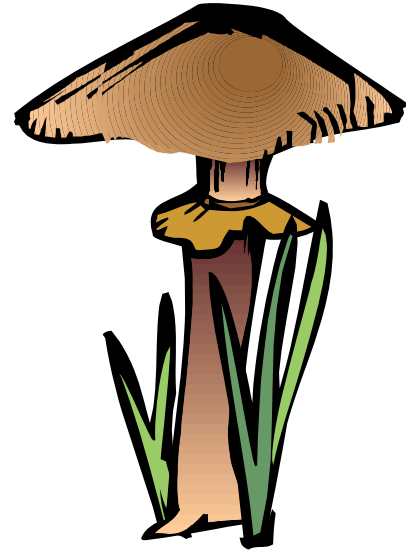
## Hawk



## Vulture



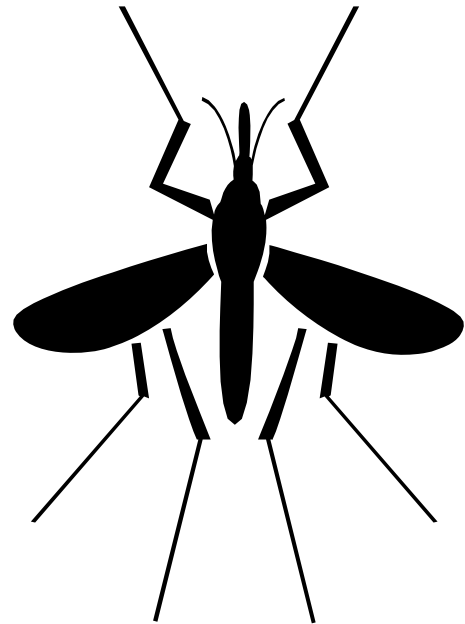
## Fungi



## Frog



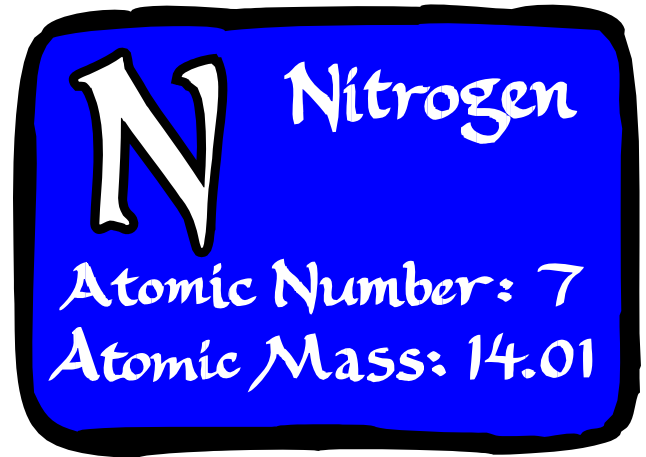
## Insects



## Saw Palmetto



## Nitrogen



## Bobcat



## Mouse



## Squirrel



## Seeds and Nuts



## Rabbit



## Grubs



## Post-Trip Curricula

### Topic: Stakeholder Views

**Objectives:** 75% of students will be able to identify at least three different stakeholders for a natural area they choose or one assigned to them and what their position is in regard to the natural area.

**Benchmark:** None

**Materials:** None for Option #1. Land manager scenario cards are provided below for Option #2.

**Duration:** One 45-minute session or more

**Group Size:** Any, though fewer than 30 is recommended

**Background:** The Environmentally Endangered Lands (EEL) Program has many sanctuaries throughout Brevard County totaling more than 20,000 acres. The EEL Program uses a variety of land management techniques for the land and wildlife under its care, including prescribed fire, wildlife research, exotic species control, restoration and education.

EEL sanctuaries have many stakeholders interested in its activities: land managers, volunteers, Friends groups, neighbors, other governments, county citizens, local companies, etc. A stakeholder is a person or group of people that have an interest in something. Each stakeholder may have different viewpoints, opinions and suggestions for how, what and why lands should or should not be conserved and managed.

Prescribed fire might be seen as habitat management to one person, while it might be seen as habitat destruction to another. Controlling the invasive exotic Brazilian pepper tree is seen as restoring natural habitat to some, but seen as killing plants to another. The EEL Program is tasked with performing these land management activities, but also listening to different viewpoints from its stakeholders. In this activity, students will brainstorm differing perspectives of stakeholders in regards to land management activities.

**Procedure:***Option #1:*

1. Instruct students to think of their favorite natural area. It could be as small as a yard or vacant lot or as big as a National Park or Marine Sanctuary. Provide an example if you wish of your own favorite natural area.
2. Students will write a paragraph describing their natural area: where is it located, what surrounds it, what the land looks like, what types of animals or plants live there, etc.
3. Instruct students to think of at least three stakeholders for their natural area. Review what a stakeholder is: a person or group of people that have an interest in something, in this case the management of land at an EEL sanctuary.
4. Students will list at least three stakeholders for their natural area and write a description of their views. Give an example: the natural area is a park in the student's neighborhood. Stakeholders might include: a wheel-chair bound person that likes to get outdoors, a neighbor who doesn't like teenagers hanging out at the park at night, and a birdwatcher who enjoys the variety of birds they see when they walk its trails.
5. Next, students will write a brief description of how they would manage the land that takes into account each stakeholder's views. Using the example provided above, the student might provide an ADA accessible trail in the park, ask the local police department to patrol the park at night and provide a bench for birders to sit and enjoy the wildlife.
6. Have students share their reports with the rest of the class. Quiz other students if they can think of any other stakeholders in each student's situation. Would they manage the land differently?

*Option #2:*

1. Cut out the scenarios below and give one to each student.
2. Follow the instructions provided above beginning at #2.

**Evaluation:** Have students turn in this assignment. Each student should have listed at least three stakeholders and their viewpoints in regards to a natural area of their choosing or one assigned to them.

## Grades 6-8 Vocabulary

<b>Abiotic</b>	a non-living thing or pertaining to a non-living thing
<b>Biotic</b>	a living thing or pertaining to a living thing
<b>Categorize</b>	to put things into groups of similar things
<b>Community</b>	a group of living things that live in a certain area
<b>Decomposer</b>	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms; mushrooms are an example
<b>Ecosystem</b>	A wildlife community formed by the interactions of organisms with each other and with the physical features of the landscape (desert, rainforest, tundra, ocean, scrub, mesic hammock, hydric hammock...)
<b>Estimation</b>	a rough idea of the size or number of something
<b>Food Web</b>	Many interrelated food chains in an ecological community; many food chains that are connected by the interactions of organisms
<b>Life History</b>	the physical traits and behaviors of a species in its lifetime, including average length of life, age at maturity, adult body size, mating process, types of food eaten, where they raise their young, etc.
<b>Organism</b>	an individual living thing
<b>Primary Consumer</b>	an animal that feeds on plants; also called an herbivore
<b>Producer</b>	an organism, such as a plant, that is able to produce its own food using abiotic substances
<b>Quadrat</b>	a square of known size used to estimate the total population size of a larger area
<b>Sample</b>	a small part of anything intended to show the characteristics of the whole
<b>Scavenger</b>	An animal that feeds on dead or decaying matter
<b>Secondary Consumer</b>	an animal whose diet consists of mostly meat; also called a carnivore

- Stakeholder** a person or group of people that have an interest in something
- Survey** a gathering of sample data considered to be a representative of the whole
- Top Predator** an carnivore at the top of the food chain that feeds on other carnivores; also called a tertiary consumer

# Enchanted Forest Sanctuary (EFS) Teacher Feedback Form, Grades 6-8

Name of school: \_\_\_\_\_ Teacher/Coordinator: \_\_\_\_\_

# of students on trip to EFS: \_\_\_\_\_ Grade Level(s) or Ages: \_\_\_\_\_ Date of Visit: \_\_\_\_\_

1. Did your visit to EFS meet the following Sunshine State Standards?

- |  |     |         |          |     |
|--|-----|---------|----------|-----|
| a. Standard SC.G.1.3.2. (knows that biological adaptations include changes in structures, behaviors, or physiology that enhance reproductive success in a particular environment)?   | Met | Not Met | Not Sure | N/A |
| b. Standard SC.G.2.3.4. (understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems)?   | Met | Not Met | Not Sure | N/A |
| c. Standard SC.H.1.3.1. (knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way)?                          | Met | Not Met | Not Sure | N/A |
| d. Standard MA.E.1.3.1. (collects, organizes, and displays data in a variety of forms, including tables, line graphs, charts and bar graphs to determine how different ways of presenting data can lead to different interpretations)? | Met | Not Met | Not Sure | N/A |

2. Were the objectives stated in the EFS Teacher Packet accomplished? (Please circle) Yes      No  
If "no", please explain: \_\_\_\_\_

3. Did guides use appropriate instructional techniques? (Please circle) Yes      No  
If "no", please explain: \_\_\_\_\_

4. Were there any activities that need to be improved or changed? If so, how? \_\_\_\_\_  
\_\_\_\_\_

5. What activity was the most helpful for you or your students? \_\_\_\_\_  
\_\_\_\_\_

6. How did you learn about EFS study trips? \_\_\_\_\_

7. Other comments (feel free to use the back of this or another sheet): \_\_\_\_\_  
\_\_\_\_\_

*If you have any questions, concerns or are unsatisfied with your visit, please call or speak with one of our staff members. You can email, fax, mail or turn in this evaluation. Thank you!*

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