

# *Everglades Food Web Activity*

from the The Florida Coastal Everglades Long-Term Ecological Research (FCE-LTER) Project  
<https://fcelter.fiu.edu/>

## **Food or Feeders?**

In the Everglades community, organisms interact in many ways. Tracing the flow of energy within a community can help you to understand how the organisms interact with each other.

**Purpose:** To analyze the feeding relationships among organisms found in the Everglades community and to discuss these interactions in terms of trophic levels and energy cycling.

**Materials:**

- |                                    |         |
|------------------------------------|---------|
| Large sheet of unlined white paper | pen     |
| Notebook paper                     | markers |
| Tape or glue                       |         |

**Procedures:**

1. Work in groups of 4 and follow the directions below,
2. Read over the list of organisms below. Write the name of each organism on a small piece of notebook paper.
3. Cut the names out and arrange them on the larger piece of white paper.
4. Decide on the relationships among organisms. Who eats whom? Can more than one animal eat the same organism? Can that animal be preyed on by more than one predator?
5. When you have decided on the feeding relationships, attach the labels to the paper using glue or tape.
6. Draw lines between the organisms, representing the food links. The lines will connect the predator to the prey. Remember the arrow shows which way the energy is being transferred!
7. Keep in mind that the producers should be near the bottom, followed by the herbivores and then the carnivores near the top.

Using the following organisms, develop **4 different food chains** and a **food web** that might be found in the Everglades ecosystem!

### **Everglades Ecosystem**

Plant Species	Sawgrass; Red mangrove, White mangrove, Black Mangrove, <i>Sagittarusi</i> , Gumbo Limbo, Mahogany, Oak; cocoplum, Buttonwood, <i>Elocharis</i> , <i>Elodea</i> , <i>Thalassia testudinum</i> (Turtle grass), <i>Haladule wrightii</i> (Manatee grass)
Algal Group	Periphyton (Freshwater algal mat in the Everglades made up of many species of algae, blue green bacteria and fungi)
Animals	<u>Invertebrates:</u> ant, beetle, earthworm, Florida tree snail, moth, centipede, spider, mosquito, dragonfly, cricket <u>Birds:</u> Ibis, Egret, short tailed hawk, purple Gallinule, Roseate spoonbill, turkey vulture, wood stork, American Eagle <u>Fish:</u> mosquito fish (freshwater), tarpon (saltwater), marsh killifish (estuarine) <u>Reptiles:</u> Banded Water snake, Mangrove snake, American alligator, American Crocodile, Terrapin, Slider turtle, Florida Green anole <u>Amphibians:</u> Toads, Tree frogs, Peepers, Pig frog, Cricket frog <u>Mammals:</u> Florida panther, White tailed deer, Opposum, Raccoon, Marsh Rat
Fungi & Bacteria	Freshwater fungi, mushrooms, puffball mushroom, freshwater bacteria, saltwater bacteria

## **Questions:**

1. What is the difference between a food chain and a food web?
2. Name 2 primary producers found in your food web.
3. Name 2 herbivores found in your food web.
4. Name 2 consumers found in your food web.
5. Which trophic level has the most energy? Why is there a loss of energy at each trophic level?
6. How much energy is lost at each trophic level?
7. Why might it be advantageous for a large animal such as a whale to feed on plankton, or tiny marine primary producers.
8. What is nutrient limitation?
9. What is an autotroph? Name 2 found in your food web.
10. What is a heterotroph? Name 2 found in your food chain.
11. What would happen to the food chain if the turtle disappeared?
12. What would happen to the food chain if the alligators disappeared?
13. Suppose a parasite destroyed most of the trees in the Everglades. How would the community be affected?
14. Draw and explain what happens in a nutrient cycle.
15. Explain the difference between a cycle and a flow.
16. Which is energy, a cycle or a flow? Why?