



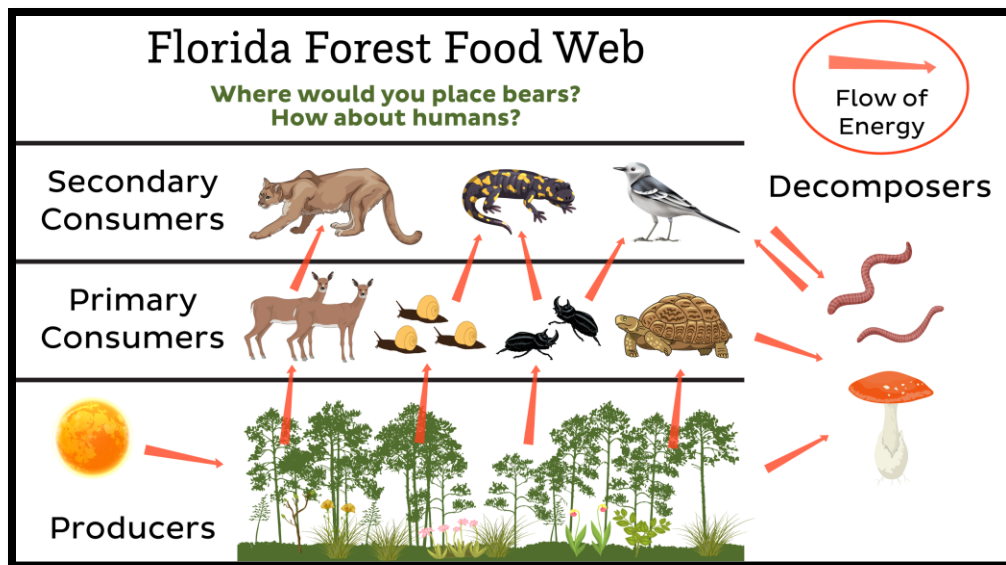
Florida Food Webs

How does energy flow in an ecosystem?

Everything you do requires energy: doing homework, catching the bus, talking to friends, and cooking meals. As an animal, you eat food to replace used energy. All living things must take in energy to survive and thrive. In this activity, you will learn about animals and plants in Florida and how energy flows between them.

Suggested Ages – 3rd grade and up

Living things use ENERGY. To understand the living world, we look at how energy is TRANSFERRED (moved from one living thing to another).



Guiding Questions -

- How big does an ecosystem have to be? Can it be a log in the forest filled with bugs? What about an oasis in the desert? A section of a river?
- For each animal in this activity, think about what they eat and what eats them. If that animal is removed from the ecosystem, what happens to the flow of energy?
- Even though many animals may not eat plants directly, plants make very important habitats for animals to live in. Can you think of all the different ways animals may use plants?
- What role do people play in the ecosystem? What do you eat? Do any plants or animals rely on people for energy?

Materials -

- Sidewalk chalk, paper, scissors, and drawing utensils
- Print out of animals (see below) and a drawing of the Sun
- Arrows – make these out of colored tape, sticks, paper, toothpicks, straws, whatever you like!

Activity Instructions -

- Cut out the animals/plants below. Arrange them on the floor in an open space.
- Place or draw arrows between the living things to represent the flow of energy (pointing towards whatever is **getting** the energy). After you are done, refer to the guide to double check your work.
 - Try starting with plants first, then animals that eat the plants, and finally animals that eat other animals.

Your Missions –

❖ Find that Animal!

- For this mission, you are a unit of energy that must travel through the food web. Take your place at the start of the food web – the Sun of course! The Sun provides light energy, which is the first form of energy to enter our riverine ecosystem.
- To begin the mission, have a partner call out a living thing. Your goal is to get to that living thing, using only the path of energy (the arrows) to get there. Every time you move between living things, your energy is being **transferred**.
- Try to complete the task with as few transfers as possible, then with as many transfers as possible.

❖ What's Missing?

- In this mission, you will remove one plant or animal from the food web. Then, remove all other organisms that will no longer have energy without that plant or animal in the ecosystem.
- What organism(s) had the largest “chain reaction”? Why do you think that is?
- If there were no longer any plants found in the ecosystem, what impact would it have on animals other than the manatee? What, besides energy flow, would be affected?

❖ Draw Your Own

- Draw a plant or animal that lives in the Florida riverine environment but is not pictured here.
- Add it to your food web and make the energy connections.
- Research more about the organism you chose to see why it is important to the habitat.

❖ He's a Fungi!

- Which animals in the food web eat detritus? These animals are detritivores, a kind of decomposer.
- Name some other examples of decomposers. Why are they important to the food web?
- Draw 1-2 decomposers and add them to your food web. How do they change the flow of energy?

Extra Information –

- An ecosystem is a community of living things and their interactions with their non-living environment. For example, a Florida riverine ecosystem has a non-living environment that includes a river, warm weather, a rainy season, and lots of sun. Within that ecosystem, animals and plants like the American alligator and mangrove trees



are **adapted** to that environment. This means they have body parts or behaviors that help them to survive in their specific ecosystem.

- Major changes to ecosystems often affect the flow of energy. For example, if the Eastern oyster was no longer found in the ecosystem, birds and other animals that eat oysters lost a food source. Also, oysters clean the water they live in, so the water will be more polluted without oysters.
- **Decomposers** are living things that eat dead, rotting organic matter from plants or animals (detritus) and break it down into nutrients that plants can then use. Examples of decomposers include bacteria, fungi (including mushrooms!), snails, shrimp, sea stars, and some insects. Scavengers are animals that eat dead organic matter, but do not break it down into nutrients. Examples of scavengers are vultures, ravens, raccoons, opossums, some insects, crabs, sharks, and hungry predators.