



Seagrasses: The Seagrass Connection

- **Booklet Page:** *Page 5*
- **Time Needed:** 20 min
- **Materials:**
 - Fixed Specimens
 - Biscayne Animals List
 - Example Food Chain and Food Web

Summary

Students will examine animal specimens collected for seagrass research in the park. After examining the specimens, they will make a food web to illustrate the importance of this nursery ground.

Exploration:

Read (2 min.): “Look across Biscayne Bay. Can you see different colors across the water? The darker patches are seagrass beds. Now look into the water, can you see the seagrasses? A lot of time we call these seagrasses seaweed, but they are actually flowering plants. Just like plants provide a place for animals to live above the water, they provide a place for animals to live in the water.

These seagrasses are a home or nursery for baby hermit crabs, lobster, flounder, snapper, seahorses, cowfish, bonefish, and many more. These animals find a great hiding place within the seagrass, but they also provide food for larger predators. When some of these animals get too large to hide between the seagrass blades, they move to the mangroves or even the reef. Seagrasses are also eaten by green sea turtles and manatees.

Park scientists collect animal samples from seagrass beds to see if the seagrasses are healthy. From the samples they collect, they can tell if the seagrasses are healthy enough for animals to live in. They can also learn more about what animals use the seagrasses and when. This is important because we don't know where many of the fish we like to catch and eat spend the first few years of their lives. If we know where groupers, snappers, and billfish spend their first few years, we will be better able to protect the habitats they depend on.”

Say & Do (5 min.): *Pass out specimens in the containers*

“These samples provided came directly from a park research project. Just as park scientists were able to learn from these animals, now so can students like you. Pass the specimens around carefully. Do not shake the containers because we want to preserve them for as long as possible. Examine the specimens and identify them by reading the labels.”



Read (2 min.): These animals, just like the seagrasses they live in, provide other animals with energy. Energy travels from the sun to plants, then to the animals that eat the plants, and then to the animals that eat the animals that eat the plants. Phew!

This flow of energy is called a food chain. A food chain begins with a first source of energy, the sun. Food chains are actually not very long because each link in the chain uses up some of the energy. **(Show Food Chain Example)** Food chains show the flow of energy in one direction, like a one way street.



More complex than food chains are food webs. Food webs are a combination of multiple food chains that show the relationship between many plants and animals and the flow of energy in an ecosystem. With food webs energy flows not just in one direction, but in many directions throughout the ecosystem **(Show Food Web Example)**

Do (8 min.): You are now going to create your own food web. Turn to page 5 in your work booklet. In the space provided you will make a food web using the Biscayne Animals list. Some species might have just one food source, while others might be eaten by many animals. The lines mark the flow of energy from source to source. **REMEMBER:** the sun, which has already been drawn, is the first source of energy! Make sure to label your animals in your food web. Feel free to include yourself in the food web. What place do you think humans have on the food web? You can review your food web with the provided Biscayne Bay Food Web. Afterwards, try removing some animals to see how the rest are affected.

Conclusion Read (2 min.):

Many of these organisms we have learned about use camouflage in order to stay hidden of in the seagrasses of Biscayne Bay. however, just because you don't see something, it does not mean that it is not there, and just because something is small doesn't mean it isn't important. This is seen in the connections found in our foodweb. These small, hiding organisms are some of the same animals that form a big part of this and other ecosystems, like the reef or even some of our lives.

Were you able to find an animal that didn't have any predators, one that seemed to eat a lot of everything else? If you did, you found a lionfish. Lionfish are a non-native species that don't have any natural predators. They eat many species in the food web, all of which have no defense against the lionfish. If one new animal comes into an ecosystem, what type of effect will this have on a fragile foodweb?

