

The Ecological Symphony

Subject: Science, Music

Duration: 15 - 20 minutes

Location: Classroom / Outdoors

Key Vocabulary: Ecology, interdependence, producer, consumer, decomposer

Related Activities: Create A Community; Create A Food Chain

Florida Sunshine State Standards: SC.G.1.2



Objectives. The student will be able to: a) identify the concept of inter-dependence, and b) demonstrate the concepts of producer, consumer, and decomposer as they function in the natural environment.

Method. Through a group interactive activity, the students will demonstrate the importance of interdependence in the natural environment.

Background. Like all natural environments, everything within South Florida's national parks is dependent on everything else. Without green plants to produce food and oxygen, through the process of photosynthesis, there would be no animals. Without animals exhaling carbon dioxide, green plants could not produce food. Without decomposers, the waste that plants and animals leave behind would pile up. The removal of any one thing from the environment affects everything else. Humans have a greater impact on the natural environment than any other species.

Materials

- Tape or CD player to listen to a symphony-type song
- Drawing of the sun (on poster board)
- Blackline master - "Ecology"
- Blackline master - "Producers, Consumers, Decomposers"

Suggested Procedure

1. Listen to the music of the symphony. Explain to the students that the natural environment is like a group of musicians or a symphony orchestra. If one instrument in the orchestra hits a flat note all of the other instruments are affected. In the same way, if any one thing is removed from the natural environment, everything else is affected.
2. Refer to the harmony which exists in the natural environment, as the "ecological symphony."
3. Define ecology as the study of the interrelationships of all living (including humans) and non-living things. Show the students the "Ecology" blackline master and point out some of the interrelationships in nature. Where would people fit into this picture?
4. Ask the students if they can name the four sections of an orchestra (brass, woodwinds, percussion, and strings).

5. Explain that in the ecological symphony, there are three sections:
 - producers** - green plants that produce food and release oxygen for animals to use.
 - consumers** - animals that eat plants or other animals and release carbon dioxide for plants to use in producing food.
 - decomposers** - organisms like fungi and bacteria that break down the waste of plants and animals and return it to the soil for producers to use.
6. Divide the students into three groups. Two of the groups can be of equal size, while the third group (producers) should be larger. Ask the students which of the sections of the ecological symphony is the largest? (producers) Why? (They are at the base of the food chain)
7. Ask the students who they think leads the ecological symphony. (sun) Give them hints until someone comes up with the correct answer.
8. Have the student who answers “sun” come up to the front of the group and place the illustration of the sun over his/her neck. He/she will be the director in the symphony.
9. Tell the students that they all are going to be instruments in the ecological symphony and ask them to stand up at the command of the director (sun).
10. At the director’s command, the producers (once they have received enough light), will begin to produce food. Have them stand with their fists clenched at shoulder level. On the director’s command, the producers will open and close their hands while saying, “produce, produce, produce” in a high- pitched voice.
11. Once the producers have produced enough food, have the consumers, stand with their arms stretched out and say in a low voice, “consume, consume, consume” as they bring their arms to their chest.
12. While the producers are “producing” and the consumers are “consuming”, have the decomposers (group 3) join in. With their hands clasped over their heads, they will slowly gyrate or twist down while saying “decompose” in a high voice.
13. Repeat the round a second time.
14. Conclude by explaining to the students that in the natural world the ecological symphony is playing all the time. Producers always produce, consumers always consume, and decomposers steadily decompose. Humans are just another instrument in the symphony. We are not the directors.

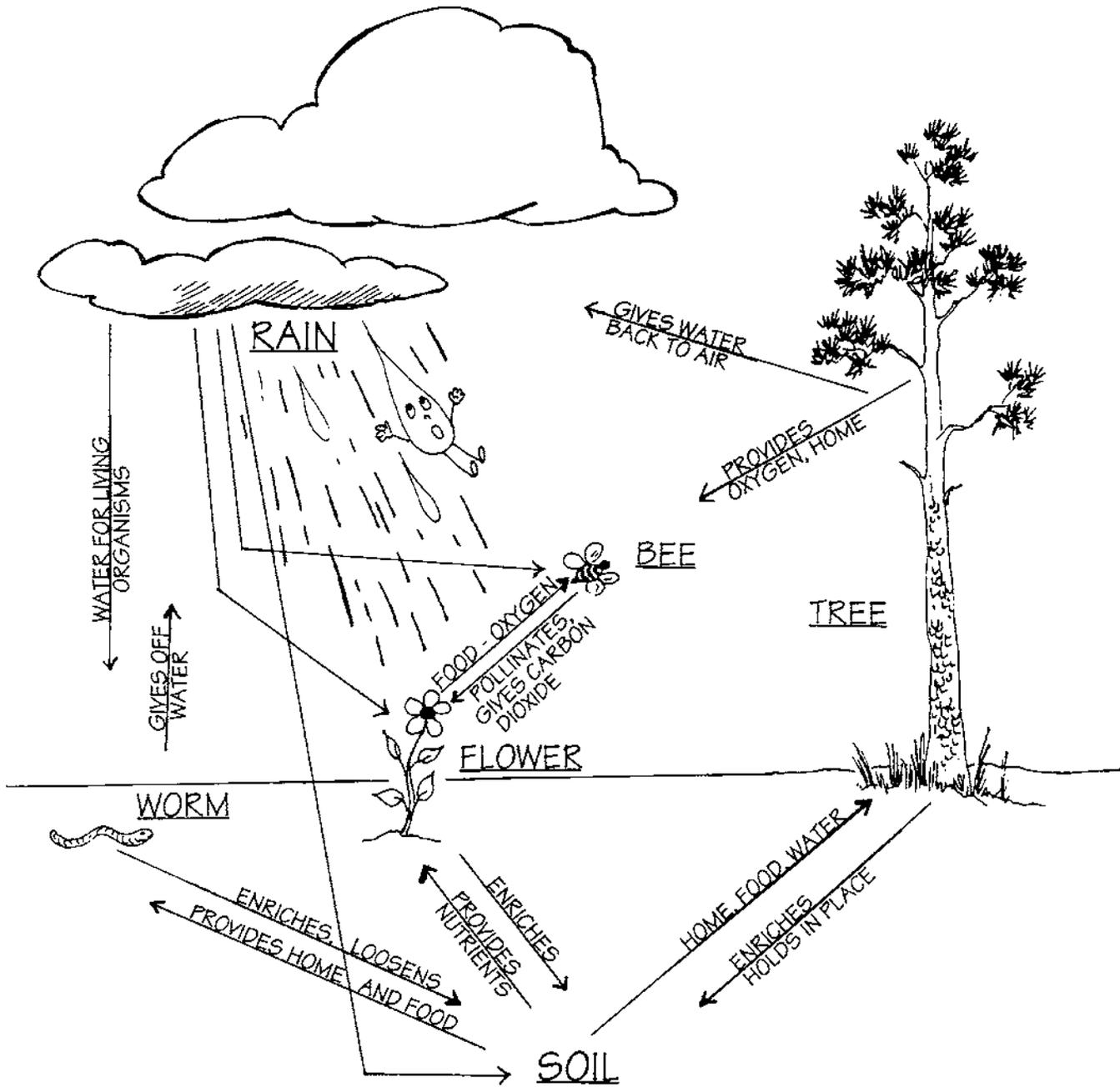
Evaluation

Ask the students how the sun affects the ecological symphony. What if there were no sunshine? What is the role of decomposers in the ecological symphony? Producers? Consumers? Why are these roles impor-

Extension

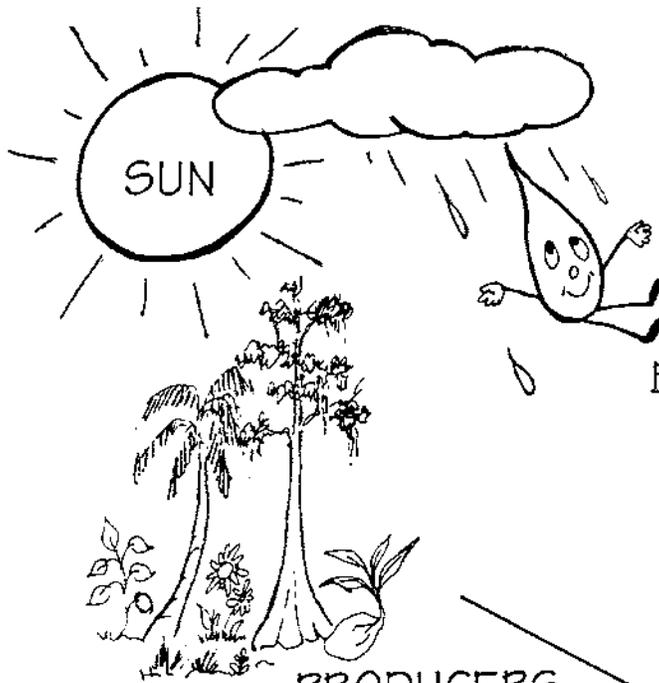
Have students come up with their own “symphony.” It could be a rap song, a round or they could add instruments to their own nature lyrics. They can use the songs on pp. 215-221 for examples of lyrics.

ECOLOGY



ECOLOGY: The study of the interrelationships of all living and non-living things.

PRODUCERS, CONSUMERS,

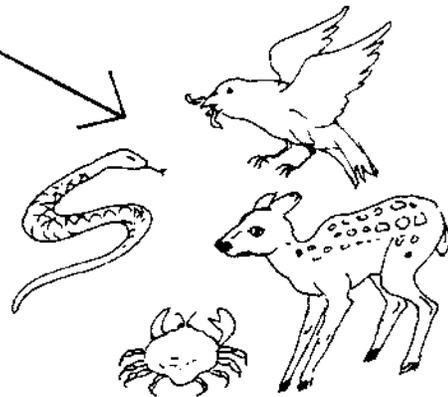


PRODUCERS : organisms (green plants) which take energy from the sun and use it to produce their own food.

PRODUCERS

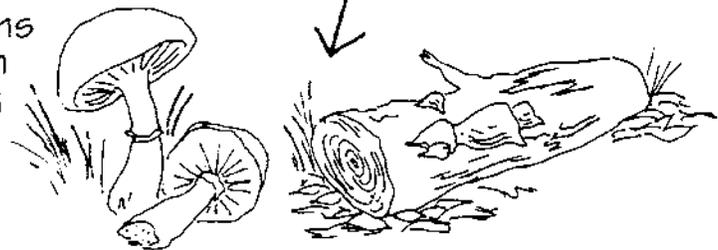
CONSUMERS : organisms that get their food and energy from other organisms.

Consumers eat producers and other consumers.



CONSUMERS

DECOMPOSERS : organisms that decay or break down other materials returning the elements of which they are made to the soil, air and water.



DECOMPOSERS

SOIL