FOOD WEBS DO TALK!

Teacher's Guide

Subject: Life Science
Topic: The Food Web

Summary:
Students will examine and observe the roles and relationships of producers, consumers and decomposers within the confines of the Florida state park. Students will take a "hands-on" approach to analyzing the different food chains - and their connective relationships - to create food webs.

Objective(s):
After completing the field lab, students will be able to:

1) Identify producers, consumers and decomposers within the ecosystem of the state park.
2) Understand the relationships among organisms and how a scientist utilizes these relationships to analyze the health of an ecosystem.
3) Compare and contrast

Ecosystem(s):
Dependent upon the state park.

Equipment:
Plates, yarn, hole punch, markers, school lunch calendar, chart paper, markers, student data collection sheet

Background:

- Vocabulary: producer, consumer, decomposer, trophic level
- Reference Material: ***www.vtaide.com/png/foodchains.htm***
- Equipment Training: Observation methodologies should be reviewed with the students prior to start of this lesson.

Procedure (Engage, Explore, Explain):

Pre-Field Trip Preparation:

Day One:

1) Ask "What is a food chain?"
2) Introduce the concept of a food chain:
   - Vegetation is eaten by insects.
   - Insects are eaten by lizards.
   - Lizards are eaten by hawks.
   - Hawks die and decompose making the earth nutritious to grow vegetation.
3) Divide your class into small learning groups.
4) Utilizing the lunch calendar from the school's cafeteria, assign each group a lunch.
5) For each item that is in the assigned lunch, direct the groups to create a food chain that could be found in nature, i.e., lettuce is found on their sandwich. Therefore the natural chain could be:
   - Lettuce is eaten by rabbits.
   - Rabbits are eaten by coyotes.
   - Coyotes die and decompose making the earth nutritious to grow lettuce.

Keep in mind that some of the items from the lunch might be a byproduct of an animal (i.e, cheese). In that situation, have the students do a food chain for the cow.

6) Once the food chains are created, give each group a paper plate for each chain that they created.
7) Have the students divide the plate with a marker into as many sections as needed to complete the food chain. (This will represent the cyclical characteristic of the food chain.)
8) Within each section of the plate, allow the students to draw and/or attach magazine clippings or clip art for each trophic level of the food chains.
9) Have each group debrief on their findings. Hang the "Food Web Plates" up around the classroom. As the facilitator, make special note of any chains that have commonality.

Day Two:

1) Ask "What is a food web?"
2) Introduce the concept of a food web as a connective system of many food chains that maintain the health of an ecosystem.
3) Introduce and discuss the food web of coastal Florida. ***(www.fao.org/forestry/mangrove/3648/en/)***
4) Hand out a 2-foot piece of yarn to each student.
5) Introduce to your students that, within the food chains that they created prior to this lesson (the paper plates), there are duplicate organisms. These organisms will be connected with the yarn that was just handed out. These connections will create the visual of a food web.
6) Ask your students to label the organisms as:
   - Primary Producers
   - Primary Consumers
   - Small Predators
   - Large Predators
   - Decomposers

At the state park:

1) Obtain enough state park maps for each group of students.
2) Ask students to get into groups of two.
3) Allow each group to choose a number 1, 2, 3 or 4.
4) Once each group has a number, inform the groups of the following:
   - 1's will look for examples and evidence of producers
   - 2's will look for examples and evidence of consumers
   - 3's will look for examples and evidence of predators
   - 4's will look for examples and evidence of decomposers
5) Distribute a map of the state park to each group.
6) When examples or evidence are noted, the team will document the location on the map and place an explanation on the student data collection sheet.

Sunshine State Standards:
Science: SC.7.L.17.1
Language Arts: LA.7.4.2.2
Social Studies: SS.7.G.1

Student Data Sheet

Full Name: _____ Date: _____

School (teacher): _____ Time: _____

Location: _____ Group: 1 2 3 4

After marking the map with a number, use the chart below to make notes based on the evidence that you see.

Numbered Location on Map	Explanation
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Data Collection Assessment	Excellent	Good	Fair	Poor
Follows data collection procedures carefully and fully.	10-9	8-7-6	5-4-3	2-1-0
Uses data collection time productively and stays on task.	10-9	8-7-6	5-4-3	2-1-0
Works well with others.	10-9	8-7-6	5-4-3	2-1-0
Shows respect to people and the environment.	10-9	8-7-6	5-4-3	2-1-0
Facilitator's Signature:				

Portfolio Journal

Portfolio Journal Prompt:

Utilizing the information collected at the state park about producers, consumers, predators and decomposers, choose an animal from the group you studied. Imagine you are that animal, write about your life in the state park. Include details from the evidence data you collected and the locations on the map.