Grade: 5

Title: How to Save Our Swamps

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Student Learning Objective(s):

- The students will describe the consequences that humans have on swamps and what they can do to help save the swamps.

LA GLE's

Grade: 5 # 50: Describe the consequences of several types of human activities on local ecosystems.

Materials needed:

- Learning Logs
- The World Wide Web
    - **The following are websites the children went to on information regarding human impacts on wetlands, swamps, and marshes:**

    Cervone, S., & Ramey, V. (2003). Human Impacts. Retrieved May 5, 2009, from Human Impacts on Water Resources Web site: http://aquat1.ifas.ufl.edu/guide/humimpac.html

    Wikipedia, (2009, March 20). Wetlands of Louisiana. Retrieved May 5, 2009, from Wetlands of Louisiana Web site: http://en.wikipedia.org/wiki/Wetlands_of_Louisiana

    Williams, Jeff. (1995). USGS Fact Sheet: Louisiana Coastal Wetlands. Retrieved May 5, 2009, from Louisiana Coastal Wetlands Web site: http://marine.usgs.gov/fact-sheets/LAwetlands/lawetlands.html

- Poster Board
- Glue
- Markers
- Pencils
- Tape
- Glitter
- Construction Paper
- Scope On A Rope
- Sample of Pond, River, or Swamp Water (Life in a Drop of Water)

Detailed Procedure. *Describe what the students will do in each stage. Include guiding questions you might ask to help students.*

1. Engage:

Science Process Skills *Indicate which science process skills students will develop in this part of the lesson.*

☐ Observation ☐ Classification ■ Communication ☐ Measurement ☐ Estimation ☐ Prediction ☐ Inference
☐ Identifying Variables ☐ Controlling Variables ☐ Defining Operationally ☐ Forming Hypotheses
☐ Experimenting ☐ Graphing ☐ Modeling

1. "A day ago we learned different ways of how invasive species hurt our swamps. Today we're going to learn how we (humans) hurt our swamps and ways we can save them."
2. What are some ways you think "we" hurt our swamps? ***Taking away water, dumping garbage and pollutants in the swampy water, bulldozing the swamps over, and bringing plants and animals to new places where they don't belong.***
3. What are the reasons for doing this? ***Answers will vary.***
4. How do swamps help people? ***Swamps clean water and can filter pollution. Swamps produce oxygen, control flooding by absorbing water, reduce drought by releasing water, provide food for many different animals and plants, are nurseries for fish and other wildlife, and are great places to see nature.***

2. Explore:

Science Process Skills *Indicate which science process skills students will develop in this part of the lesson.*

☐ Observation ☐ Classification ■ Communication ☐ Measurement ☐ Estimation ☐ Prediction ☐ Inference
☐ Identifying Variables ☐ Controlling Variables ☐ Defining Operationally ☐ Forming Hypotheses
☐ Experimenting ☐ Graphing ☐ Modeling

1. The students will be divided into four subgroups to explore and research the four different ways humans hurt the swamps.
2. The groups will chose from a hat one of the four ways humans hurt the swamps:
    1. **By taking away water**
    2. **Dumping garbage into water**
    3. **Bulldozing the swamps and**
    4. **Bringing plants and animals to new places they don't belong**
3. The students will use the World Wide Web to research their findings; they will be researching the ways humans impact Louisiana Coastal wetlands in a positive or negative way. They will also research how Louisiana wetlands benefit humans and our environment.
4. Once finished, each group will present their findings to the class.

3. Explain:

Outline the line of questioning you will use to assist students in understanding the concept. List <u>at least 5 good questions</u> and identify the question category (Gallagher & Aschner) in which your question falls (see text, Figure 7.6).

1. Explain the different ways humans hurt the swamps. ***Answers will vary according to what the student perceives the answer to be.***
2. Can anyone tell me the different ways swamps *help* people? ***Answers will vary. The clean water and can filter pollution. Swamps produce oxygen, control flooding by absorbing water, etc…***
3. How do you think you can help save the swamps? ***Answers will vary depending on the type of species. Answers will vary. Discover and explore your swamps because knowing about your own swamps will help save them. Reduce, reuse, and recycle because anything that stops garbage and pollution will help save the swamps. Bring an alert to the swamps if you think they're being hurt, and talk to people about our swamps because the more everyone knows the better.***
4. What do you think will happen to the state of Louisiana if the swamps no longer existed? ***Answers will vary according to what the student perceives the answer to be.***
5. What do you love about your Louisiana swamps? ***Answers will vary.***

4. Expand:

Science Process Skills *Indicate which science process skills students will develop in this part of the lesson.*

☐ Observation ☐ Classification ■ Communication ☐ Measurement ☐ Estimation ☐ Prediction ☐ Inference
☐ Identifying Variables ☐ Controlling Variables ☐ Defining Operationally ☐ Forming Hypotheses
☐ Experimenting ☐ Graphing ☐ Modeling

1. The students will be divided into two groups and will conduct a mock town meeting on building a new shopping mall near a swamp.
    - *One group argues for the mall to be built and the other argues for the swamps to be conserved.*
    - *Each member in the group will be given a specific job: student on the pro-mall side of the debate could be a construction worker or shop owner and on the other side a student could be a naturalist or concerned citizen.*
2. The students will jot down their opinions and views on the issue on a sheet of construction paper.
3. The students can also use illustrations to help in the debate.
4. The students will then debate their sides of the issue.
5. Each side will have 10 minutes to make their stand.
6. The teacher will then have a question and answer period, being careful to make sure both sides have an equal share.

Alternate Activity:

The students will be shown how Scope-on-a-Rope works. The teacher will show them the three different interchangeable lenses that allow the students to view almost any object magnified. The teacher will provide a sample of pond, river, or swamp water (making sure tons of algae and dirt are collected), so the students can view the microscopic organisms that exist. Once finished, the students will make connections between large wetland species and minute wetland species. The students will also compare, contrast, and relate how microscopic organisms are fundamental in the food chain of life.

5. Evaluate:

What exactly will you do, or what evidence/data will you collect, to ascertain whether the students can achieve the objectives you listed at the top of the lesson?

1. During the activity, the teacher will ask probing questions to illicit both prior and subsequent knowledge of the students understanding of how humans *hurt* Louisiana swamps.
2. The teacher will monitor and observe each groups research on the side of their mock trial: promall and con-mall.
3. The students will be assessed as they answer the questions during the explain phase of the lesson.
4. The students will be assessed as they explain the details about their side of the debate. The teacher will determine if they are considering all the factors they need to discuss regarding the reasons for building a shopping center near a Louisiana swamp.

Brain Compatible Learning Strategies Used in This Lesson:

■ Brainstorming/Discussion	☐ Drawing and Artwork	☐ Field Trips	☐ Games	☐ Graphic Organizers
☐ Humor	☐ Manipulatives, Experiments, Labs, Models		☐ Metaphors, Analogies, and Similes	
☐ Mnemonic Devices	☐ Movement	☐ Music, Rhythm, Rhyme, and Rap		☐ Project/Problem-Based Instruction
☐ Reciprocal Teaching, Cooperative Learning		☐ Role Plays, Drama, Pantomimes		☐ Storytelling
☐ Technology (student use)	☐ Visualization/Guided Imagery	■ Visuals	■ Writing/Journals	