



Habitat

Activity 1-6

Wetland Metaphors

Adapted from *Aquatic Project WILD* and
BTNEP/LSU AgCenter: *Wetland Functions, Values, and Economic Resources*

Focus/Overview

Students use familiar objects as metaphors to simulate wetland functions.

Learning Objectives

The learner will...

- describe the characteristics of a wetland.
- identify the ecological functions of a wetland.
- use metaphors to describe the functions of a wetland.

Louisiana Grade Level Expectations (Science)

7: GLE-35	Identify resources human derive from ecosystems (SE-M-A1).
7: GLE-36	Distinguish the essential roles played by biotic and abiotic components in various ecosystems (SE-M-A1).

Louisiana Grade Level Expectations (ELA)

7: GLE-21	Develop writing using a variety of literary devices, including analogies, symbolism and puns (ELA-2-M5).
8: GLE-21	

Materials List

- pillow case
- sponge
- small pillow
- egg beater(or whisk)
- cradle
- soap
- coffee filter
- pack of antacid tablets
- small box of cereal
- small wetland animal toy (or picture)
- strainer
- BTNEP's Portrait of an Estuary* publication (or any handouts that discuss wetland values and functions)

Background Information

Why should we care about wetland loss? Wetlands provide important benefits to plants, animals, humans, and the entire environment.

In the Barataria-Terrebonne Estuary there is an abundance of wetlands. In fact, coastal Louisiana has 40% of the coastal wetlands in the United States, excluding Alaska. When something is abundant, we sometimes take it for granted and may not appreciate it as we should. Although we have more wetlands than any other state in the United States, we are also losing our wetlands at a faster rate than anywhere else in our country. We experience 80% of the country's coastal wetland loss. Once the wetlands are lost, they are very difficult to rebuild.

In this activity, students will learn about **metaphors**, which is an object or phrase that represents a concept or idea. The metaphors in this activity are common objects that represent some of the many benefits wetlands provide through the way they function, or work. These "benefits" are what is meant when we say that wetlands have "value". Wetlands function in many ways that provide benefits or value to the humans, plants and animals that live within them.

BTNEP Connection

Habitat

Grade Level

7

Duration

60 minutes

Subject Area

science, language arts

Setting

classroom

Vocabulary

metaphor, wetland function

Original Sources

Adapted from "Wetland Metaphors" in *Aquatic Project Wild* (1992) and BTNEP/LSU AgCenter: *Wetland Functions, Values, and Economic Resources*, Activity 1



www.btnep.org

The following chart lists each object and the metaphoric function that wetlands provide.

Wetland Metaphors

Object	Wetland's Metaphoric Function
SPONGE	Absorbs excess water caused by runoff; retains moisture for a time during droughts even if standing water has dried up (sponge stays wet even after it has absorbed a spill)
PILLOW	A resting place for migratory birds
EGG BEATER	Mixes nutrients and oxygen in the water
BABY'S BOTTLE	Provides a nursery that shelters, protects, and feeds young wildlife
STRAINER	Stains silt and debris from water (keeps water supply clean)
COFFEE FILTER	Filters smaller impurities from water (excess nutrients, toxins)
ANTACID	Neutralizes toxic substances
CEREAL BOX	Provides nutrient-rich foods for wildlife and humans
SOAP	Helps cleanse the environment
WETLAND ANIMAL TOY OR PHOTO	Habitat for diverse wildlife

Advance Preparation

1. Either download an article or obtain sets of any of the numerous publications concerning wetland values and functions from the resources provided below.
2. Collect the common items that will be used as metaphors and place them in a pillowcase. (If you collect multiple sets, each group can analyze all of the objects. If you collect one set, simply hand out one or two objects to each group depending upon the number of groups that you have).

Procedure

1. Have students write a short list of things that they personally consider valuable. Ask volunteers to share an item off their list and why they consider it valuable.
2. Introduce the concept that many "functions" of our local wetlands provide values to us that we sometimes take for granted. Read segments of the Background Information aloud to the students.
3. Provide articles, handouts, or publications for each student (or groups of 2-3).
4. Ask students to take about ten minutes and scan the articles to make a list of as many wetland values and functions as possible.
5. After students have completed their list, ask for volunteers to share their information while you write the list on the board, easel, or overhead transparency.
6. Once you have a good amount of information on the board, point out each item on the list and ask students how it is valuable to them as humans, to wildlife, or to our overall environment.
7. Wetlands also perform important functions in the environment, which we may not think are valuable to us, but help to keep ecological balance. Can you list some of these functions?
8. Tell students that they are now going to increase their list of wetland functions and values by the use of *metaphors*.
9. Does anyone know what a metaphor is? Explain to students that a metaphor is a term connecting one thing or idea with another. You can use metaphors to help explain the meaning of something. A metaphor for a cactus may be a pincushion. A metaphor for an engineer might be a beaver. Ask students to try and think of some other common metaphors.
10. Divide students in groups of 2-3 and pass out objects from your "mystery" metaphor bag.
11. Tell students that you are going to bring an object to each group. Their job is to use their knowledge of wetland functions and values to come up with the function or value that their object represents.
12. Allow enough time for discussion of metaphors before stopping the groups and asking them to share.
13. List each object on the board.
14. As the students share, remember that some of the objects' metaphors are more apparent than others. Work with each group to come up with a correct relationship between the object and a wetland function or value and write the relationship on the board.
15. *Wrap-up.* Ask students to volunteer some of the values and functions of wetlands that they did not know before the activity. Discuss how things will change for humans, wildlife, and the environment if the huge amount of wetland loss continues.

Blackline Master

none

Assessment

- Have students use metaphors to relate the many functions of wetlands to everyday objects.
- Have students identify why wetlands are important.
- Have students select 4 species of animals and describe how wetlands are important to each.
- Have students research topics about the effects of wetland loss on local and national level on various commercial, recreational, and cultural activities including hurricane protection, the seafood industry, and the petroleum industry, as well as many others.

Extensions

Technology

Have students create a power point presentation or a website that uses metaphors to describe wetland functions and values.

Language Arts:

Have students write a letter to the Governor, the State Legislature, Congress, or the President stating reasons for national support of wetland conservation issues. Include support of why some people consider Louisiana's wetland loss a national crisis.

Social Studies:

Use a GIS map comparison of wetland loss over the last 50 years and project loss over the next 50 years. Discuss how this loss will affect the culture and lifestyle of the people in those areas.

The Arts:

Have students create a poster or a collage representing a major wetland function or value.

Resources

BTNEP Resources:

Portrait of an Estuary, publication by LSU AG and BTNEP

Tradebooks:

Stille, Darlene R. 2000. **Wetlands (True Books-Ecosystems)**. Children's Press.

Examines the different types of wetlands and the plant and animal life they support. Reading level: Ages 9-12.

Lawlor, Elizabeth P. and Pat Archer. 2000. **Discover Nature in Water & Wetlands: Things to Know and Things to Do (Discover Nature Series)**. Stackpole Books.

Wetlands provide perfect arenas for nature study. Discover Nature in Water and Wetlands explores the properties, processes, and phases of water and the plant and animal life associated with it, from trees, cattails, and ferns to dragonflies, salamanders, turtles, and beavers. With just a few essentials, such as a field notebook, hand lens, and bug box, readers will find both straightforward information and all kinds of activities to uncover the fascinating, diverse ecosystem that surrounds our ponds, swamps, and other watery place. Reading level: Young adult.

Websites:

United States Geological Survey National Wetlands Research Center - LA Coast website, **Louisiana Coastal Wetland Functions and Values**, accessed July 27, 2004, at <http://www.lacoast.gov/reports/rtc/1997/4.htm>

Bill Sipple, US Environmental Protection Agency, Office of Water - Watershed Academy Website, **Wetland Functions and Values**, accessed July 27, 2004, at <http://www.epa.gov/watertrain/wetlands/text.html>

Ramsar Convention on Wetlands, **Background Papers on Wetland Function and Values**. Accessed July 27, 2004, at http://www.ramsar.org/values_sediment_e.htm

Louisiana Department of Natural Resources, **Louisiana Coastal Facts**, accessed July 26, 2004, at <http://www.savelawetlands.org/site/webfactsheet.pdf>

CDs

Louisiana Wetland Functions and Values CD developed by LSU AgCenter's Extension Service in conjunction with the U.S. Geological Survey's National Wetlands Center and the Louisiana Department of Natural Resources (DNR). To receive a copy, contact DNR (800/ 267-4019) or order on the Internet at <http://www.lacoast.gov>.

References:

United States Geological Survey National Wetlands Research Center, **LA Coast website**, accessed July 27, 2004, at <http://www.lacoast.gov>

Kesselheim, A.S., Slattery, B. E., Higgins, S., Schilling, M. R. 1995. **WOW! The Wonders of Wetlands: An Educator's Guide**, Environmental Concern Publisher.