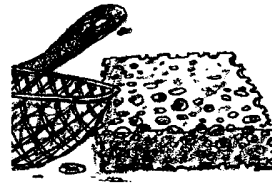


Wetland Metaphors

Key Concepts

1. Metaphors can be created and used to describe the characteristics and functions of wetlands.
2. The important functions of wetlands can be appreciated by linking them to everyday life.



Background

Wetlands have been described as “Waterlogged Worlds”. Because there are so many different types of saltwater and freshwater wetlands, and they have so many different names, it is sometimes helpful to define wetlands by their characteristics. As the name implies, wetlands ARE wet. But open bodies of water are generally not considered wetlands. Technically, wetlands are areas that have saturated or waterlogged soils, permanently or periodically. These areas also have plants that are adapted to living in soggy conditions. Why are these marvelous places wet? Some wetlands are in low-lying areas of their watersheds and receive a lot of rain and runoff. In some areas, groundwater supplies exist at the surface or very close to the surface and manage to keep the areas saturated. Other wetlands exist near the boundaries and flood plains of streams and rivers. Estuaries, and the marshlands and swamplands that occur there, are familiar to most people. Near the oceans, tidal action is effective in keeping coastal wetlands wet.

Wetlands do a great deal of work for us. They are naturals at controlling floods because they help slow down and spread out the water. They filter out silt and other sediments that would otherwise be harmful to organisms. They help trap and neutralize sewage waste. They are beautiful buffers and help control erosion and hold precious moisture after other water sources dry up. Many wetland plants take up chemicals and slow down water flow. Wetlands are among the most productive ecosystems in the world and provide homes and food for a wide variety of organisms. Wildlife needs wetlands, too. Migratory birds use wetlands to rest and “refuel” and wetlands serve as nurseries for many wildlife youngsters. Over 35% of all of the animals and plants listed as threatened or endangered in the United States live in or depend upon wetlands. Since the arrival of the first European settlers, we have lost over 50% of our wetlands. We continue to lose between 300,000 to 500,000 acres every year. It is critical that we recognize wetlands as the vital,

productive, and irreplaceable places that they are and be aware of our actions that affect their health and conservation.

The characteristics and functions of wetlands can be explored through the use of **metaphors**. Metaphors are used to directly compare two things using vivid imagery. “A tree is a home” and “Eyes are windows of the soul” are two examples. In this activity a variety of common objects are used to represent the natural functions of a wetland.

Materials

For each pair:

- sponge
- small pillow
- egg beater or whisk
- small doll’s cradle
- fan
- sieve or strainer
- small box of cereal (or bag of pretzels)
- coffee filter
- antacid tablets
- soap
- picture of a house
- picture of an airplane
- picture of a wilderness area
- picture of a resort
- picture of a zoo or group of different animals
- picture of a vegetable garden
- paper bags (16)
- large box or pillowcase (optional)
- mirrors (optional)

Teaching Hints

In the “Wetlands Metaphors” activity students choose a “Mystery Metaphor Bag” which contains an object that may be seen as a metaphor for a wetland function. Students initially have difficulty with metaphors and need to be encouraged to think about “what the object is or what it does” and then to relate that to “what a wetland is or what it does”. The pictures used in this activity may be cut from old magazines, then pasted on cards and laminated.

Procedure

1. Place each object in a bag before class.
2. Discuss the variety of wetlands found in your local area, county, state, country, etc. Then invite your students to sit quietly and close their eyes. Ask them to visualize a wetland and examine what it looks like. What does the air feel like? How does it smell? What kinds of animals (including insects) and plants do they see? What is the ground like? If you feel that some of your students may not have any experiences with wetlands, you might want to show slides, films, or videos of wetlands. Hopefully you will be able to incorporate an actual trip to a wetland area. If this is impossible you might want to play a tape recording of natural sounds from wetlands available in music, book, and nature stores.
3. Invite students to share what they experienced. Compile a list of their offerings and encourage sharing and discussion.
4. Using the list as point of reference, help students identify which plants and animals would most likely be found in wetlands. State or federal wildlife officials and representatives of private conservation or nature-related organizations can be helpful in providing information about your local wetland inhabitants.
5. Next, provide the students with background information to serve as an overview of the basic ecological activities that characterize the wetland habitat. For example, you can include the following:
 - sponge effect - absorbs runoff
 - filter effect - takes out silt, toxins, wastes, etc.
 - nutrient control - absorbs nutrients from fertilizers and other sources that may cause contamination downstream
 - natural nursery - provides protection and nourishment for newborn wildlife

Suggest that these activities and many others they will think of are taking place in wetlands all the time.

6. Bring out the “Mystery Metaphor Bags” and tell your students that each bag contains an item that has something to do with wetlands. Have them work with a partner. Distribute or have them pick items individually. When each pair has an object, ask them to describe the relationship between their object and the wetland. This is a good time to help students create metaphorical expressions to describe the relationships. Encourage them to

build on each other's ideas. You can also assist by strengthening their connections. NOTE: Allow the students time to discuss their ideas with each other before doing so in front of the entire class.

7. Hand out student answer sheets which will be completed as groups report their ideas. Encourage students to add their own ideas as the groups report.
8. Ask each group to report their ideas to the class.
9. Following discussion and review of the functions represented by each metaphor, ask the students to summarize the major roles that wetlands perform in contributing to habitat for wildlife.
10. As a wrap-up, have the students look in a mirror. Encourage their understanding that many of the wetland's conditions and processes depend upon each of us. Many kinds of wildlife depend upon wetlands. Our own well-being requires healthy wetland ecosystems. Recreation, aesthetics, utilitarian uses, and nature study are but a few of the connections we each have with wetlands. Strengthen the connection between humans and wetlands.

Key Words

estuary - the part of the mouth of a river in which the river's current is met and influenced by the tides

metaphor - a figure of speech in which a term is transferred from an object it ordinarily designates to an object it may designate only by implicit comparison or analogy

sediments - material suspended in water; the deposition of such material on the bottom; the material so deposited

waterlogged - soaked or saturated with water

wetland - a lowland area, such as a marsh or swamp, that is saturated with moisture, especially when thought of as the natural habitat of wildlife

Extensions

1. Visit a wetland to verify the appropriateness of these metaphors. While there, identify what seems to be the most compelling attributes of the metaphors in helping you understand the characteristics and nature of the wetland. Expand on your understanding of these metaphors. Identify new and appropriate metaphors.
2. Investigate local, county, state, and federal regulations and laws that govern wetlands.

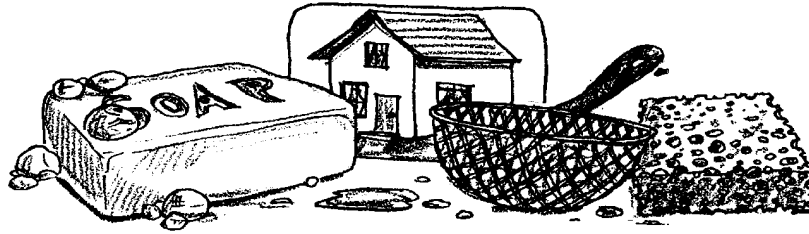
3. Have students write poems or essays about wetlands using metaphors. Illustrate with artwork.
4. Investigate Native American uses of wetland plants.

Answer Key

OBJECTS	WETLAND FUNCTION
1. sponge	absorbs excess water caused by runoff; retains moisture for a time even if standing water dries up (e.g., sponge placed in small puddle of water absorbs water until saturated, then stays wet after standing water has evaporated)
2. pillow	resting place for migratory birds
3. eggbeater (whisk)	mixes nutrients and oxygen in the water
4. cradle	provides a nursery that shelters, protects, and feeds young wildlife
5. fan	promotes air circulation; e.g. breeze
6. sieve or strainer	strains debris, suspended materials and other material out of the water
7. cereal (pretzels)	provides food
8. coffee filter	filters smaller impurities from water
9. antacid tablets	neutralizes toxic substances
10. soap	helps cleanse the environment
11. picture of a house	provides homes for many organisms
12. picture of an airplane	airports/landing and take-off places for migrating birds
13. picture of wilderness	aesthetic value; beauty
14. picture of a resort	resting spot for migrating birds
15. picture of animals	natural menagerie of diverse wildlife
16. picture of vegetable garden	food production for animals

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Wetland Metaphors



Many of the major characteristics of marshes, bogs, and swamps can be explored through metaphor. A metaphor is a direct comparison between two things and gives a vivid image through the comparison. “A tree is a home” and “books are windows of thought” are two examples. In this activity, a variety of objects represent characteristics of wetlands. Complete this chart with your group. Be prepared to explain how the object may be seen as a metaphor.

OBJECTS	WETLAND FUNCTION
1. sponge	
2. pillow	
3. eggbeater (whisk)	
4. cradle	
5. fan	
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