

**TEACHING KATE
TEACHING KIDS ABOUT THE ENVIRONMENT**

TEACHING UNIT ON THE WETLANDS

Grade Level: 6-8

Time Required:

SC Science Standards

This lesson plan was correlated with only the grade level specified unless otherwise noted.

Grade 6:

- I. A. 1. d. 1
- I. A. 6. a
- I. A. 7. a

Grade 7:

- I. A. 1. d. 1
- I. A. 6. a
- I. A. 7. a
- III. A. 3. b

Grade 8:

- I. A. 1. d. 1
- I. A. 6. a
- I. A. 7. a

Purpose

Students will gain an awareness and an appreciation for wetlands. They will learn to use maps to locate wetlands. Students will visit and observe a wetland. Through study and observation they will learn to protect wetlands. Through indoor and outdoor activities students will be able to list characteristics of wetlands.

Skills

Comparing and contrasting, describing, making inferences, note taking, vocabulary, writing skills.

Concepts

Characteristics, importance and protection of wetlands.

Materials Needed

Sponges	Paper	3 Liter Plastic Bottles
Pencil	Maps	Crayons or Markers
Cardboard	Scissors	Pictures of Plants and Animals Found in Wetlands

Definition of Terms

<u>Anaerobic</u>	Living, acting or occurring in the absence of free oxygen.
<u>Endangered Species</u>	A species that is in immediate danger of becoming extinct.
<u>Ground Water</u>	Water within the earth that supplies wells and springs.
<u>Habitat</u>	The locality where a plant or animal normally lives and grows.
<u>Hydric Soil</u>	Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.
<u>Hydrophyte</u>	Any plant growing in water or hydric substrate; a wetland plant.
<u>Surface Water</u>	Rain water that collects as streams, rivers, lakes, ponds, oceans, pot-holes, Carolina Bay, etc.
<u>Wetland</u>	A lowland area, usually characterized by shallow or fluctuating water levels, hydric soil and an abundance of aquatic and marsh plants. Revisions to current federal definition and regulations are under review.

Before the Session

Plan a field trip to a wetland in your area. If you are unfamiliar with wetlands consult with your district wildlife biologist or a local college or university. Gather materials needed.

Background Information

What are the characteristics of a wetland?

Wetlands have water, unique soils and plants that have adapted to wet conditions.

Wetlands are supplied with water from two sources: surface water and ground water.

Wetlands soil is classified as hydric soil. This type of soil is saturated , and has little or no oxygen, A variety of chemical reactions occur in hydric soil. These reactions affect the nature of the soil over time, changing some of its physical and chemical properties. The initial composition of the soil (minerals and/or organic materials), degree of wetness and frequency and duration of flooding determine what the soil will look and feel like.

The plants that grow in wetlands are specially adapted to life in wet conditions. Soft-bodied plants that grow in the water must be light weight, so they can float upright, yet sturdy enough to keep their shape. Many aquatic plants have special channels for holding water to give their leaves and stems support. Plants that grow with their roots wet but stick up above the surface must be able to support themselves above the ground. Plants growing in salty conditions have developed specialized tissues or organs that control the amount of salt taken in or excrete salt.

Why are wetlands important?

Wetlands are important because they provide special benefits to plants, wildlife, humans and the environment.

Because of the abundance of food, vegetative cover (shelter) and water found there, most wetlands are rich with diverse wildlife species. One-third of America's threatened and endangered species can be found in wetland areas. Many creatures that live most of their lives in other areas were born in wetland areas. (ex. Salt marshes serve as nursery areas for many salt water species such as fish, crab and shrimp.)

Wetlands also have the unique ability to purify the environment. They act as natural filtering systems and have been shown to be extremely effective in trapping and neutralizing sewage waste, allowing silt to settle and promoting the decomposition of many toxic substances.

Wetland vegetation is highly beneficial. Plants absorb nutrients, help cycle them through the food web and keep water's nutrient concentrations from reaching toxic levels. Through photosynthesis, they add oxygen to the system and provide food to other life forms.

Destruction and/or abuse of wetlands- through draining and filling for conversion to agriculture, the construction of roadways and housing developments or general pollution- can have devastating effects on wildlife, humans and overall environmental quality.

Step out into your backyard, a wetland may be there!

Sometimes plants must compete for the things they need. If their needs are not met, they may grow slowly or die.

Suggested Lesson Plan

- 1 Introduce wetlands to students by placing the word wetland on the board, record and discuss all responses to the word.

2. Write the definition of wetland in scrambled form on construction paper. Distribute the parts of the definition to students and have them place the definition in correct order on the board.
3. Show students pictures of things which can be found in a wetland. Have students describe what they see in the pictures and tell if they have seen any of these things where they live or have visited.
4. Use maps to locate wetlands in the area.
5. Ask several students to list some characteristics of his or her best friend. List and explain the characteristics of a wetland.
6. Assign students to groups of 4. Distribute to each group a sponge, 3 liter bottle, coloring aids and scissors. Have students cut off one-half of bottle. Place sponge into bottle and saturate the sponge. Have students draw and color pictures of things to be placed in their wetland. All plants and animals to be placed in bottle should have stands to enable them to stand up.
7. Have students write a descriptive paragraph about their wetland.
8. Introduce the importance of wetlands with a field trip. Explain to students how important wetland habitats are to certain plants and animals. Explain the many uses of wetlands for purifying the environment. Discuss with students the effect humans have had on wetlands.
9. Have students express in writing ways they can or cannot protect the wetlands.

Application

The students are now aware of wetlands found in his or her area. They can express to family members and friends the usefulness of these wetlands for the survival of wildlife, plants and humans. These students will one day become adults who will purchase property, which hopefully, they will develop with an appreciation of and consideration for wetlands.

Resources Available

WOW!: The Wonders of Wetlands. 1991. B. E. Slattery. DeVilbiss Printing, Maryland.

Prepared by: Betty Pelzer

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WORKSHEET — WETLANDS DEFINITIONS

Name:

Date:

Match each term with the best definition.

1. _____ Wetland

2. _____ Hydrophyte

3. _____ Habitat

4. _____ Endangered Species

5. _____ Hydric Soil

6. _____ Anaerobic Soil

7. _____ Surface Water

8. _____ Ground Water

A. The locality where an animal or plant normally lives and grows.

B. Water within the earth that supplies wells and springs.

C. A lowland area, usually characterized by shallow or fluctuating water levels, hydric soil and an abundance of aquatic and marsh plants.

D. Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.

E. Any plant growing in water or hydric substrate; a wetland plant.

F. Rain water that collects as streams, rivers, lakes, ponds, oceans, potholes, Carolina Bays, etc.

G. A species that is in immediate danger of becoming extinct.

H. Living, active or occurring in the absence of free oxygen.