

Wetland Animals

Adapted from: “Wetland Address” in *WOW! Wonders of Wetlands: An Educator’s Guide*. Bozeman: The Watercourse and Environmental Concern, Inc., 1995.

Grade Level: Basic or intermediate

Duration: 30 minutes – 1 hour

Setting: Classroom

Summary: Students identify common wetlands animals through a series of clues.

Objectives: Students will learn basic adaptations that wetlands require animals to have and will learn about the types of animals that are common to wetland habitats.

Vocabulary: wetland, hydric, hydrology, marsh, swamp, bog, fen, habitat, adaptation

Related Module Resources:

- Module Activity: “Web of Life”
- *Birds of Lake, Pond, and Marsh*
- *Freshwater Wetlands Video*

Materials (Included in Module):

- Wetland Animals Clue Cards (10 sets)
- Wetland Animals Picture Cards (1 set)
- Answer Sheet
- Scorecard
- 6 small laminated Wetland Animals Posters labeled (A)
- 6 small laminated Wetland Animals Posters labeled (B)

Additional Materials (NOT Included in Module):

- Pens/ Paper
- Timer/ Clock

ACADEMIC STANDARDS: (ENVIRONMENT AND ECOLOGY)

7th Grade

- 4.1.7.C. Explain the effects of water on the life of organisms in a watershed.
 -Explain how the physical components of aquatic systems influence the organisms that live there in terms of size, shape and physical adaptations.
 4.1.7.D. Explain and describe characteristics of a wetland.
 -Recognize the common types of plants and animals.
 -Describe different types of wetlands.

10th Grade

- 4.1.10.C. Describe the physical characteristics of a stream and determine the types of organisms found in aquatic environments.
 -Describe and explain the physical factors that affect a stream and the organisms living there.
 -Explain the habitat needs of specific aquatic organisms.
 4.1.10.D. Describe the multiple functions of wetlands.
 - Explain how a wetland influences water quality, wildlife and water retention.

12th Grade

- 4.1.12.D. Analyze the complex and diverse ecosystems of wetlands.
 -Explain the functions of habitat, nutrient production, migration stopover and groundwater recharge as it relates to wetlands.
 -Explain the dynamics of a wetland ecosystem.

BACKGROUND:

Wetlands perform many valuable services and create unique habitats around the world. A **wetland** is an area characterized by the presence of water, saturated, or **hydric**, soil, and containing plants that have special adaptations to thrive in saturated soil conditions. Depending on variations in soil type and **hydrology**, the amount of water, and differences in climate, environment, and human impact, different types of wetlands may exist. The main types of wetlands include **marshes, swamps, bogs, and fens**.

Marshes

A marsh is found along or near waterways and is fed by flooding, surface water, and groundwater. Marshes are saturated and may have standing water up to seven feet deep during parts of the year. Marshes support non-woody, soft-stemmed vegetation such as cattails.

Swamp

A swamp is also found near waterways but is fed mainly by surface water. Like marshes, swamps are saturated and have standing water but water here is much shallower. Swamps contain mainly woody vegetation including shrubs and trees.

Bogs

A bog forms in depressions caused by glaciers and is fed only by rainwater. Bogs have stagnant water that rarely dries up because there is no way to drain. Water in bogs is also somewhat acidic and therefore cannot sustain large amounts of life other than moss, evergreens, and shrubs.

Fen

A fen also forms in glaciated areas but unlike bogs, fens are fed by both rainwater and groundwater. Water in fens moves very slowly and is often more alkaline than bogs. This means that fens are able to support a great diversity of life including grasses, reeds, wildflowers, willow and birch trees, and shrubs.

Wetlands vary by soil hydrology, and saturation. This requires that plants and animals living in these habitats have different adaptations in order to survive there. An **adaptation** is a change in biologic characteristic of a plant or animal that makes it suited for successful survival in a habitat or situation. Wetland plants and animals must be suited for survival in saturated areas that remain wet for most of the year. For example, a marsh has ample amounts of standing water, making survival very difficult for plants that need a stable base of soil to grow in. Therefore, plants that live in marshes have had to make adaptations in order to survive and are soft stemmed and able to live successfully in deep water.

Like plants, animals are also adapted to certain habitats. Animals that live in wetlands must have special biologic and behavioral characteristics in order to live in wetlands. For example, they must be able to use nutrients found in water, protect themselves from their enemies in a wet world, and survive during times of saturation or drought. These animals would not be able to survive in a wetland area unless they adapted or developed the skills necessary to migrate when conditions became undesirable.

Adaptations are necessary for all types of plants and animals, whether they live in a wetland environment or other type of habitat.

OVERVIEW:

Small groups of students will explore what types of animals are common to wetland habitats by participating in an interactive game through the use of a series of clues and pictures. Students will then be able to form conclusions about the types of adaptations necessary for animals to successfully survive in wetlands.

PROCEDURE:

Teacher Preparation:

1. Provide students with a basic understanding of wetlands and their functions. For assistance, see activities *Wetland Metaphors* and *Wetland Observations*.
2. Familiarize your class with the different types of wetland habitats including marshes, swamps, and bogs and compare their characteristics and features.

3. Review the concept of adaptation and why it is necessary for animals and plants surviving in wetlands to have adaptations.

Student Activity:

1. Review the different types of wetlands with students and generate a list on the board to help assist students in guessing the habitat of their animal.
2. Divide students into small groups of 3-4 and provide each group with a set of Wetland Animals Clue cards and a scorecard. Tell students not to look at the clue card before the game begins.
3. Explain that on each card there is a series of clues beginning with the most challenging and becoming easier. Each clue helps to describe the animal that the group is trying to guess.
4. Each group should pick one person to be the first reader of the clues. This person will read one clue at a time, beginning with the first clue on the card. The last clue on each card is a multiple choice question. The reader will pause in between each clue to give other group members time to guess. However, the group will only have 5 minutes maximum to guess their animal correctly. It is the responsibility of the reader to tell the group when they have guessed the correct animal; however the reader must be on his/her honor not to tell the group the answer! The answer is printed in the lower right hand corner of the clue card in small print.
5. Once the animal is correctly guessed, the reader will determine point values as follows:
 - One clue read = 7 points
 - Two clues read = 6 points
 - Three clues read = 5 points
 - Four clues read = 4 points
 - Five clues read = 3 points
 - Six clues read = 2 points
 - Picture clue = 1 point
6. If students are unable to guess the animal from the clues and multiple choice, they may raise their hand to request a picture clue. The teacher should give them the corresponding picture clue card. If students are able to correctly guess after this, then they will be rewarded 1 point. Have students record the number of points earned for each wetland animal on their scorecard.
7. After the group has correctly guessed the animal, have them discuss what type of wetland they believe their animal to live in and record their guess on the scorecard. Have them discuss why they think their animal is able to live in a wetland, (i.e., adaptations) and record the animals adaptations on the scorecard.
8. After this process is completed, have students switch readers and begin with a new clue card. Continue this process for a desired duration.

9. When the game is done, have each group share their adaptations list and wetland types they have guessed with the rest of the class.

OPTIONAL: Use the laminated Wetland Posters (A & B) to point out where to find the different animals. If working with students, you might also hand these out to the small groups to facilitate the guessing process.

DISCUSSION:

- What types of animals live in wetlands? Why are they able to live there? *Answer will be animals from clue cards and the adaptations that were found. Also see the Answer Key.*
- How do adaptations play a role in determining the type of wetland that an animal can live in? *See background information.*
- Do adaptations play a role in determining the habitat of all animals, or just those living in wetlands? *Allow students to present opinions and discuss why all habitats require adaptations- see background information.*

EVALUATION:

- Discussion Questions above.
- Describe what is meant by adaptations.
- Give examples of animals that live in wetlands and the types of adaptations they have.
- Explain why it is necessary for animals living in wetlands to possess certain adaptations.
- Explain why all animals in all habitats require a certain degree of adaptation.

EXTENSIONS AND MODIFICATIONS:

- Create more Wetland Animals clue cards for wetlands in different regions of the world, for plants, or for more animals.
- Using the cards from Wetland Animals, have students guess animals and/or plants in a manner similar to the game Taboo in which they guess as many animals as possible in a given time period. Points would be rewarded for the number of animals guessed correctly in that time frame.
- Instead of breaking the class into small groups, create two teams.
- Have students think about the types of adaptations that they have in their lives in order to survive (for example, how are they adapted for life on earth). Students can share their ideas in a presentation, poster, paper, or project.
- Discuss the adaptations of plants and animals in each of the main habitats: desert, tundra, boreal, forest, etc.
- Have students create an animal with adaptations to live in a habitat of their choice (for example, what type of adaptations would an animal or plant on the moon have).



NOTES (PLEASE WRITE ANY SUGGESTIONS YOU HAVE FOR TEACHERS

SCORECARD : WETLAND ADDRESS

USING THIS ACTIVITY IN THE FUTURE):

Name _____ Date _____

Point System: One clue read = 7 points Five clues read= 3 points
Two clues read = 6 points Six clues read = 2 points
Three clues read=5 points Picture card = 1 point
Four clues read= 4 points

Wetland Animal #	Animal Name	Points Earned	Type of Wetland (bog, swamp, fen, marsh) and Why	Adaptations
1				
2				
3				
4				

5				
6				

Point System: One clue read= 7 points Five clues read= 3 points
 Two clues read= 6 points Six clues read = 2 points
 Three clues read=5 points Picture card = 1 point
 Four clues read= 4 points

Wetland Animal #	Animal Name	Points Earned	Type of Wetland (bog, swamp, fen, marsh) and Why	Adaptations
7				
8				
9				
10				
11				
12				



KEY : WETLAND ADDRESS

Animal #	Animal Name	Multiple Choice Answer	Type of Wetland	Adaptations
1	Great Blue Heron	B	Marsh/Swamp	Pointed beak, webbed feet, long legs
2	Wood Duck	C	Marsh/Swamp	Thick feathers keep dry, webbed feet
3	Bull Frog	A	Swamp/Bog	Close nostrils to breath in water
4	Mosquito	D	Swamp/Bog	Reproduction methods
5	Turtle	B	Marsh/ Bog	Can survive on land/water, clawed feet and hands
6	Salamander	C	Swamp/Bog	Breath through skin both in and out of water
7	Black Bear	D	Swamp	Consumes food found in wetlands, fur to keep dry
8	Beaver	D	Marsh	Paddle-like tail, strong swimmer, thick/glossy fur, hydrodynamic, uses small saplings
9	Common Carp	B	Fen	Thick, large scales
10	Muskrat	B	Marshes	Eat vegetation, build lodges out of cattails, strong swimmer, hydrodynamic
11	Raccoon	C	All Wetlands	Agile hands, scavengers
12	Mink	A	All Wetlands	Glossy fur keeps dry