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Section 3: Pre-Visit Activities

This section contains activities that educators can do to prepare their students for the field trip.

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West Eugene Wetlands Learning Assessments

In this activity, students will evaluate their understanding about the West Eugene Wetlands. They will complete pre-unit and post-unit assessments.



Benchmark Correlations, see Section 7.

Key Concepts:

A pre-unit and post-unit learning assessment can show what students know and have learned about living things' needs and adaptations, the ways environments can change, and what people can do to protect and preserve habitats.

Objectives:

Students will be able to:

- identify what they did not know about West Eugene Wetland habitats in the pre-unit assessment.
- demonstrate their acquired knowledge and attitudes about West Eugene Wetland habitats in the post-unit assessment.

Recommended Time:

Two 15-30 minute sessions

Materials:

Large paper and marking pens to record oral assessments
Copies of written assessment (one per student)

Information:

The pre-unit assessment helps determine what students know about the West Eugene Wetlands and what people can do to protect and preserve habitats. Use the same assessment for the post-unit assessment to help students determine what they learned after completing classroom activities and field trip activities at the West Eugene Wetlands.

The assessment may be used in two different formats: an oral assessment or a written assessment. The educator conducts the oral assessment with the entire class. The educator writes down the answers to the questions. The written assessment is copied and handed out to each student to complete individually. Educators may choose to use either format for the pre- or post-assessment.

There are other forms of assessment including: authentic assessment, group wrap-up, and journal writing.

The following activity may be used as a pre-unit assessment tool: *Preparing Students For The Field Trip*, What do we know? What do we want to know?

Procedure:

Pre-unit Assessment

1. Administer the pre-unit assessment to the students before beginning the unit of study.
2. Remind the students that they may not know all the answers when they take the pre-unit assessment, but after studying about the habitats and taking a field trip to the West Eugene Wetlands they will have another opportunity to answer the questions again by taking the post-unit assessment.
3. When doing the assessment orally as a class, survey your students to find out what they know about the West Eugene Wetlands habitats. List correct and incorrect responses.

Post-unit Assessment

1. Complete all your chosen pre-field trip activities, the field trip, and all post-field trip activities, then administer the post-unit assessment to the students. Students may self-correct and add to their pre-unit assessment.
2. Discuss post-unit responses, for example:
 - Help students compare their answers to the ones given in the pre-unit assessment.
 - How answers have changed.
 - Speculate as to why the answers might have changed.
 - Discuss ways their attitude and behavior concerning the West Eugene Wetlands habitats and endangered species may have changed.
 - Inspire students to discuss, write or draw what they believe about West Eugene Wetland habitats, endangered species, native plants, and migratory birds. The following prompts might be helpful;
 - Before I thought wet prairies....
 - Now I think wet prairies....
 - Before I believed that endangered species....
 - Now I believe that endangered species....

Authentic Assessment

Performance assessment is built into many activities. While doing the activity students will demonstrate knowledge and understanding.

Group Wrap-up

Before leaving the field trip site have an informal group wrap-up. Ask the students what they learned. Ask them what they liked, etc.

Writing Topic for Language Arts: Journal Writing

Another form of assessing knowledge and understanding, journals provide a means for students to record observations, thoughts, feelings, ideas, and information. They can be used as an instructional tool by providing students with a focal point to identify what they know and to develop new understanding following an activity.

Assessment Information for Future West Eugene Wetlands Study Units

With your students, review these questions to help with future study units you may conduct about West Eugene wetland habitats. Tell the students their answers may be about the classroom or field trip activities.

Which was your favorite activity and why?

What activity helped you learn the most and why?

What activity encouraged you to learn more about West Eugene wetland habitats?

What activity encouraged you to learn more about West Eugene wetland endangered species?

What activity encouraged you to learn more about West Eugene wetland native plants?

What activity encouraged you to learn more about West Eugene wetland migratory birds?

What activity motivated you to change what you do at home to help the environment?

What activity motivated you to change what you do at school to help the environment?

What activity did you like least and why?

3. Name the animals that use the West Eugene Wetlands.

4. What does “native” plant mean?

5. Name the native plants that live in the West Eugene Wetlands.

6. What does “endangered” plant or animal mean?

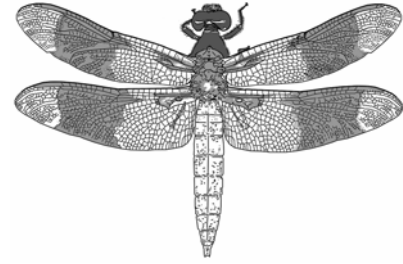
7. What endangered plants and animals live in the West Eugene Wetlands?

8. What migratory birds use the West Eugene Wetlands?

9. What can you do to help the plants and animals of West Eugene Wetlands have a clean and healthy place to live?

Preparing Students For The Field Trip

In this activity, students will locate the West Eugene Wetland on a map. They will discuss what they want to learn on the field trip, how to behave, and what to wear and bring.



Benchmark Correlations, see Section 7.

Key Concepts:

During the field trip, students need to follow established rules to protect themselves and the habitat they visit. The students need to demonstrate positive behavior in order to ensure a more rewarding and educational day.

Objectives:

Students will be able to:

- describe the location of the West Eugene Wetlands.
- name at least one thing they want to learn on the field trip.
- follow the behavior guidelines during the field trip.

The following activities may be done over several days.

Part 1: Where are we going?

Recommended Time:

20 minutes

Materials:

Road map of Eugene and surrounding areas including the West Eugene Wetlands
Copies of West Eugene Wetlands Map (use map located in Section 1), for each student
Crayons and/or color pencils

Procedure:

1. Hang on the wall the road map of Eugene and surrounding areas.
2. Tell students “ We are going on a field trip to the West Eugene Wetlands” *on day of field trip*.
3. Ask students if anyone knows where the West Eugene Wetlands are located. Students can come up and point out some of the wetlands on the map. The visitor center is located North of 11th Avenue on the East side of Danebo.
4. Hand out copies of the student map.
5. Direct the students to color the map according to following:
blue = water green = wetland brown = upland

6. Show them where they are going on the field trip.

Part 2: What do we know? What do we want to learn?

Recommended Time:

15 minutes

Materials:

2 large sheets of paper for recording
color markers

Procedure:

1. Put up large piece of paper and label it “What do we know?”
2. Tell the students that on their field trip they are going to study the West Eugene Wetlands. Ask the students to take a minute to think, then share what they know about the West Eugene Wetlands or wetlands in general.
3. Record the things that the students already know about wetlands. Include things that may be incorrect. Ask questions in order to get more ideas, such as:
 - what plants or animals might live in the West Eugene Wetlands;
 - what is a definition of a wetland;
 - why are wetlands important;
 - what are the ways that we can help wetlands.This activity may be used as a pre-unit assessment.
4. Put up another large piece of paper and label it: “What do we want to learn on the field trip?”
5. Tell the students that during the field trip they will have the opportunity to study the wetlands of West Eugene. Ask the students what they want to know about the West Eugene Wetlands.
6. Write down what the students want to learn on their field trip. Copy these down onto a sheet of paper to bring along on the field trip, to make sure all the questions are answered. It would be helpful to send the questions to the West Eugene Wetlands Education Coordinator before your field trip.
7. After the field trip, refer back to these sheets of paper. Check to see that all of the things students already knew were correct and that all of the questions were answered.

Part 3: How should we behave?

Recommended Time:

15 minutes

Materials:

Copy of the *Field Trip Behavior Guidelines*

Procedure:

1. Put up a large piece of paper and label it: "Field Trip Behavior".
2. Ask students what behaviors they think will be appropriate on the field trip. Write their ideas down. Help the students fill in the points they miss. In this way, students will come up with their own rules and will be more likely to follow them.
3. Review the *Field Trip Behavior Guidelines*.
4. Remind the students that much of the area of the West Eugene Wetlands is protected area. This means it is a special place for plants and animals. It is also a place where scientists and others can study and learn about plants and animals.

Part 4: Life Skills

Recommended Time:

5 minutes

Materials:

Copies of LIFE SKILLS for each student

Large copy or overhead to share with students

Procedure:

1. Hand out copies of the LIFE SKILLS to older students or use the large copy or overhead.
2. Go over the LIFE SKILLS with the students before the field trip. Life skills:
 - provide order,
 - promote self-esteem,
 - prepare students for the real world,
 - need to be recognized and valued by students, and
 - need to be developed and experienced by students.

Life Skills

Life Skills are guides that can help you evaluate your own performance. Life Skills provide order, promote your self-esteem, and prepare you for the real world. You are developing and experiencing Life skills with every action you take.

Effort

To do your best.

Caring

To feel and show concern for others and for the environment.

Curiosity

A desire to investigate and seek understanding of one's world.

Respect

To recognize the value of others and of the environment.

Cooperation

To work together toward a common goal or purpose.

Responsibility

To be accountable for your actions.

From *Kid's Eye View of Science*

Student Handout

PART 5: What do we need to bring?

Recommended Time:

5 minutes

Procedure:

Before the field trip, remind students about the following (this information could also be included in a letter home):

- Wear clothes that can get dirty.
- Wear shoes that cover the entire foot, can get dirty, and are good for walking.
- Bring a jacket or sweater; it can be windy and cold.
- Bring rain gear if it looks like rain.
- Wear a hat and/or sunscreen.
- Bring a water bottle.
- Bring your own lunch; try to pack a no-trash lunch (a lunch box and reusable containers).

Sensing Nature

In this activity, students will take part in several activities to practice using their senses and then they will use their senses to observe nature.

Benchmark Correlations, see Section 7.

Key Concepts:

People observe nature with all five of their senses. Students can improve their observation skills in preparation for the field trip by focusing on all five of their senses and expressing their observations through art, poetry, and music.

Objectives:

Students will be able to:

- identify their five senses
- describe how to use their senses to observe nature.

Recommended Time:

Three 20 to 30 minute sessions

Information:

We use five sensory tools—sight, smell, hearing, taste, and touch—to perceive the world around us.

- There is a tendency to focus on sight and hearing, with books, videos, and discussions; however, experiences that engage many senses lead to a greater brain activity and physiological growth of the brain.
- Observing nature can be a highly sensory experience and thus, a highly memorable experience. Enhance the field trip experience by encouraging the students to be aware of their ability to “sense” nature.

The Five Senses

- Eyes are sensitive to external light. Light passes through the cornea, a clear covering of the eye, before reaching the pupil. Behind the pupil is a lens that focuses light. The cornea, pupil, lens and other structures at the front of the eye direct light to receptors in the retina, at the rear of the eye. The receptors transmit the information to the brain, which interprets it for us.
- Our sense of smell is possible because of an olfactory nerve. Branches of this nerve are located in the nasal passage. The olfactory nerve sends messages to the brain, which interprets the smell.
- Sound waves enter the ear, travel through the auditory canal, and reach the eardrum, causing it to vibrate. Three tiny bones (the hammer, the anvil, and the stirrup) transmit the vibrations

to the inner ear. Organs within the inner ear transmit the vibrations to receptors at the end of the auditory nerve, which sends the information to the brain.

- Various receptors in the skin enable us to feel such sensations as pressure, pain, or temperature. Touch receptors are located near the surface of the skin, whereas receptors that sense pressures are located deeper in the skin.
- Specialized receptors located on the taste buds of the tongue enable us to sense sour, sweet, salty, and bitter foods. These receptors, like those of sight, smell, and sound, transmit the information to the brain for interpretation.

The following activities may be done over several days.

Part 1: Our Five Senses

Materials:

- sweet-scented flower
- oranges and apples (enough for pieces for each student)
- paper napkins

Recommended Time:

45 minutes (may be done over several days)

Procedure:

1. Begin with a Sharp Eyes Test! Divide the students into two lines facing each other; make sure each student has a partner.
2. Tell students to look very carefully at the person facing them. They are to pay attention to details such as buttons, shoelaces, jewelry, etc. Allow about one minute for students to observe each other.
3. Give a signal (make up a signal, such as clapping your hands), have the students turn their backs to each other. Allow time for the students to change one thing about the way they look. They could unbutton a button, take off their glasses, roll up their sleeves, or make another small change.
4. Give the signal again, have the students turn around, face their partner, and try to figure out what changes their partner has made.
5. Have each pair of students share with their partner the changes they observed.
6. Repeat the activity three or four times so everyone can gain experience developing Sharp Eyes!

7. Have the students return to their seats or sit in a circle, then hold a discussion about sensing nature. Ask the students, “What sense were you using during Sharp Eyes?”
8. Hold up a flower and ask the students how they could learn about it. Elicit responses such as seeing, smelling, and touching.
9. Tell students that taste is another sense and is another way to learn about nature. However, warn students that plants should never be tasted unless an adult they trust says it is okay. There are many poisonous plants and plants that cause violent allergic reactions.
10. Pass the flower around the circle. Monitor how long each student observes the flower by saying, “Pass” after 10-15 seconds. This will help the progress go a little faster.
11. Distribute napkins and small pieces of fruit to each student. Ask the students to look, smell, touch, and finally taste each piece of fruit.
12. Have the students brainstorm words to describe how each piece of fruit smelled, looked, tasted, and felt.
13. If desired, use the background information to discuss the senses in greater detail.

Part 2: Calling All Birds

Adapted from “Sound Off”, Outdoor Biology Instructional Strategies, Lawrence Hall of Science.

Recommended Time:

20 minutes

Materials:

Film containers; one per student

(fill each container with different small objects, such as paper clips, erasers, pushpins, etc.)

Procedure:

1. Ask the students the following questions:
 - Why do birds sing or call? (To attract mates, to alarm others about danger, to establish territory, and just to sing.)
 - How do birds find a mate of the same species? (Birds identify each other through their songs. A keen sense of hearing is critical for the survival of their species because if they cannot find a mate, no young birds are produced to replace the old birds that die or are eaten by predators. Some birds migrate and have to find their mate after traveling hundreds of miles.)
2. Pass out pairs of the firm containers (each pair should be filled with something different). Pass out one film container to each student.

3. Tell the students that the sound that the canister makes is their song and they need to find another bird with the same song by shaking the canister.
4. Throughout the activity you could talk about how one sense becomes more acute if another sense is lost or is not very sharp to begin with, i.e., blindness or deafness.
5. When they think that they have found their partner have the students stand together. When time is called, the students open their canisters to see if they found their partner.
6. Have the lost birds without a mate go to one area of the room. Then give them a second opportunity to find their mate. Repeat the process until everyone finds their partner.
7. An option could be to collect the canisters and pass them out again. Decrease the amount of time the students have to find a partner. You can play several rounds making each one shorter as the students improve at differentiating the sounds.
8. At the end of the activity, collect the canisters and discuss the following questions:
 - What problems did you experience while trying to find your partners? (Some potential answers are: too much noise or not enough time.)
 - Do birds have the same problems? (If there is noise that sounds similar to their call, the birds may have trouble finding a mate.)
 - How do unnatural sounds affect bird calls? (They have to adapt to the interfering sounds or move to a different area.)

Part 3: Sensing Nature

Recommended Time:

20 minutes

Procedure:

1. Ask the students: How can we use our senses to learn about nature? (We can look at plants, rocks, and animals. We can touch leaves, mud, and water. We can smell flowers and skunks. We can listen to birds, mammals, and the wind rustling leaves. We can even taste some plants; but never taste a plant unless an adult says it is okay – there are many poisonous plants.)
2. Tell the students that they are going to go into the schoolyard and use their senses to observe nature.
3. Take the students outside and sit in a comfortable grassy area.

4. The first sense the students will concentrate on is hearing. Have them close their eyes and sit quietly until you tell them to open their eyes. Have them concentrate on listening. The students can count the number of different sounds they hear.
5. Ask the students: What did you hear? Which things were natural and which were not? Which sounds did you like the most? Which did you dislike the most?
6. Take a **sensory walk** around the area to discover other sights, sounds, smells and textures. Pick up objects and use as many senses as possible to observe each object. (Do not pick up human-made objects that can cause injury, transfer disease, etc.) Smell a plant, feel a rock, look at an insect. **Do not taste any plants**—there are many poisonous plants! Remind the students to place any natural objects they pick up back where they found them.

Part 4: Writing Topics for Language Arts

Materials:

paper
colored markers or crayons
stapler

Extension 1: Sensing Nature Booklets

1. Have the students create sensing nature booklets. Distribute paper and drawing materials and ask students to use one piece of paper for each sense (sight, sound, smell, and touch). If possible, have them write the word at the top of the piece of paper.
2. Under the heading, ask the students to draw pictures of ways they can use their senses to observe nature.
3. Have the students create a cover for their booklet and staple the pages together.

Extension 2: Sense Sentences

1. Have the students write about the schoolyard as though they are experiencing it as they are writing and using all of their senses. They are to complete the following sentences.

I see _____

I hear _____

I smell _____

I taste _____

I feel _____

Extension 3: Senses Poem

1. Have the students create a “senses” poem to describe something observed on the sensory walk. On the board, write down four of the senses (sight, smell, hearing, touch).
2. Choose an object from the sensory walk to describe. Ask the students to generate a list of words under each heading to describe the object. Using some of these words, create the poem as below.
3. Have each of the students write his or her own poem after writing one with the entire class.

Use one word to name the object. _____

Use three words for how it looks. _____

Use one word for how it smells. _____

Use two words for how it sounds. _____

Use three words for how it feels. _____

What is a Wetland?

In this activity, students will be introduced to the definition of wetland.

Key Concepts:

In order for an area to be considered a wetland it must have these three characteristics: water, special (hydric) soil, and specialized (hydrophytic) plants.

Benchmark Correlations, see Section 7.

Objectives:

Students will be able to:

- define wetland by describing the three characteristics of a wetland.

Recommended Time:

15 minutes

Materials:

Copies of *What Is A Wetland* made into overheads or posters

Copies of *What Is A Wetland* blank sheet for each student

Wetland Information:

Simply, wetlands are wet land, however wetlands are more complicated. Wetlands are defined by three characteristics:

1. **Water**—areas that are flooded or saturated with water during some part of the growing season;
2. **Special Soil**—*hydric soils* that are wet long enough during the growing season to have conditions with low or no oxygen, *anaerobic*; and
3. **Specialized Plants**—*hydrophytic* plants that are adapted to grow in wet conditions and in soils with low or no oxygen.

The particular types and arrangements of these three characteristics are what make one kind of wetland different and distinct from another.

Scientists find wetlands fascinating places to study because of the unique combinations of soil, water, and plants that are found in them. Hydrologists are people who study the water cycle and have special insights into wetland ecosystems. Botanists and ecologists come to the wetlands to study plants and animals that inhabit them, and for soil scientists, the anaerobic (lacking oxygen) soil makes for a wonderful study.

The level of wetness of a specific wetland depends on how much water falls on it in the form of rain or snow. Water can flow in torrents down steep mountainsides, trickle down hills, or percolate drop by drop into the soil and become groundwater. Water can remain on the surface in areas where the subsurface layers of rock and clay will not let it percolate or it percolates very slowly into the ground.

Wetlands are places where plants and animals inhabiting the area must have adaptations either for terrestrial life (life on land), aquatic life (life in the water), or both. These organisms have specifically adapted to the anaerobic conditions of the wetland soil and they generally have a dependency on their native wetland environment.

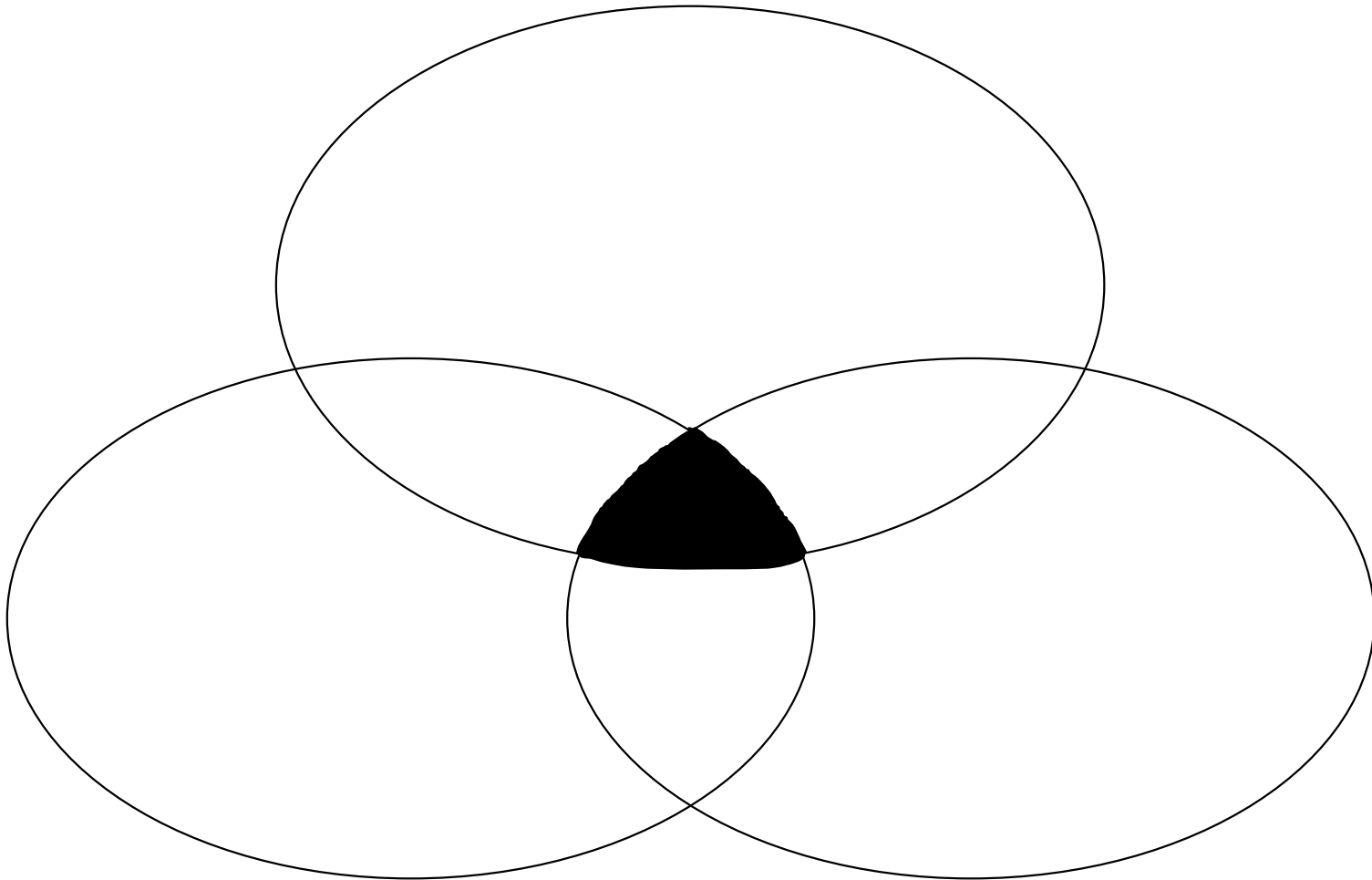
The anaerobic soils found in wetlands are not found in many other habitats, thus the presence of such soils makes all wetland ecosystems unique. When water remains on soil surfaces for long periods of time, it chemically alters the soil makeup. Mapping of wetland soils, in combination with landforms and interpreting the different soil layers found in floodplains, gives insight into how the wetlands were formed.

Procedure:

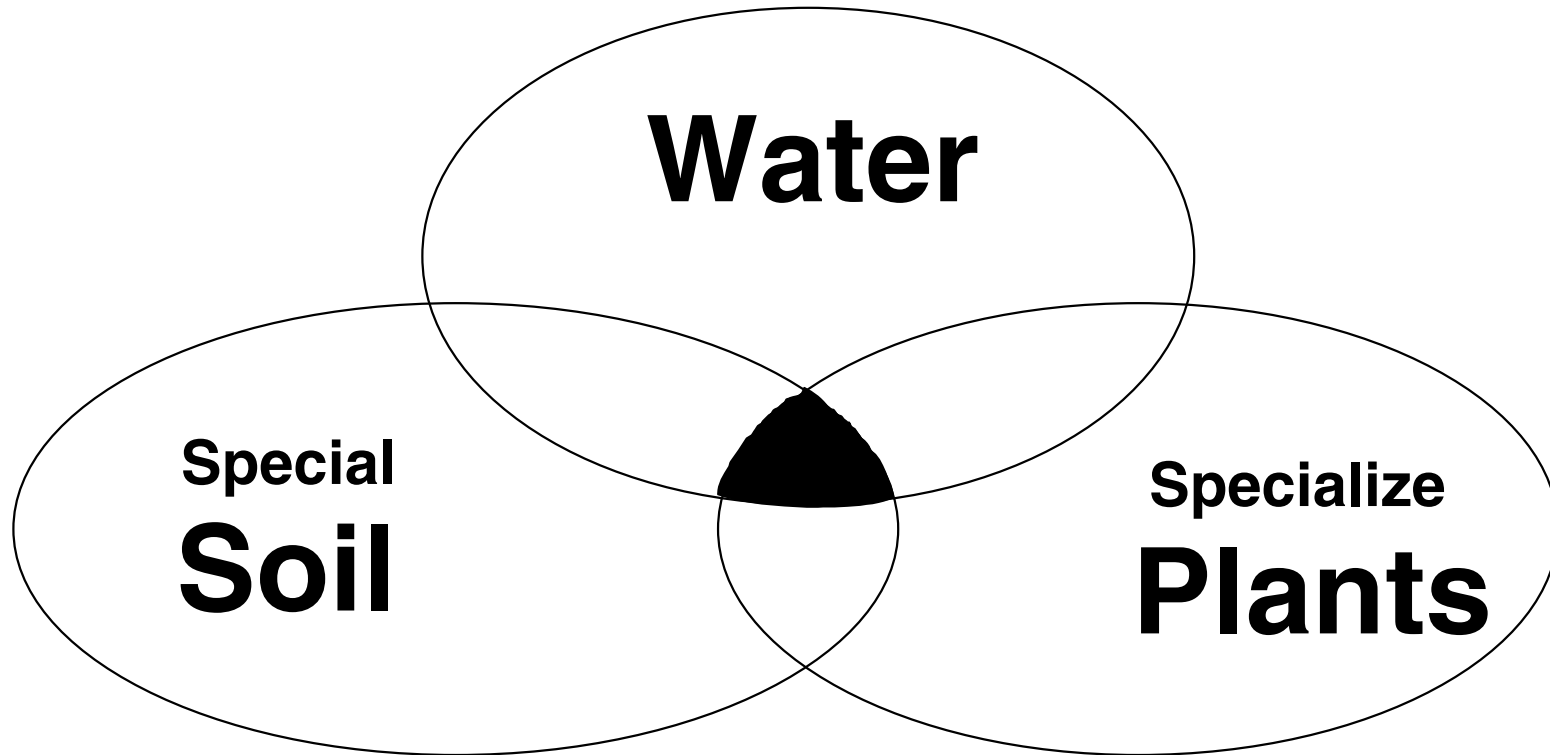
1. Have the students hypothesize “what is a wetland” by drawing a picture of what they think a West Eugene Wetland looks like. (This activity may be used as a pre-field trip assessment.)
2. Put the large poster with blank ovals on the board. Ask the students what is the definition of wetland. Tell the students there are three major characteristics.
3. Have the students look at their pictures to help them determine the three major characteristics. Fill in the ovals with the student answers, including the incorrect answers.
4. Show the students the *What is a Wetland?* diagram and review the three characteristics of a wetland. Help the students determine if and where their answers fit.
5. Point to the small triangle in the center of the diagram. Tell the students that a wetland forms only when the three characteristics come together. If any one of the characteristics are disturbed and/or missing, the area cannot be defined as a wetland.
6. Pass out the students’ sheets and have the students color and label their sheets.

Optional: Discuss careers of scientists who do research and learn about wetlands.

WHAT IS A WETLAND?

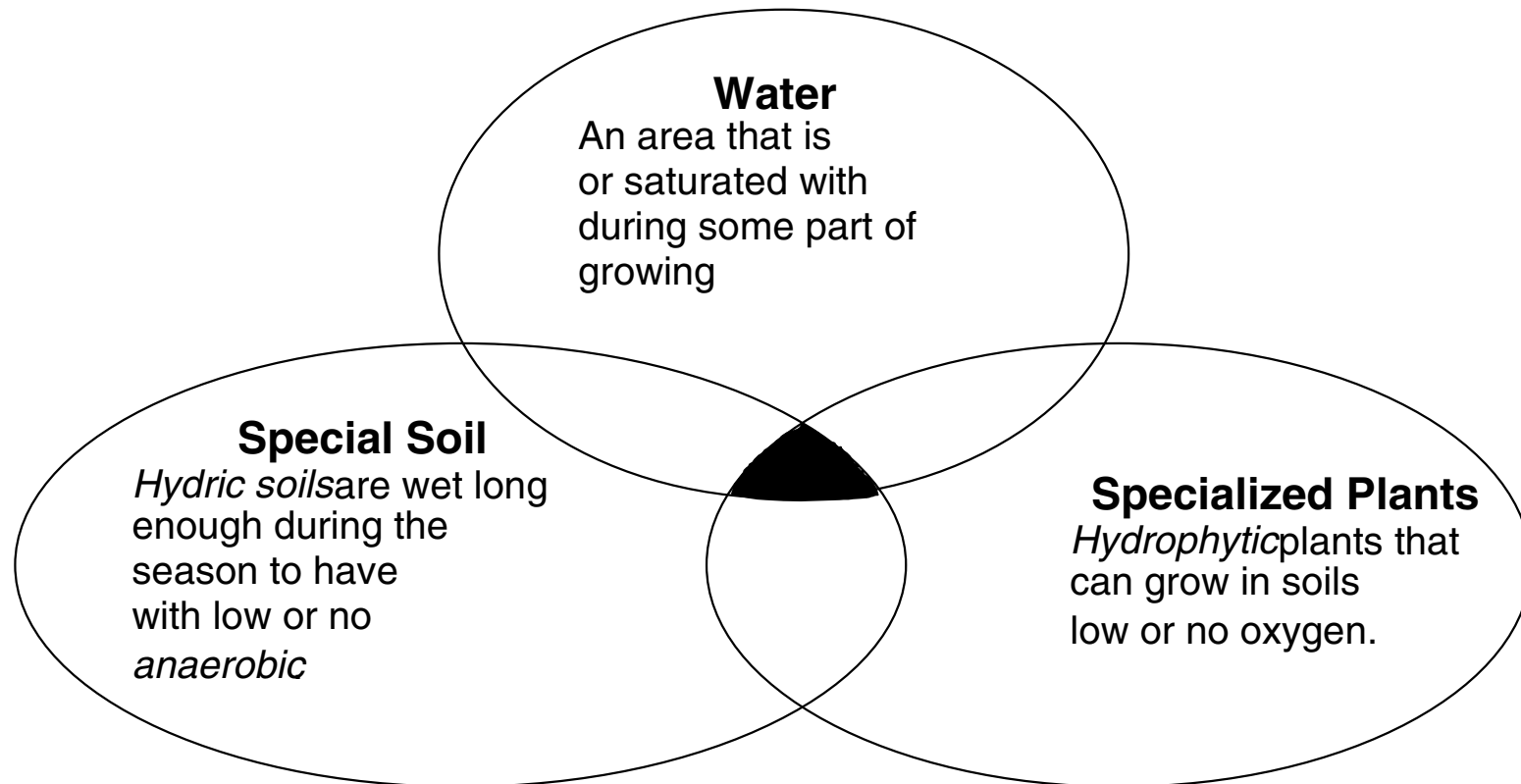


WHAT IS A WETLAND?



The particular types and arrangements of these three characteristics is what of wetland different and distinct from another.

WHAT IS A WETLAND?



The particular types and arrangements of these three characteristics is what of wetland different and distinct from another.

Habitats and Food Chains

In this activity students will be introduced to habitats and food chains by studying a habitat in the schoolyard, creating a wetland picture, and making food chains using wetland plants and animals.

Benchmark Correlations, see Section 7

Key Concepts: A habitat provides what living things need to survive: food, water, shelter, and space. Food chains show the way living things depend on each other for food.

Objectives:

Students will be able to:

- define “habitat” and describe the plants and animals on a schoolyard and in a wetland habitat.
- define “food chain” and describe a wetland food chain.



Information:

- A **habitat** provides a living thing with everything it needs to survive. Living things require different types and amounts of **food, water, shelter, and space**. *Living things can only grow in suitable habitats that supply all of their needs.*

For example, the habitat of a *Western meadowlark* would be in a *wet prairie wetland* and would include places to find food (*grasshoppers, caterpillars, beetles, etc.*), a sheltered place on the ground among *Tufted hairgrass* to build a nest, and space to find a mate.

- **Food chains** demonstrate how living things depend on each other for food (energy).

All food chains begin with **producers**, usually plants. Plants produce their own food (energy) by using sunlight. Through photosynthesis, plants absorb energy from sunlight and convert carbon dioxide and water to food in the form of sugars, releasing oxygen as a by-product.

Animals are **consumers**; they cannot produce their own food. Animals that eat plants are known as **herbivores** and are the **first level consumers** in a food chain. Animals that form the **second, third, fourth, etc. level consumers** in the food chain are **carnivores** (flesh-eating), **insectivores** (insect-eating), or **omnivores** (flesh-and plant-eating).

A wetland example of a food chain: Tufted hairgrass is eaten by grasshoppers, which are eaten by Western meadowlark, which are eaten by red fox.

- **Food webs** represent the interconnections of many food chains and the fact that animals eat a variety of food.

Note: The following activities may be done over several days

Part 1: A Schoolyard Habitat

Recommended Time:

30 minutes

Materials:

Habitat Worksheet for each individual or group of students

Paper, pencils, clipboard or folder

Procedure:

1. Tell students they are going outside and learn about their schoolyard habitat.
2. Ask the students:
 - What is a habitat? (A place where a plant or animal lives. A plant or animal's home.)
 - What do all plants and animals need in their habitat? (Food, water, shelter and space.)
 - Can you describe a habitat for an animal? For example, what would the habitat for a robin be? (A robin's habitat could be a forest, a backyard, or a schoolyard. A robin needs a tree for shelter; earthworms and insects for food, a stream or pond for water; and space to find food and water and to build a nest and raise young.)
3. Before going outside, discuss rules for behavior with the students. Review the *Behavior Guidelines*. Ask students how they can show their respect for a plant or animal? How should they treat a plant or animal and its habitat?
4. Tell the students they will be observing one plant or animal in the schoolyard and investigating what the plant or animal needs to survive. Everything that plant or animal needs to survive is in its habitat. Ask the students where they think would be good places to find a plant or animal in the schoolyard? (Areas under rocks; cracks in the pavement areas along fence lines; places in and under trees, bushes, and grass; areas along buildings.)
5. Divide the students into pairs or groups of three. Each group needs paper, pencils and a clipboard or folder and *Habitat Worksheet*. Review the worksheet.
6. Walk outside with the students and instruct them to locate a plant or animal and to draw or describe it. They need to answer the questions (either in a written form or in a drawing): Where does the plant or animal find food, water shelter and space? What is the plant or animal's habitat?

7. Assist the students with locating living things. Allow 10 to 15 minutes for the students to work on the drawings and/or descriptions and then return to the classroom.
8. Back in the classroom, the students share their findings of the plant or animal and its habitat.

Habitat Worksheet

Name _____ Date _____

*A **habitat** is a place where an animal lives that provides food, water, shelter and space.*

Draw and/or describe the plant or animal and its habitat.

Part 2: What is Your Habitat?

Recommended Time:

20 minutes

Materials:

Crayons, markers, colored pencils, and paper

Procedure:

1. Ask students to draw and describe their own habitats.
2. Discuss how their habitats are different from and similar to the habitat of a wild animal or plant.
3. The students are to draw or list what they need to survive.
4. Compile a list of all of the students' needs. Ask the students if all of their needs listed on their sheet are necessary for survival? Cross off the needs that are determined not to be necessary for survival.)
5. Ask the students where all of the items specified on their list come from? For example, where does your food come from originally?
6. Make a list of plants and animals that the students need.

Part 3: Food Chain Links

Recommended Time:

20 minutes

Materials:

Strips of construction paper two inches wide by 8 inches long (three to four per student)

scissors, glue, crayons, markers, or colored pencils

Copies of the West Eugene Wetlands Food Chain Cards for each student.

Sample food chain (make before class)

Procedure:

1. Have the students hypothesize “what is a wetland” by drawing a picture of what they think a West Eugene Wetland looks like.
2. Refer the students to their own wetland drawings to introduce food chains.
3. Ask the students:
 - **How do the plants** (i.e., Tufted hairgrass and Northwest cinquefoil) **get their food?** (All green plants use the sun to produce their own food.)

- **What animals in the wetland feed on plants?** (The grasshoppers eats Tufted hairgrass, The Townsend vole eats Northwest cinquefoil. These are the first level consumers; they eat plants.)
 - **What animals in the wetland feed on grasshoppers and Townsend voles?** (Western meadowlark. These are second level consumers; they eat first level consumers.)
 - **What animal might feed on a Western meadowlark?** (Red fox. These are a top-level predator.)
 - **What is a food chain?** (A food chain shows the order in which plants and animals feed on each other and energy is passed.)
 - **Can you name one food chain in the wetland?** (For example: Tufted hairgrass is eaten by grasshoppers, which are eaten by Western meadowlark; or Northwest cinquefoil is eaten by Townsend voles, which are eaten by red fox.)
4. Hand out food chain cards, construction paper, scissors, glue and markers, colored pencils, or crayons. Show the sample food chain you made before class. For students too young to use scissors, cut the food chain cards beforehand.
 5. Tell the students they are going to make their own wetland food chains. First they choose what food chain they would like to make from the food chain cards. (Remind them the food chain must start with a producer.)
 6. The students either cut the cards into strips or draw a picture of one member of their food chain on each construction paper strip.
 7. Loop the card or construction paper into a chain that shows the order of the food chain.
 8. Ask the students to share their food chain project with the other students.

West Eugene Wetlands Food Chain Cards

Plants and animals and their habitats

<p>Tufted hairgrass needs: sunlight to produce food, water from the wetlands, soil to grow in and get nutrients from, space to grow, air to breath.</p>	
<p>Northwest cinquefoil needs: sunlight to produce food, water from the wetlands, soil to grow in and get nutrients from, space to grow, air to breath.</p>	
<p>Grasshoppers need: tufted hairgrass and other grass to eat, water from the plants, shelter in the tufted hairgrass to hide and rest, space to search for food, air to breathe.</p>	
<p>Western meadowlark need: insects, snakes, seeds to eat, water from the wetlands, tufted hairgrass to nest on the ground, space to fly, air to breathe.</p>	
<p>Townsend vole need: Northwest cinquefoil, and forbs to eat, water from the wetlands, burrows in the soil and wetland plants for shelter, space to find food, air to breathe.</p>	
<p>Red fox need: insects, birds, small mammals, berries to eat, water from the wetland, burrows in the ground to raise their young, space to find food, air to breathe.</p>	