



Plants and People



DESCRIPTION:

Students learn about native plants and their uses for food and shelter by Native Americans. They are also introduced to plant identification by creating their own field guides. Students use this new knowledge out on the trail to 'survive' while enacting an ethnobotany story.

OBJECTIVES:

- Introduce students to the word *ethnobotany*.
- Have students be able to pick out and draw physical plant characteristics through detailed observation of a specimen.
- Have students connect that the plants surrounding them have many important uses for both humans and wildlife.

VOCABULARY:

ethnobotany: *the plant lore of a people; the study of how people use plants*

ACTIVITY SET-UP:

Walk along the boardwalk and select plants to mark with the 6 plant station signs making sure to space them out along the entire loop. Gather a small sample of each plant, or better yet, gather the prepared herbarium samples for each of the 6 plants to use inside for the 'field guide' creation section of the activity. Set up six tables in the Ed Center, each with one herbarium sample in the center.

- Plant Station Markers #1-6 (hopefully these will become a permanent installation out on the trails)
- colored pencils

BEST TIME OF YEAR: **Spring**, Summer,



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ACTIVITY DIRECTIONS AND DIALOUGE:

Step 1: (Intro) We all use plants everyday! (5 minutes)

Establish the familiar...

“Plants help us everyday in many ways. Imagine a world without grocery stores or restaurants or pharmacies. Where would people get the things they need to survive? These stores haven’t always been here for people to use. Certain plants can give us things that we need to survive.”

Think back. Who has used something made from a plant today, what was it?”

Take as many examples as you see fit, expanding or correcting what students are saying, Try to come up with many different uses, you can write responses or broader categories on the board: food, medicines, clothing, shelter (building material), furniture, fishing nets, eating utensils, fishing boats, fuels...

“We can get food from plants? What kind of food?”

These answers don’t all have to be: wild berries. Let students know that the food they eat every day comes from plants. Give examples of obvious, and not so obvious: lettuce, carrots, apples, potatoes, peanuts, etc.

“What other things can we get from plants?”

Etc.

Step 2: Students learn about plants at Nisqually NWR and create a field guide (15 minutes)

“Alright, I think you’re getting the idea. There are many different plants that humans use for many different purposes. Now, I want us to learn a little more about plants that you may see or have seen here at Nisqually National Wildlife Refuge. These plants are native to our region; do you know what that means? *Solicit an answer if you like, or just tell them...* Native plants are originally from this area; they are adapted to the type of weather, the amount of sunlight and the kinds of soil we have here and they support the animals by providing food and materials to build their homes.

To learn about plants, naturalists and scientists do many things: they go outside and look at the plant, draw pictures of it and take notes, or they might get a book or a field guide and look up what other people have learned about the plant. A field guide is kind of like a dictionary that is just about one type of thing like plants or birds; it has pictures and information that can help you identify things you see, and anyone can use one! For the group that begins inside, show a field guide, and have the groups at the tables look at a copy.



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“Today in your small groups you are actually going to create your OWN field guide to help you remember the different plants you may see at the Refuge or anytime you are outside. I have specimens from the plants at each table. I will give you each one plant that you will become the ‘expert’ on when working in your group. You will become a plant specialized detective once you are out on the trails who is responsible for tracking down the plant you studied. When creating your field guide, it’s important to draw like a scientist. Scientists take in all the details of the plant and draw as realistically as possible so that they can remember what they saw. You can use your imagination and describe these plants using whatever adjectives or descriptive words you think will help you to recognize the plant in the field. You will have 10 minutes to create the field guide for your plant.”

Have the students report to the chaperone that will be with them on the trail, the idea is to have 5-6 students per chaperone and that each student on the walk will be the expert of a certain plant. Then tell the groups to number them selves 1-6. Have all the ‘ones’ go to a specific plant table, all the ‘twos’ and so on. Each student will only go to one table, but every group will have all the plants represented.

Step 3: Students learn of Native American plant uses and are introduced to the term ethnobotany (10 minutes)

After the students have had 10 minutes to create their mini field guide, have the students come back together as a whole. Explain to them the relationship the native people had with the land and the importance of plants to their survival.

“The people of this region lived along side the plants for thousands of years and used these plants in a variety of ways. Without the plants, they wouldn’t have survived. We need plants today in the same way! I am going to describe how people can use these plants and I want the person whose plant this is to write it down because it will be important for your health and SURVIVAL”

Hold up each specimen and read from **Plant Uses Sheet**.

Now that you know the uses for each plant, you will be able to use them in your SURVIVAL stories. Your chaperones have all received a survival story book that you will use out on the trails (see specific instructions on next page). In order return to the Education Center ‘in good health,’ you must identify which plant is at which station and also remember what that plant can be used for. After you finish walking the trail, report back to the Ed center and you will find out if you survived!



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Outdoor Activities 1.5 hours

Step 4: Survival Story cards and Survival Trail Walk

Groups are given one set of survival story cards to take out onto the trails. Each card has a situation on it that can be remedied by finding the station with the correct plant. As groups walk around the trail, they need to stop at each station, which will be marked 1-6, and locate the plant in question. Groups will use the field guides they create, the story cards, and a map of the trail to find each station and remedy each situation. They will stop at a station, find the matching story card, and write down the plant name and station # on the story card. The adult leader will be given the answer key to be read aloud to the group if they are having trouble figuring out which plants go with which situation. The information on the answer key should be read regardless of whether the group needs help because it gives additional information on wildlife-plant interactions.

****Notes****

If you have two or four classes doing this activity concurrently, half of the group will start inside while half start outside.

Indoor Group:

Follow the instructions given above and split up each class into groups of 5 or 6. Number off the kids 1-6 and divide them up amongst the tables. (If you have two classes inside it might be challenging to have 10-12 kids drawing off of one herbarium sample. In this case I would recommend gathering a few fresh samples to add to the tables.) Each kid will spend time drawing one plant. When they come back together the group will staple all of their pages together creating a field guide they can take out on the trail. Before going on the trail, have the group review the plants they are looking for and read over the traditional uses. It would be good to have each student introduce their plant to the group to solidify the material.

Outdoor Group:

The other half of the classes will split into their chaperone groups and spend time outside becoming familiar with the plants that they need to find out on the trail. These groups will not create their own field guides, but will use the Washington Native Plant Society ID Cards as a field guide. Each student will be assigned one plant from the field guide that they are responsible for learning. The group leader will separate the laminated plant cards and give one to each student. As a way to become more familiar with the plants, the group leader will then ask a series of questions that the students can answer by looking at their plant cards. The Nature Explore Area can be used for small groups to break off and gather. Chaperones should assign each student to one plant, letting them know that it is their responsibility to become the group expert on that plant. Ideally, each student will find the plant they studied out on the trail. When the group comes back



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inside, they will divide up amongst the tables and spend time drawing the plant they were assigned, creating a field guide for future use.

***For all groups, staple the field guides together and ask the teachers how best the field guides can be used, i.e. take them and review in class, give to one kid per group, other ideas? ***

Plant Uses

- **Licorice Fern**

The sweet, licorice flavored rhizomes (roots) were chewed for flavor. The rhizomes were an important medicine for colds and **sore throats**.

- **Cattails**

Native peoples wove leaves of cattails into mats for bedding, **baskets**, mats, and beds. The pollen head will begin to develop an abundance of yellow pollen and can be used as a substitute for flour in pancakes to make cattail pancakes. Later in the year, the seed head fluff can be used for pillow and bedding stuffing or as a down-like insulation in clothing. The plants roots can also be grounded up for a tasty treat.

- **Skunk Cabbage**

Wherever the leaves of this plant were available, they were used as “Indian wax paper” for lining berry baskets, **berry drying racks** and steaming pits.

- **Red alder**

Red alder is a hard, dense wood making it excellent for tool handles, **mallets** and for carving.

- **Stinging nettle**

Stinging nettle stalks are harvested in the fall, and the fibers are used to make excellent cordage (twine or rope). Especially used to make **nets** and fishing line.

- **Sword Fern**

Sword Fern spores from the back of sword fern leaves are good to put on **burns** and stings.

- **Nootka Rose**

A pleasant tea can be made from the young leaves and twigs and was drunk to relieve **muscle cramps**. Young rose shoots were eaten in the spring. The fruit, or rose hips, although high in vitamin C were only eaten most often during times when other food was scarce.