Project Willow

Lesson: Listening to Elders

Materials:

- 1 large zip-lock bag filled with a mixture of beans, rice, etc.
- 32 small paper cups for collecting or 16 small baskets lined with paper towels (The rice will fall through the weave of the small baskets. Line each basket with school district paper towels.)
- 1 set of 18 plant photos. (please note the information on the back of each photo)
- 1 class set of Activity Sheet 4a, Tallying the Harvest (teacher provided)
- 1 class set of Activity Sheet 4b, Plant Questions - 3 pgs.(teacher provided)
- Important: A portion of this activity must take place outdoors. Do not teach the lesson on a snowy or rainy day. If there is snow on the ground, consider teaching the lesson in a closed off, plowed area where the pavement is dry.

Objectives:

- Students will work individually through a simulated "harvest" of 7 different Washoe plants represented by an assortment of dried beans, rice, etc..
- Students will sort and tally the assortment of simulated plants collected during the activity.
- Students will recognize, through the activity, the importance Washoe placed in listening to elders before collecting food.
- Students will become familiar with some of the plants used by the Washoe

Background:

In the previous lesson, students learned the importance of plant gathering in Washoe life. Perhaps some children have asked how the Washoe knew which plants were dangerous to eat, and which were safe. Because a person's survival might depended on knowing which plants were safe to eat, the older members of the Tribe became teachers to the young. The elders explained which plants were safe and how to prepare the plants for eating. In ancient Washoe life, listening and observing elders might make the difference between life and death.
In this lesson, students gather 7 different Washoe plants, represented by 7 food items (seeds, macaroni, etc.). The "plants" are spread out evenly over an area outside for the children to collect or "harvest". To help illustrate the importance of listening to elders, the class is divided in half. One half is briefed by an "elder" (in this case, you the teacher) on which plants are the most beneficial and safe to collect and which are not. The lesson closes by having children tally their "harvest" and then determining the nutritive value of the "plants" collected.

Before You Begin This Lesson

- Scout out a suitable outdoor site for the activity. A grass covered field works best. If you have access to a relatively undisturbed sagebrush area, you might try the activity there.
- Run off one class set of Activity Sheet 4a, Tallying the Harvest. and Activity Sheet 4b, Plant Questions (this second activity sheet is optional). Note that there are two activity sheets printed on one 8.5 x 11 page for Activity Sheet 4a. Activity Sheet 4b may be used as a homework assignment.
- Familiarize your self with the plant photographs. The following symbols have been used to help classify the plants shown in the photos:

  All plants labeled with an "A" have similar characteristics.

  All plants labeled with a "G" and the same number are of the same genus

  All plants labeled with an "F" are of the same plant family

  All plants labeled with an "S" are the same plant, but in different stages of development.

  Plant photos labeled with a "B", "C", "D", "E", "H", or "I" are unrelated to each other.

- If you want each student to collect the rice and bean mixture individually, you will need all 32 cups (depending on class size). If you prefer to have students gather the rice and bean mixture in cooperative groups of two, you will need only half the number of cups, or you might use the paper towel lined baskets. The choice is yours.

Activity:

1. Begin by reviewing the previous lesson. Students learned the importance of fishing in the Washoe diet, and how, when the fishing declined, the Washoe adapted by relying more on gathering wild plants to eat. By early summer, the edible plants were growing in abundance.

2. Ask if anyone has ever wondered how the Washoe knew which plants were safe to eat. Who taught them? Don't ask for an answer yet. Move on to step 3.
3. To help reinforce this idea, ask students who taught them to look first before crossing the street. Was it someone older or younger than them? (older) Why? (because older people generally have more life experiences than younger people).

--As an optional extension, you may want to generate a class list showing things children often learn by listening to and/or observing those older than themselves.

4. Explain that the Washoe elders were responsible for teaching younger members of the Tribe many important things, not least of which included learning which foods were safe to gather and eat.

5. Explain that the class will simulate the gathering of several different "plants". The "plants" will be represented by seven different seeds, grains, etc. The simulated "plants" will be spread out over a large area outside.

6. Take the following items outside to the collection site:

   - 1 bag of mixed beans, rice, etc.
   - 32 small paper cups or 16 paper towel-lined baskets for collecting the simulated plants.
   - Your class!

7. Once you have reached the site for the activity, break the class into two equal groups. Instruct one group to huddle around you like a football team while the other half of class remains at least 20 feet away (you do not want the other half to hear what you are about to tell the group huddled around you).

8. Once the group has huddled around you, explain that you have some very important information to share with them.

9. Share the following "secret" information with the group huddled around you:

   DO NOT COLLECT ANY OF THE WHITE OR YELLOW BEANS!
   COLLECT AS MANY GRAINS OF RICE AND GREEN SPLIT PEAS AS POSSIBLE!
   THIS CONFIDENTIAL INFORMATION THAT SHOULD NOT BE SHARED WITH THE OTHER HALF OF THE CLASS!!

10. "Break" the huddle, and pass out one paper cup to each student in class if you wish to have students collect the mixed beans and rice individually. Explain that all collected items should go in this cup. If you prefer to have students gather the rice and beans in cooperative groups, use the paper towel-lined baskets, or half as many cups.

11. Begin evenly scattering hand fulls of the "plants" over the designated collection area.
12. On your signal, have the class begin gathering the seven "plants."

13. Use your own judgment for how long the students should gather. Give enough time for students to begin experiencing difficulty finding the 7 "plants". (This will help them better understand how, as the supply of available plants begins to decline, the gathering of plants becomes more difficult).

14. When most of the "plants" have been collected, stop the activity and return to class. (If you prefer to teach the closure outdoors, you will need to have a class set of Activity Sheet #4).

CLOSURE

1. Once you have returned to class, pass out Activity Sheet #4a, Tallying the Harvest to each student (the activity sheet is a half-sheet).

2. Students should begin sorting and tallying their harvested seeds.

3. Once all seeds have been counted, ask the class to look around the room, comparing what the types and quantity of "plants" other students near them collected. Are their any differences between the types and quantities of seeds some students collected? (Hopefully, some students will notice that students who "huddled" with the teacher before the activity seemed to avoid certain "plants").

4. Explain that the "huddled" group was given specific information on which plants to collect, and which to avoid. This advice might have been similar to that given by Tribal elders to younger members of the Tribe.

5. The students can now judge the success of their harvest by divulging the following information to the class: (Be sure to remind students that this activity was a simulation, and that the food items collected in the activity only represent plants the Washoe might have collected. The ancient Washoe did not actually eat these 7 food items.)

- The macaroni shells are very appealing to look at and taste great, but have very little nutritive value. They are similar to foods like celery or popcorn. You do not want to harvest many of these!
- The white lima beans offer no nutritive value - they simply pass right through the human digestive track. You do not want to harvest any of these!
- The green split peas are very nutritious. Students who collected many of these will do very well in winter!
- The black and pink beans offer some nutritive value - about half of that found in the green split peas.
- The rice kernels offer the most nutritive value (twice that of the green split peas). Students who collected a great deal of rice kernels will do extremely well through the coming winter.
• The yellow split peas are very dangerous to eat. 1 pea will make your stomach ache while 2 peas will make you very sick. Students who gathered 3 or more yellow split peas were poisoned and "died".

6. Find out how many students were poisoned by the yellow split peas. Were any of the group that huddled with the teacher poisoned? (hopefully, not) Why? (because they were given "privileged" information.)

7. Explain that you played the role of a Tribal Elder, and as such, shared some very important information with half the class.

8. Lead a brief discussion that helps your class understand the importance of listening and observing others. Hopefully, it will now be much easier for students to understand why the Tribal Elders were so important to the Washoe's survival and were subsequently held in high esteem among the Tribe.

9. Read the following narrative to the class:

Gathering began once the snows had melted and the first plants and early grasses appeared. Gathering did not play an important role until the summer, when more plants became available to eat. The Washoe collected a wide variety of plants including, camas, bitterroot, sunflowers, pine nut seeds, choke cherry, gooseberry, currants, berries from the elderberry, miners lettuce, wild rhubarb and wild spinach greens. Indian tea and Indian balsam were gathered as medicines. Oak trees, and their acorns did not grow near the traditional Washoe home region. To harvest acorns, the Washoe would journey great distances over mountains to collect acorns along the west slopes of the Sierra Nevada mountains, or they would trade pinenuts and other items for acorns from tribes living in the California foothills.

Through the ages, the Washoe had gained an impressive knowledge and understanding of plants. They knew what parts of a plant were edible, and what distinguished edible from poisonous plants. They even had learned where different plants could be found.

Washoe learned about plants from those that came before them. Because the Washoe had no written language, everything had to be passed down orally. The Tribe placed great importance on the knowledge and experience of the Tribal Elders. It was through the elders that the younger members of the Tribe learned the ways of the Washoe.

Note: You may want to teach the final portion of this lesson tomorrow.

10. Share the Washoe plant photos with your students. Make sure students pay special attention to photos labeled with A, G1, G2, G3, F1 and S1. These photos show the similarities and differences found within plants.
You may try holding up the photos while reading the captions on the back of each photo, or try grouping students into pairs and circulating the photos to the pairs having each student share the caption reading to his or her partner.

**Option:**

1. After reviewing the Washoe plant photographs, have each student or cooperative pair complete Activity Sheet 4b, Plant Questions. You may prefer to assign this sheet for individual homework.

**Evaluation:**

Use the key provided when grading Activity Sheet 4b, Plant Questions

**Text for Lesson 4 Activity Sheet 4a**

Listening to Elders

NAME:

DATE:

Tallying the Harvest

1. How many macaroni shells did you collect?

2. How many white lima beans did you collect?

3. How many green split peas did you collect?

4. How many black beans did you collect?

5. How many pink beans did you collect?

6. How many rice kernels did you collect?

7. How many yellow split peas did you collect?

Lesson 4 Activity Sheet 4a

Listening to Elders

NAME:

DATE:
Tallying the Harvest

1. How many macaroni shells did you collect?
2. How many white lima beans did you collect?
3. How many green split peas did you collect?
4. How many black beans did you collect?
5. How many pink beans did you collect?
6. How many rice kernels did you collect?
7. How many yellow split peas did you collect?

Text for Lesson 4 Activity Sheet 4b

Listening to Elders

NAME:

DATE:

Plant Questions

1. Wild Onion Photograph (A)
   What is a habitat?

2. Death Camas Photograph (A)
   Why might you mistake the Death Camas for the wild onion?

3. Blue Camas Photograph (A)
   How come some plants are dried?

4. Sego Lily Photograph (B)
   Name some things that look the same on all plants?

5. Indian Rice Grass Photograph (C)
   What is winnowing and why were the seeds of Indian Rice Grass winnowed?
6. Willow Photograph (D)
Why did the Washoe use so much willow?

Activity Sheet 4b - pg 1

7. Pi–on Pine Photograph (E)
What might the Washoe have traded their pine nuts for?

8. Cattail Photograph (H)
Would you find cattails on a dry mountain slope?

9. Big Blazing Star Photograph (I)
What is the difference between a disturbed site and an undisturbed site?

10. Yampah/Queen Anee's Lace Photograph (F1)
How do you tell the difference between poisonous and non poisonous?

11. Osha/Lovage Photograph (F1)
Why is it best to be cautious when identifying plants?

12. Green Ephedra/Indian Tea Photograph (G1)
How did the Native Amercans learn how to use plants?

13. Nevada Ephedra/Blue Ephedra/Indian Tea Photograph (G1)
Do native plants used by the Washoe have uses today?

14. Bitter Cherry Photograph (G2)
Why might you find Choke Cherries growing around old Washoe campsites instead of Bitter Cherry?

Activity Sheet 4b - pg 2

15. Western Choke Cherry Photograph (G2)
How do you think Western Choke Cherry got its name?

16. Currant Photograph (G3)
Can Currants be harmful to pine trees?

17. Prickly Gooseberry Photograph (G3)

How do you tell the difference between Gooseberries and Currants?

18. Blue Elderberry Photograph (S1)

Would you find Elderberries growing along stream banks?

What is the difference between edible and inedible plants?

Activity Sheet 4b - pg 3

Lesson 4 Activity Sheet 4b

 Listening to Elders

**Teacher Key:**

Plant Questions

1. Wild Onion Photograph (A)

What is a habitat? A habitat is the place where an organism lives. Habitats are usually defined by a dominant feature. Examples of habitats include riparian, marsh, forest and wetlands.

2. Death Camas Photograph (A)

Why might you mistake the Death Camas for the wild onion? The leaves of the Death Camas could be mistaken for a Wild Onion.

3. Blue Camas Photograph (A)

How come some plants are dried? Plants were dried to preserve them for consumption throughout the winter.

4. Sego Lily Photograph (B)

Name some things that look the same on all plants? Some common physical characteristics include fruits, leaves, stems, roots, bark, flowers, etc.

5. Indian Rice Grass Photograph (C)
What is winnowing and why were the seeds of Indian Rice winnowed? Winnowing is the process where seeds are separated from the husk or chaff. Washoe used special winnowing baskets to winnow the seeds of Indian Rice Grass and other plants. The seeds were winnowed to remove the non-nutritious chaff.

6. Willow Photograph (D)

Why did the Washoe use so much willow? Washoe used willow because it grew throughout this area and they were able to exploit this widely available resource.

7. Pi–on Pine Photograph (E)

What might the Washoe have traded their pine nuts for? Pine nuts were commonly traded for acorns from west slope California Tribes. Washoe also traded for brushes made from the soap root plant.

8. Cattail Photograph (H)

Would you find cattails on a dry mountain slope? No. Cattails require a wet habitat.

9. Big Blazing Star Photograph (I)

What is the difference between a disturbed site and an undisturbed site? A disturbed site has been influenced or changed by an outside influence. Disturbed sites occur naturally and as the result of human activity. An undisturbed site is where the plant community remains in a stable, balanced state.

10. Yampah/Queen Anee's Lace Photograph (F1)

How do you tell the difference between poisonous and non poisonous? You can find this information in books and by the knowledge provided by Elders or other local experts.

Activity Sheet 4b

11. Osha/Lovage Photograph (F1)

Why is it best to be cautious when identifying plants? Because a mistake in identifying plants you intend to eat could prove harmful or even fatal!

12. Green Ephedra/Indian Tea Photograph (G1)

How did the Indians learn how to use plants? Indians learned about the use of plants by careful observations of how these plants effected animals and/or humans. This knowledge was then passed on to other members of the Tribe by the Elders.

13. Nevada Ephedra/Blue Ephedra/Indian Tea Photograph (G1)
Do native plants used by the Washoe have uses today? Yes. Examples include medicines (quinine), foods (corn), and materials (rubber).

14. Bitter Cherry Photograph (G2)

Why might you find Choke Cherries growing around old Washoe campsites instead of Bitter Cherry?

You might find them there because they were a common Washoe food and left over pits would sprout into Choke Cherry trees.

15. Western Choke Cherry Photograph (G2)

How do you think Western Choke Cherry got its name? Because of the tart taste of the fruits.

16. Currant Photograph (G3)

Can Currants be harmful to pine trees? Yes, because they are hosts to White Pine Blister Rust which affects members of the White Pine group, including Sugar Pines.

17. Prickly Gooseberry Photograph (G3)

How do you tell the difference between Gooseberries and Currants? Gooseberries have spiny stems and mostly spiny fruits. Currants are bare-stemmed with spineless fruits.

18. Blue Elderberry Photograph (S1)

Would you find Elderberries growing along stream banks? Yes. They grow along streambanks.

What is the difference between edible and inedible plants? You can eat edible plants. Inedible plants can be harmful or fatal.