

LESSON 5

Montana's Native People and Plants

OBJECTIVES

Students will understand the importance of many plant species to Montana's native people. They will be able to describe the uses of 2 different native plants.

METHOD

Students read a Salish legend in which Montana's state plant, the bitterroot, played a vital part in survival of early people. They research use of plants and learn how other plants were and are used by Montana's native people.

MATERIALS

- ✎ *The Origin of Bitterroot: A Salish Plant Story* (follows lesson)
- ✎ Plant identification guides that include information on Indian uses of plants (see *Resources* section of this guide) or Internet access to use web sites such as Montana Plant Life at <http://montana.plant-life.org/index.html> or the Kootenai National Forest at: www.fs.fed.us/r1/kootenai/resources/plants/plants/edible_medicinal/index.shtml
- ✎ **Montana Native People and Plants** information sheet and a
- ✎ **Montana Natives: People and Plants** activity sheet (one of each per student)

BACKGROUND

In the old days, Indian people in Montana were dependent upon plants and animals for their livelihood. They knew the habitat and uses of most plants in their territory. If they came upon an unfamiliar plant in their travels, it was subjected to scrutiny and experimentation. It was, after all, a new gift from the Creator.

Knowledge of traditional plant use has been passed from generation to generation. That knowledge base continues to grow today. If a skilled native botanist is not able to find a use for a plant in a relatively short time, it is assumed that a use will eventually be discovered. Plant uses are sometimes revealed to worthy individuals through visions, dreams or as a gift from a spirit guardian; but most uses are determined through observation and testing.

Typically, a person known for powers as a medicine woman or medicine man will carefully test the properties of a plant. A new species of mint reveals a use to the sense of smell and taste. While nettles and thistles might have seemed a simple nuisance to the uninformed, upon observation of animals eating them and after testing, native botanists found uses for them as medicines, food, dyes and even material for fabric.

Grade level: K-4

Subject Areas: Biology, language arts, history, social studies

Duration: Two 30-minute or one 50-minute session

Setting: Classroom

Season: Any

Conceptual Framework Topics:

Aesthetic, recreational and spiritual values of plants, species, habitat, weed management

(Excerpted from "Work House" Activity Guide from Glacier National Park, used with permission).

American Indian plant uses were passed along to European Americans, often saving them from starvation or illness. On several occasions members of the Lewis and Clark Corp of Discovery would likely have starved without the knowledge of or actual food from native plants, given or traded to them by various Indian tribes. When Lewis and Clark expedition member William Bratton fell ill with back pain and coughing on Feb. 10, 1806, the explorers lost the capacities of one of their most valuable members. Bratton's health began to deteriorate during the Corps' stay at Fort Clatsop. Bratton suffered extreme lower back pains as the expedition started for home in March. By the time they reached the Great Falls of the Columbia in Oregon, in April, Bratton was semi-paralyzed and had to ride horseback while the rest of the group walked.

Bratton received a sweat bath treatment similar to the kind used by most tribes in North America at that time, and was given "copious draughts" of strong tea brewed from *horsemint*, a prolific member of the mint family with a range from the American Southwest to Canada, including Montana. This combined treatment was felt to have relieved Bratton from his back pain for the remainder of the trip.

In the early days, the Salish tribe was most at home in the intermountain valleys of western Montana. They had a balanced diet of plant foods and meat. They hunted in the mountains and spent time hunting buffalo on the plains. The Salish resided mainly in the valleys and had access to such root crops as bitterroot, camas, biscuit root, wild carrots, and onions.

The bitterroot is the state flower of Montana. The root was an important food for the Salish and other Montana tribes. The root is small and time consuming to collect in quantity, but it is very nourishing. Indian women usually dug the roots in spring as the leaves were developing, before the root became most bitter. They used special digging sticks made from fire-hardened branches and antlers. A 50-pound bag, enough to last one person for the winter, would take 3-4 days to fill. Some find the taste pleasant though a definite bitter flavor develops afterwards. If the root is stored for a year or two the bitterness is somewhat reduced. The roots were boiled or steamed, mixed with berries and meat, or dried, ground into powder, and used as a thickener.

Bitterroots grow in dry, gravelly soil in western and south central Montana. They can be prolific in some areas, creating a carpet of pink when in bloom. But they are vulnerable to disturbance, including invasion from invasive plants.

PROCEDURE

1. *Ahead of Time:* Read through the story and discussion questions and make copies of information and activity sheets.

2. Read the story *The Origin of the Bitterroot* aloud in class and lead your students in a discussion about the story. You may want to use the following questions:

- According to Salish legend, how did the bitterroot come to be?
- From the description in the story, can you visualize what the bitterroot plant looks like? (You might want to show them the illustration after they describe what they think it looks like.)
- How are the plant's features related to the Salish story?
- What could be some reasons the people in the story were starving?
- Do you think a plant like the bitterroot could save people from starvation?
- What time of year is the bitterroot dug for food?
- Can you think of any other natural objects in which their physical appearance or use by humans is explained by legends or stories? (e.g., The Man in the Moon, the "Just So" stories by Rudyard Kipling, constellations tied to myths)

3. Hand out the **Native People and Plants Activity Sheet**. Have your students color the bitterroot as you re-read the description in the legend to them. Have them read the description of how bitterroots were used and discuss this use in class. Ask your students:

- Do you think it would be hard to gather bitterroots to eat?
- Do you like the taste of bitter foods? Can you name some bitter-tasting foods you've eaten? (You might ask if they have tasted unsweetened chocolate or cocoa powder, and explain that chocolate is bitter until sugar is added.)
- Are there any wild plants that your family gathers to eat?
- Why do you think the bitterroot is Montana's state flower?
- Can you think of any issues to consider when digging up bitterroot plants now? (You might discuss possible harm to dwindling populations, private property rights, impacting traditional gathering grounds, allowing weeds to invade, etc.)
- How do you think weeds might affect plants like bitterroots? What kind of habitat does the bitterroot usually grow in? Do you know of any non-native, invasive plants (weeds) that grow in that same kind of habitat?
- How might the invasion of natural areas by non-native plants affect people like the Native Americans who have a strong cultural tie with the native vegetation?

4. Now have your students research another Montana plant that was traditionally used for food or medicine. You can have them use one of the resources listed or others you may find, and fill out the activity sheet with their own drawing and information. You may want to have them use the "Questions for Plant Research" as a guide when they research their plant.

Extensions

Have students present what they have learned to other students, parents, or community members.

Put the students' completed activity sheets together as a booklet on native plants for a class resource.

Present **Lesson 7: Traditional Uses of Native Plants** in this guide.

Have your students taste foods made from local wild plants, such as jams and jellies.

The Origin of Bitterroot

A Salish plant story

Long ago, when the Salish people still lived to the south in the area that is now called the Bitterroot Valley, there was a time of severe famine. In those sad days there lived a righteous old woman, the wife of a medicine man. The old woman grieved for her children who were slowly starving. With no meat and no fish to eat, her sons were doing their best to get by on some old dried up shoots of balsamroot. Even those were nearly gone.

"My sons have nothing to eat and will soon be dead," she sobbed. So she took herself down to the banks of the creek we call Little Bitterroot and laid herself down to mourn for her children. With her face to the ground and her old gray hair spread about her head she wept bitter tears as she wailed a song of death.



Nancy Seiler

As The Sun rose up over the mountains and peered down into the valley, he was greatly sorrowed to hear the old woman's death chant. The Sun called forth the guardian spirit of the woman and said, "Your daughter is in need. Go to her; give her comfort and bring forth food and beauty from that which is dead."

Assuming the form of a beautiful red bird, the guardian spirit flew down to the old woman and gently spoke to her. "Your bitter tears have soaked the earth beneath you. Even now they are mingling with the dead vegetation below to form the

roots of a new plant. Its fleshy leaves will lay upon the ground and a beautiful flower will rise up to the Sun. Its blossom will share the silver-white color of your hair and the rosy hue of my wings. Your children will dig the roots of our gift plant. Though they will find its taste as bitter as your tears have been, they will know that it is good food and they will grow to love it.

Each year, in the moon of deep water, they will see the return of the blossoms and say, "See, there is the silver hair of our mother upon the ground and there are the rosy wings of the spirit bird. The love and bitter tears of our mother have provided us with food for all generations."

Montana Native People and Plants



Lewisia rediviva
Bitterroot or Bitterroot Lewisia

- The bitterroot is the state flower of Montana.
- The root was an important food for the Salish and other Montana tribes. The root is small and time consuming to collect in quantity, but it is very nourishing. It is said to be extremely nutritious, 50 - 80 grams being sufficient to sustain an active person for a day.
- Indian women usually dug the roots in spring as the leaves were developing, before the root became most bitter. They used special digging sticks made from fire-hardened branches and antlers. A 50-pound bag, enough to feed a person for the winter, took 3-4 days to fill.
- To some who taste it the root has a good taste, although others find it too bitter to enjoy. If the root is stored for a year or two the bitterness is somewhat reduced. The roots were boiled or steamed, mixed with berries and meat, or dried, ground into powder, and used as a thickener in soups and stews.
- Bitterroots are still collected by Indian people in western Montana today.
- Bitterroots grow in gravelly, dry soil in the plains and low mountains.

Illustration courtesy U.S. Forest Service
Rangeland Management Botany Program

Name _____

Montana Natives: People and Plants

Common Name(s): _____

Scientific Name: _____

DRAW YOUR PLANT HERE

Questions for Plant Research

1. How is or was this plant used by Montana native peoples? What parts were used and how were they prepared for use? Did different tribes use it differently?
2. Were there any special ceremonies or rituals observed when gathering, preparing and using this plant?
3. Are there any special legends or traditional stories involved with the use of this plant?
4. How does the plant reproduce? How does it spread into new territory?
5. In what sort of habitat would you look for this plant?
6. Does your plant have any special relationships with other plants or animals? Is it particularly important to certain plants or animals?
7. Is it a rare or threatened species?
8. What other interesting information can you supply about your plant?