

*Native to America
Bloodroot
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Overview: Bloodroot is actual native specie, which the Native Americans upon discovering the medicinal properties taught them to the first English settlers of Virginia.

Objectives: Students will learn that plants in the wild have diversity functions including how to make them edible if they are toxic. Identifying plants must be accurate for this reason.

Key Concepts: Food Webs, Predator-Prey Relations, Ecological Niches, etc.
Subjects: Social Studies, biology, Ecology, Geography, Botany, etc.
Duration: 3 class periods (80 minutes)
Setting: In the field, outdoor natural landscape and in the classroom
Season: Spring – early, just at budburst
Interdisciplinary Connections
Frameworks:

Environmental Education @ the Cove River Site, and other coastal Connecticut settings.



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Introduction | Engagement: Plants were the earliest forms of medicine becoming humankind’s principle form of healing. Many herbs and plants had medicinal applications from hundreds to thousands years ago. Species that was introduced and native to North America became part of the U. S. Pharmacopeia founded in 1820.

Materials: The materials needed for this lesson are:

- ❖ Pocket guide to medicinal plants
- ❖ Plant identification key
- ❖ Small trowel
- ❖ Pair of garden gloves
- ❖ Plastic bags
- ❖ Heater
- ❖ Flask of water
- ❖ Alcohol
- ❖ Hot plate
- ❖ Tongues
- ❖ Goggles!!!! – always think SAFETY!

Preparation: Handout a sheet on bloodroot to the students prior to going to the Cove to collect the plant.

Explanation: Plants are diverse in their uses from medicinal to dye materials for decorations to being an edible vegetable. Describe what the plant looks like up on the computer and draw it in your journal.

Explore: Native Americans use of wild plants are rich in history in both discoveries and their various usages and their teachings to the Early American Settlers. How they used plants to cure diseases as well as being a vegetable for consumption.

Activity #1: Collect bloodroot from a woodland area, preferably from the Cove. Use a small trowel to dig up the entire plant including the root. Place in plastic bag to preserve it during transportation back to the classroom. Look at the plant under a microscope with a computer hooked up to it. Observe the plant under low, medium, and high and record in your journal what you see.

Activity #2: Measure and weigh the plant. Have a beaker of water and alcohol on a hot plate warming up. Add pieces of the bloodroot and bring the water to a boil. Write your observations based on the experiment.

Evaluation: After reading about Native American herbs and their diverse applications of

wild plants, students will be broken down in groups to present their hypothesis about their experiment using bloodroot. After presenting their hypothesis have the students prepare another experiment using a different plant following the same procedure. Write their hypothesis in their journal. Write their lab reports and label all the data.

Reference Peterson's Field for Easter/Central Medicinal Plants; Duke, James/Foster, Steven
A Handbook of Native American Herbs; Hutchens, Alma R.
<http://www1.umn.edu/ships/modules/biol/native-herbal.pdf>
<http://www1.umn.edu/ships/modules/scimath/dyes2.htm>
<http://www.answers.com/topic/bloodroot>

