

Teacher name: Cindy Siegler

Grade level: 4

Unit title: Learning the History of Vermont People in Our Forests

Length of Unit – ten weeks with connections throughout the year

Essential questions: How were trees important to Vermont people? What evidence can we find in a forest about life long ago in Vermont? How has the landscape changed since the 1840's? What makes a sustainable forest? Is there anything we can do to promote the health of a forest?

Activities to support learning targets

First two weeks:

Read Abenaki legends from Keepers of the Earth, Native Plant Stories and Rooted Like the Ash Trees. Discuss Abenaki uses of trees as recounted by Lynn Murphy, science teacher and Abenaki.

Students will keep a science folder of keying and identification activities, parts of a tree, rings indicating age and lists of tree uses in class. (*Project Learning Tree, Naturescope*)

Third Week:

On a walk through the Mt. Tom forest, students look for evidence that people have been there. They identify stone walls, other types of fencing, presence of apple and other non-native trees, trees with scars, trees that have been cut down with chain saws, foundations and any other signs of past history. (Led Conservation Education Coordinator, Vt. Dept. of Forests, Parks and Recreation, Rebecca Phelps & Marsh-Billings-Rockefeller Historic National Park Education Coordinator, Joan Haley)

Fourth Week:

Activities drawing trees in Art, experimenting to prove why colors change in leaves, Hulbert Outdoor Center tree identification activity, read Annie Glover is Not a Tree Lover

Fifth Week:

Approaching Mt. Tom from the King Farm, students identify various stages of forest succession by taking inventory of plants, trees, insects, mammals, amphibians, birds and other living things in designated plots in the forest. (*Project Learning Tree*)

Sixth Week:

Formative Assessment is to mute the sound on a succession video and have students tell the story. Another is to take sheets on uses of trees and work in groups to brainstorm jobs generated by tree uses.(AIMS' list) Students compare data recorded about the two plots in the forest noting how the forest has changed over time.

Students write a letter to a visitor to MBRNH Park to show an understanding of how the forest evolves. On-going:

Classroom discussions are held about current events pertaining to forests and the use of trees in Woodstock area. Students draw leaves and cones in their journals using various techniques of sketching. 4 Winds activities, including cones

Seventh Week:

Students plant apple trees that have been grafted from 1800's existing trees in a restored plot in the old McKenzie farm in MBRNH Park.

They explain what is happening to 2nd grade partners as they plant.

Assessment: Students put 8 steps to planting apple trees in order.

Given a picture of Mt. Tom in the 1890's students write a paragraph explaining the reasons for the differences from then to now.

While showing the sustainability venn diagram on the floor, students discuss where to place activities in the over lapping rings of social, economic and environmental needs.

Eighth Week:

Show video clip of Jesse Larouche collecting Ash from "The Vermont Movie" dvd.

Read Abenaki creation legend, "Rooted Like an Ash Tree".

Abenaki basketmakers, Sherry and Bill Gould, come; children pound ash rings in the way Abenakis have for hundreds of years; they also weave a seed basket to be used to store seeds for the school's Three Sisters' Garden (Third graders are invited to observe.)

Tenth Week:

Michael Caduto, author, environmentalist and storyteller, tells legends of Abenaki relationships to trees, sings songs, shows tree slides on Sustainability and coordinates a circle dance to celebrate trees with Gr.4, Gr. 3 and Pomfret visiting 3rd graders

Supporting resources

Content specialists:

Joan Haley, Place-based Education Coordinator, MBRNHP;
Rebecca Phelps, Conservation Education Coordinator, Vt. Dept, of Forests, Parks and Recreation; Ranger Marie Hanson, Marsh-Billings-Rockefeller Park Ranger ; Lynn Murphy, Abenaki and 6th Grade Science teacher in

Corinth, VT., Sherry and Bill Gould, Abenaki basketmakers; Michael Caduto, author, environmentalist and storyteller; Amanda Anderson, Student Conservation Association intern (M.B.R.N.H. Park)

Children's Books:

- Amsel, Sheri. *VERMONT Nature Guide*. New York: Pinto Press. 1998.
- Arnosky, Jim. *In the Forest*. New York: Lothrop, Lee & Shepard Books. 1989.
- Beard, Darleen Bailey. *Annie Glover is Not a Tree Lover*: New York: Farrar Ttraus Giroux. 2009.
- Brandt, Keith. *Discovering Trees*. New York: Troll Associates. 2001
- Bruchac, Joseph, *Native Plant Stories*: Golden, CO: Fulcrum Publishing. 1995.
- Caduto, Michael & Bruchac, Joeseeph. *Keepers of the Earth*: Colorado: Fulcrum. Inc. 1988.
- Caduto, Michael & Bruchac, Joeseeph. *Native American Gardening*: Colorado: Fulcrum. Inc. 1996.
- Caduto, Michael. *Riparia's River*. Maine: Tilbury House, Publishers. 2011.
- Cherry, Lynne. *A River Ran Wild*. San Diego: Harcourt Brace & Co. 1992.
- Cherry, Lynne. *The Dragon and the Unicorn*. San Diego: Harcourt Brace & Co. 1995.
- Dahl, Roald. *The Minpins*. New York: Viking Penguin. 1991.
- Dr. Seuss. *The Lorax*. New York: Random House. 1971.
- Giono, Jean. *The Man Who Planted Trees*. Vermont: Chelsea Green Publishing Co. 2005.
- Locker, Thomas. *Sky Tree*. China: Harper Collins Publishers, 1995.
- Podendorf, Illa. *TREES*. Chicago: Childrens Press. 1982.
- Preus, Margi. *Celebri Trees*. New York: Henry Holt and Co. 2010.
- Ray, Mary Lyn. *Christmas Farm*. Florida: Houghton Mifflin Harcourt Publishing Co. 2008.
- Sohi, Morteza E. *Look What I Did With a Leaf*. New York: Walker and Co. 1993.
- Usborne Conservation Guides. *PROTECTING Trees & Forests*. Oklahoma: EDC Publishing Co. 1991.

Waldman, Neil. The Never-Ending Greenness. New York: Morrow Junior Books. 1997.

Teacher's Resources:

AIMS Foundation, The Budding Botanist, Fresno, CA. 1993

Carlson, Richard G. Rooted Like the Ash Trees. Conn: Eagle Wing Press, Inc. 1987.

Holland, Mary. Naturally Curious. Pomfret, VT: Trafalgar Square Books. 2010.

Orr, David W. Earth in Mind. Washington, D.C.: Island Press. 1994

President's Council on Sustainable Development. Education for Sustainability. Washington, D.C.: U.S. Government Printing Office. 1994.

Project Learning Tree. Exploring Environmental Issues: Focus on Forests. Washington, D.C.: American Forest Foundation. 1995.

Project Learning Tree. Environmental Education Activity Guide. Washington, D.C.: U.S. Government Printing Office. 2006.

Project Learning Tree: Forest Ecology. Washington, D.C.: American Forest Foundation. 1996.

Project Learning Tree. Forests of the World. Washington, D.C.: American Forest Foundation. 2008.

Ranger Rick. Nature Scope. Trees Are Terrific. Washington, D.C.: National Wildlife Federation. 1985.

Sobel, David. Beyond Ecophobia. Great Barrington, MA: The Orion Society. 1996.

Watts, May T. Tree Finder. Nature Study Guild. 1963.

Assessments of learning:

In April, students work in a group of four with an intern from the Park to learn about the history of the McKenzie farm, grafting apples and the historic use of apples for History Fair presentation.

In May, students take stations in the old McKenzie farm site at the M.B.R.N.H. Park and teach 2nd graders about what certain historic indicators can indicate about the history of that area,

What grafting is and uses of apples over the years. Visit the orchard to see how the planted apple trees have fared. Draw them in journals and reflect.

In June students read about the approach of the Emerald Ashborer and write to local newspapers asking campers not to bring firewood to Vermont.

Key GEs/GSE”s assessed:

Science GEs

S3-4:6;4:7 Students demonstrate their ability to Analyze Data by interpreting patterns ...and provide an accurate explanation. (Succession forest activity, Project Learning Tree)

S3-4:31 Students demonstrate their understanding of reproduction by investigating and describing a variety of plant and animal life cycles (Succession forests and stewardship)

S3-4:38 Students demonstrate their understanding of Classification of Organisms by describing and sorting plants... (Naturescope activities; brochure creation)

History GEs

H&SS3-4:8 Students connect the past to the present by explaining differences between historic and present day objects in Vermont and identifying how the use of the object itself changed over time and describes ways that life in the community and Vermont has both changed and stayed the same(Reading the Landscape/Rebecca Phelps on Mt.Tom , making ash baskets with Abenaki craftsmenI, listening to legends/Michael Caduto)

H&SS3-4:11 Students interpret geography and solve geographic problems by observing, comparing and analyzing patterns of local and state land use(Activities at MBRNHPark)

H&SS3-4:12 Students show understanding of human interaction with the environment over time by describing how people have changed the environment in VT for specific purposes...and identify...ways they can contribute to preserving environmental resources

(History of Mt. Tom trips, picture comparison of olden days, assessment, explanation of history to second graders)