

MAPLE SUGARING PROGRAM



10/2011

Greenburgh Nature Center

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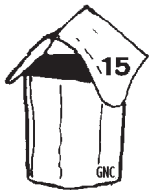
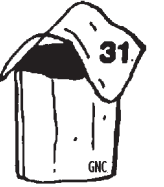
www.greenburghnaturecenter.org



ABOUT OUR PROGRAM (MARCH)



Students coming to the Nature Center for **Maple Sugaring Programs** will learn about the history of the sugaring process. A naturalist will guide students as they journey back through time to the days of the native Americans to learn how the sugaring method was first done. They'll then travel up a few hundred years to "pilgrim days" to see how they did it, before finally zooming up to the present to see how maple syrup is made today. The class ends with a taste test to see if children can tell the difference between real maple syrup and corn syrup.

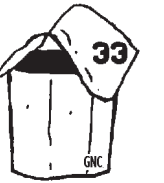


SOME "SWEET" INFORMATION

In the spring, warm days and cold nights signal the start of the **sugar maple season**. It is at this time that the sap within the maple trees begins to flow upward from the roots, where it was stored for the winter. The sap will be used by the tree to produce leaves that will eventually harness the sun's energy to produce more sap and allow for growth.



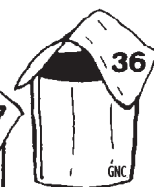
The **sugar maple** (*Acer saccharum*) is easily identified from other trees by both its leaves and its bark. Only the red maple (*Acer rubrum*) and occasionally the ornamental Norway maple (*Acer norway*) are confused with this commonly known tree. The leaf of the sugar maple differs from the other two maples in that the red maple and Norway maple both have small serrated leaf edges, while the sugar maple's leaf is smooth. The smooth dark gray to gray-brown bark becomes slightly furrowed to deeply fissured with age.



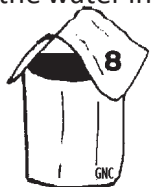
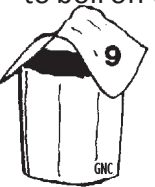
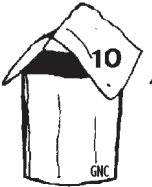
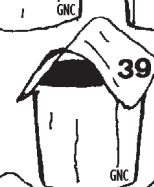
40 GALLONS OF SAP =



1 GALLON OF SYRUP



A lot of hard work goes into making maple syrup. Approximately 40 gallons of sap must be collected and then boiled down to get a single gallon of syrup. To do this, sap must be collected daily and added to large evaporators in the process to boil off the water in the sap.



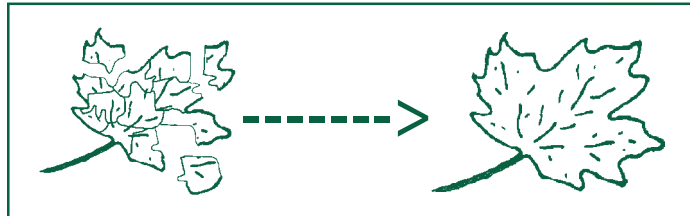
ONE GALLON

PRE-VISIT IDEAS: TEACHERS SHOULD ADAPT THIS MATERIAL TO THE GRADE LEVEL OF THEIR STUDENTS.

- Look at a sugar maple leaf, make maple leaf rubbings, visit a sugar maple at/near your school.
- Force red maple (*Acer rubrum*) stems to bud in the classroom and study them.
- Make up a list of questions to ask the naturalist when you arrive.
- Discuss some other types of **tree sap** and how they are used (turpentine for example) and where other kinds of sugars come from (sugar cane, sugar beets, corn, etc.).
- Review some of the materials that are used in the sugaring process.
sap bucket evaporator drill/brace and bit spile or tap hathook
- Discuss the difference between smoke and steam (they will see this on their visit).
- Make a sugar maple leaf puzzle! Draw or copy a maple leaf (an old calendar may have a maple leaf in it) onto cardboard material and cut into puzzle pieces. Have students solve the puzzle.



FOLLOW UP ACTIVITIES:



RECIPE: SUGAR-ON-SNOW/JACK WAX

Ingredients: • maple syrup • pan of snow/ice • sour pickles • saltines or plain doughnuts

This delicacy has been a traditional springtime favorite at sugar houses and sugar camps for over 200 years. It is also known as “leather aprons” or “leather britches”, due to its chewy, leathery consistency. It can easily be prepared at school. Heat syrup to 22 to 28 degrees F. above the boiling point of water. Usually heating to about 234° will do the job. A higher heat will make a stiffer product. As soon as the syrup reaches the proper temperature, it is poured or drizzled immediately, without stirring, over snow or shaved ice. Because it cools so rapidly, the supersaturated solution does not have a chance to crystallize. It will form a thin glassy, chewy, taffy-like sheet over the snow. Twirl it up with a popsicle stick and enjoy! Traditionally served with sour pickles (cuts the sweetness), and saltines or plain doughnuts.



- Take pictures of a sugar maple through the seasons - have students note differences, keep a record.
- Do an experiment that shows how a clear liquid like sap is really more than just water.
- Tap a maple tree on your school site and taste or collect and boil the sap.
- Buy maple syrup and make candy, maple ice cream or other maple sugar products (see below).
- Do an experiment on how liquids flow up in a tree by capillary action (celery stick in colored water).
- Do research about the Indians of this area (the Nature Center), Algonkian-speaking members of the Wappingers Confederation known as the Wecquaesgeeks (which meant country of the birch bark) or the area where your school is, and how they collected and made syrup.



RECIPE: MAPLE POPCORN

Ingredients: • 1 cup real maple syrup • 1/2 to 1 cup walnut pieces • 9 cups popped popcorn (plain)
Heat maple syrup over medium heat until syrup reaches 236 degrees on a candy thermometer. Lightly oil large mixing bowl. Mix popcorn, nuts and syrup with lightly oiled spoon. When mixture cools, break off and eat.

WEB SITES WITH MAPLE SUGARING INFORMATION:

- Massachusetts Maple Sugaring Association, www.massmaple.org
- New York State Maple Producers Association, Inc.
<http://www.nysmaple.com/>
- Vermont Maple Sugar Makers' Association
<http://vermontmaple.org/index.html>

The Greenburgh Nature Center carries a small supply of 100 % maple syrup and spiles for sale in our gift shop!

