

FAQ's

(Frequently Asked Questions)



about the Maple Syrup Program
at Bendix Woods County Park

Other questions?
Call 574/654-3155

Where do we meet?

Glenn Bauer Shelter (follow park signs)

What will we do?

During an indoor presentation (about 40 mins.) The students will:

- learn how a tree produces sap
- learn about a Native American legend on how maple syrup was first discovered
- see a variety of equipment used throughout history to collect sap

Following the indoor program the group will go outside (approx. 30 mins.) to:

- learn how to identify maple trees
- learn what conditions are necessary for sap to flow
- observe the various collection methods in operation
- tap a tree
- visit the Sugar House



Please divide your group for the outdoor portion...

If you have 35 or fewer students, divide them into 2 groups. Each group will be lead by a park interpreter or volunteer.

If you have more than 35 students, divide them into 4 groups. Two will participate in the outdoor session with park interpreters, immediately following the indoor session. The remaining 2 groups will visit the Nature Center with the teachers. (It is a 7 min. walk to the Nature Center.) After returning to the Glenn Bauer Shelter the groups will switch activities.

It is helpful to the park interpreters if there is a teacher or parent assigned to each outdoor group.

Will we see syrup being cooked?

Sap only flows when the temperature is above freezing during the day and below freezing during the night. If it is very cold, we may not be cooking in the sugar house during your visit. However, students will still visit the sugar house to see the equipment and hear about the cooking process.

Program Payment

Full program fees are due in advance unless prior payment arrangements are made. If payment is not received within one week prior to the program date, your program will be cancelled.

Vouchers will be issued for overpayments. Payment can be made via cash, personal check or school check.

Staying for Lunch?

If you have arranged to eat lunch at the park, check your schedule for the building where you have been assigned to eat. (Groups may be arriving before or after your program, so the Glenn Bauer Shelter may not be available for lunch.)

Maple Syrup

Pre-Visit Activities

These activities included in your pre-trip packet, have been designed to help you and your students prepare for your upcoming program at St. Joseph County Parks. Included are some activities which target specific subjects, such as math and art, whereas others are fun and hands-on activities. This packet is sent prior to the trip, so that the students can familiarize themselves with how maple syrup is produced, as well as learn other important aspects about this process.

Maple Rice Krispie Treats

Ingredients:

1/4 cup margarine
1 cup maple syrup
1 tsp. vanilla extract (or 1/2 tsp. maple extract)
3 cups fresh miniature marshmallows
6 cups Rice Krispies

Directions:

Melt margarine in a large saucepan over low heat. Add marshmallows and maple syrup and stir until completely melted. Continue to cook on low heat for 2 more minutes, stirring constantly. Remove from heat; add extract flavoring and Rice Krispies; stir thoroughly until well coated.

Using wax paper or buttered spatula, press mixture evenly and firmly into buttered 13 x 9 x 2" pan. Cut into squares when cool. Note: May use microwave directions as given with the original Rice Krispie recipe.

Maple Popcorn

Ingredients:

1/2 stick melted butter or margarine
4 cups popped popcorn in a large bowl
1/2 cup maple syrup
spoon for mixing

Directions:

1. Melt a half stick butter in the microwave for about 45 seconds.
2. Add 1/2 cup maple syrup to the melted butter and stir it together.
3. Pour the mixture over the popcorn and mix it with a wooden spoon.

Adapted from "Maple Syrup Activity Book," Cornell University Cooperative Extension

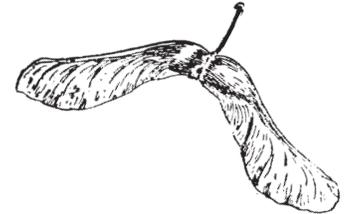


Colored Celery Tree

Sap is food made by the tree's leaves during the summer and is stored in its roots during the winter. Sap is generally 97% water and 3% sugar. Stored sap (food) is used by trees to grow new branches and leaves in the spring. In late winter and early spring, when the days become longer and warmer, the stored sap begins to flow. The sap travels from the roots up the sapwood in the tree's trunk to the branches. This sap flow lets the tree know it is time to begin another growing season.

Materials Needed:

- knife
- celery stalk (carnations work too)
- 2 drinking glasses
- 2 different colors of food coloring (red and blue work best)
- spoon



Directions:

Trim away part of the bottom of the celery and slice halfway through the center of the celery stalk with a knife. Fill 2 glasses at least 3/4 full with water and then add one food coloring to one glass and the other food coloring to the other glass. Add enough food coloring to make a very strong dark solution and mix well. Place the 2 glasses next to each other. Put one end of the cut celery stalk into one glass and the remaining end into the other glass. Start this activity in the morning and let the celery remain in the food coloring all day. During the day, check to see how the different dyes have traveled up the celery stalk to the leaves. Before throwing the celery away, cut a cross-section of the stalk and let students observe the pieces.

Adult supervision recommended.

Adapted from: "Maple Sugaring" W.K. Kellogg Experimental Forest, Michigan State University



Sugar House Rhymes

How many words can you think of that rhyme with each sugar house word below?



sap

pan

fire

jug

steam

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Adapted from "Maple Syrup Activity Book," Cornell University Cooperative Extension

Which One is a Maple Leaf?

Which of the leaf shapes below is NOT a maple leaf? Put an X through it.

Which one is a sugar maple leaf? Circle the sugar maple.



Maple Mathematics

Mike and Susan will make maple syrup from the sugar maples in their grandparent's yard. Their parents gave each of them \$10.00 to help them buy supplies and get started.

1. If they add both of their \$10.00 together, how much money will they begin with?
How much money? _____
2. There were 6 sugar maple trees in the back yard that could be tapped. Each tree could only be tapped once. How many taps did they make?
Number of taps _____
3. For each tap, they needed a spile. At the nature center in town, they bought 1 spile for each tap at \$.50 a spile. What was the total cost of the spiles?
Cost of spiles _____
4. How much money did they have left after buying the spiles?
How much money left? _____
5. They also needed buckets to collect the sap. For each tap they needed 1 bucket. How many buckets did they need?
Number of buckets _____
6. Buckets at the nature center cost \$2.00 a piece. How much money did they spend on buckets?
Cost of buckets _____
7. How much money did they have left after buying the buckets?
How much money left? _____
8. Did Mike and Susan's parents give them enough money to buy all of the supplies they needed?
Did they have enough money? _____



Answers to Maple Mathematics

1. How much money = \$20.00
 2. Number of taps = 6
 3. Cost of spiles = \$3.00
 4. How much money left = \$17.00
 5. Number of buckets = 6
 6. Cost of buckets = \$12.00
 7. How much money left = \$5.00
 8. Did they have enough money? Yes
-

Which one is a Maple Leaf?

Leaves that are NOT a maple leaf.

- A. Mulberry
- C. River birch
- E. Red oak
- F. Tulip tree
- H. Sassafras

Leaves that ARE a maple leaf.

- B. Sugar maple**
- D. Silver maple
- G. Red maple

Maple Sugaring - Vocabulary List

Boil - The temperature at which a substance changes its state from liquid to gas. The boiling point of sap is 219° F. Water boils at 212° F.

Bucket - Sometimes a bucket (pail) is hung on a spile to collect sap from a maple tree.

Drill - A tool used to create a hole in the tree. A 5/16-inch drill bit is used to drill a 2-2 1/2-inch deep hole in the trunk of a maple tree. This process is called tapping a tree.

Evaporator pan - The container used to hold sap during boiling, usually long, flat and shallow. With the use of heat, water is removed (evaporated) to increase the sugar content of sap.

Freeze - To change a substance from a liquid to a solid state by cooling. Water freezes at 32° F or 0° C. The sap in a tree begins to flow when temperatures outside rise above freezing during the day and below freezing at night.

Gallon - A liquid unit of measure equal to 4 quarts. On average it takes 40 gallons of sap to make 1 gallon of maple syrup.

Hydrometer - indicates the sugar content of sap or syrup by how high it floats in a cup of sap or syrup.

Maple syrup - The concentrate made from the sap of sugar maple trees. Sap flows for approximately 6 weeks in the spring, is collected and concentrated into syrup by boiling.

Plastic tubing - Connected to the spile to collect sap. It gives a higher yield of cleaner sap with less labor.

Photosynthesis - The process by which green plants (leaves) convert carbon dioxide and water into simple sugar. Chlorophyll and sunlight are essential to this process.

Roots - Three main functions of roots are to 1) anchor the tree, 2) absorb water and minerals from the soil and 3) store food. Sap is stored in the roots during the winter so it does not freeze in the trunk of the tree.

Sap - (food) A watery solution that circulates through the tree's sapwood.

Sapwood - The most recently formed layer of wood (not visible). Sapwood is made of thick-walled cells that transport water and minerals through the tree (similar to our circulatory system).

Spile - A spout inserted (tapped) into a tree to drain sap.

Sugarbush - A stand of sugar maple trees that are tapped and used to make maple syrup.

Sugar House - Building in which sap is boiled into maple syrup.

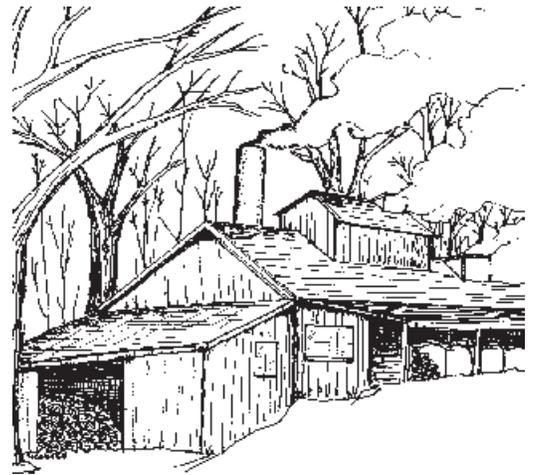
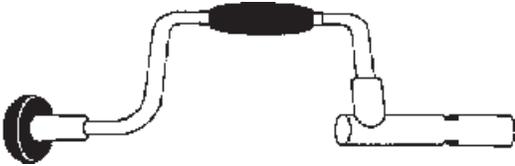
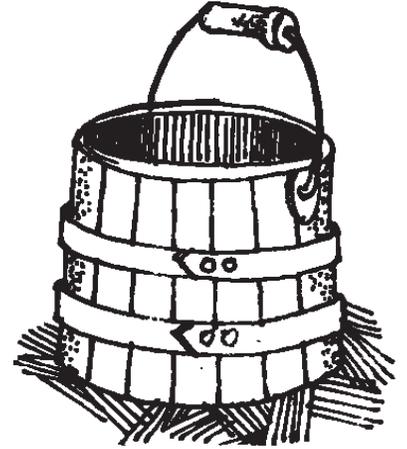
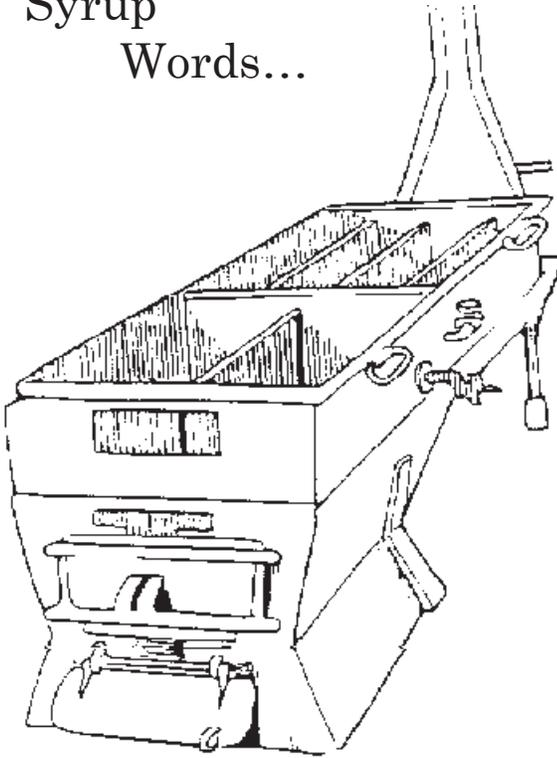
Tap - The act of drilling a hole into a maple tree to collect the sap.

Trunk - The trunk provides support and carries food (sap) and oxygen throughout the tree. The part of the tree that is tapped to get the sap.

Adapted from: "Maple Sugaring", W.K. College Experimental Forest, Michigan State University



Maple
Syrup
Words...



Match these words with the correct picture.

evaporator pan

bucket

sugar house

spile

drill