Greetings!

Welcome to the McHenry County Conservation District’s Festival of the Sugar Maples! We are looking forward to your visit to Coral Woods. This information packet will assist you with the trip planning and preparation. Included are some activities that you can do with your class before and after your trip. Please distribute one information packet to each teacher coming to the program.

If you need to cancel your reservation call the Prairiewiew Education Center at (815) 479-5779 at least one hour before your scheduled time. Keep in mind that many weather reports are based out of Chicago where wind chills may be more severe. Although the temperature may be very cold, the trees at Coral Woods do provide some wind protection. We are unable to reschedule cancelled programs.

Allow for plenty of travel time to facilitate your arrival at Coral Woods as scheduled. We have programs scheduled back to back and these cannot be lengthened or condensed due to late arrival times.

We look forward to seeing your group and hope you are enjoying the winter!

Sincerely,
McHenry County Conservation District
Education Staff
815-479-5779
Preparing for your
Festival of the Sugar Maples

**Before You Visit**

1. Do as many of the pre-trip activities as possible to help the children become familiar with the information that will be presented during the program.

2. Prepare the children for the weather. Everyone coming to the program must dress warmly. This program is held entirely outside, and both the children and adults need to be prepared for cold and windy weather as well as wet and slippery trails. Warm coats, hats, mittens, socks and waterproof boots are necessary.

3. Supply the children with nametags. Name tags help the leaders in getting to know your children.

4. We recommend a ratio of one adult to 10 students. In addition to monitoring the students’ behavior, adults are expected to participate in all aspects of the program.

**When You Arrive**

1. Your 75-minute maple sugaring tour will begin at the parking lot of Coral Woods Conservation Area. Your group will be met by a Conservation District staff member who will do a program orientation with the entire group.

2. The entire group will proceed to the historical station where children will learn how maple sugar was discovered by the Native Americans hundreds of years ago. Children will also see how the pioneers produced maple sugar. The group will then break into three subgroups.

3. The three subgroups will take different trails and each group will:
   - Learn how to identify a maple tree by its leaves and branches
   - Discover how a maple tree makes its own food and what sap is
   - See a tree cookie and look at the different parts inside of a tree
   - Tap a practice tree
   - Collect and taste maple sap (if it’s not frozen!)
   - See modern labor-saving developments in the maple sugaring industry

4. The entire group will meet back at the sugarhouse where the children will see the evaporator and learn how it converts maple sap into syrup and they will get to taste pure Coral Woods maple syrup.

**After You Visit**

1. Do the post-trip activities appropriate for your class as a review.

2. Please return the evaluation to us with any comments or suggestions that you have about the program.
Suggested Pre and Post-Trip Activities for the Festival of the Sugar Maples Field Trip

To ensure the most enjoyment and understanding of your class’ visit to the Coral Woods Maple Sugaring program, try some pre-trip and post-trip activities! Note that there are separate post-trip activities for grades K & 1, 2 & 3 and 4 & 5. Use whatever is appropriate for your class.

Pre-trip Activities
1. Photocopy and read the “Sugar Snow” chapter from Little House in the Big Woods by Laura Ingalls Wilder with your class. (A master copy of the story was sent to the teacher who registered for the program.)
2. Do the fill-in-the-blank worksheet, “A Sugar Maple Story.” It gives the students an understanding of what maple sap is and how it is produced. For younger grades, put the first letter of the fill-in word in the blank space before you duplicate the story. This will give them hints for the missing words.

Post-trip Activities
K & 1st Grades:
1. Have the class draw pictures of what they saw on the field study.
2. Ask students to recall the sequence of events in the Native American story that they heard.

2nd & 3rd Grades:
1. Review key words learned on the field trip with “Maple Mix-Up.” Answers are: opposite, evaporator, sap, drill, spile, roots and mokuk.
2. Have fun creating a class story of how maple sugaring was discovered. The students tell the tale and the teacher writes it down! Ask students to take turns retelling the story they learned on the field trip OR give the students a story starter like, “In the deep woods of Illinois....” then have them take turns to create a new story as a class activity.

4th & 5th Grades:
1. Complete the “Tapping Your Brain Sap” vocabulary words.
2. Look at how trees fit into the forest ecosystem with “Forest Life Web.” Discuss why trees are important besides for maple syrup (give oxygen, provide shelter, provide food, etc.)
3. Have the students make up their own tale of how maple sugaring was discovered. Give them a story starter like, “On a cold night in February....” or “In the deep woods of Illinois....” or “As the wind shook the branches of the maple trees, they seemed to be whispering a story to me....”
4. Challenge their math skills with “Maple Mathematics” and practice vocabulary at the same time.

All Grades:
1. Make “Tree to Treat” posters that show the steps involved in making maple syrup.
2. Create the “Sugar Maple Forest Mural” following the instructions as listed.
3. Get the Conservation District’s “Trees” Naturalist in a Box for your classroom. It is a curriculum development box loaded with hands-on materials, activities, posters, books, games...and more! Call Prairiewood Education Center at (815) 479-5779 for details on “Trees” or other Naturalist in a Box titles including Astronomy, Bats, Birds, Creepy Crawlies, Geology, Mammals, Native Americans, Plants, Prairies, and Wetlands.
Maple Sugaring Resources

General Interest Maple Sugaring Books
- The Maple Sugar Book, by Helen and Scott Nearing
- Maple Sugar Time, by Royce Pitkin
- A Drop in the Bucket, by Muriel Follett
- Maple Sugaring in New Hampshire, Images of America Series, by Barbara Mills Lassonde
- The Maple Sugaring Story; A Guide For Teaching and Learning the Maple Industry, by Betty A. Lockhart
- Project Seasons, by Shelburne Farms, 1995

Children’s Books
- Sugaring Season, by Diane Burns
- Sugarbush Spring, by Marsh Wilson Chall
- Maple Harvest: The Story of Maple Sugaring, by Elizabeth Gemming
- The Missing Maple Syrup Mystery, by Gail Gibbons
- Sugaring Time, by Kathryn Lasky
- The Sugaring Off Party, by Jonathan London
- Sugaring Time, by Russel Soveig
- A Maple Tree Begins, by Aldren Watson

Magazine
- “Sweet Maple” by James M.Lawrence & Rux Martin, 1993, Vermont Life, Vermont
The Sugar Snow

For days the sun shone and the weather was warm. There was no frost on the windows in the mornings. All day the icicles fell one by one from the eaves with soft smashing and crackling sounds in the snow banks beneath. The trees shook their wet, black branches, and chunks of snow fell down.

When Mary and Laura pressed their noses against the cold windowpane they could see the drip of water from the eaves and the bare branches of the trees. The snow did not glitter; it looked soft and tired. Under the trees it was pitted where the chunks of snow had fallen, and the banks beside the path were shrinking and settling.

Then one day Laura saw a patch of bare ground in the yard. All day it grew bigger, and before night the whole yard was bare mud. Only the icy path was left, and the snow banks along the path and the fence and beside the woodpile.

“Can’t I go out to play, Ma?” Laura asked, and Ma said “‘May, Laura.” “May I go out to play?” she asked. “You may tomorrow,” Ma promised.

That night Laura woke up, shivering. The bed-covers felt thin, and her nose was icy cold. Ma was tucking another quilt over her. “Snuggle close to Mary,” Ma said, “and you’ll get warm.”

In the morning the house was warm from the stove, but when Laura looked out of the window she saw that the ground was covered with soft, thick snow. All along the branches of the trees the snow was piled like feathers, and it lay in mounds along the top of the rail fence, and stood up in great, white balls on top of the gate-posts.

Pa came in, shaking the soft snow from his shoulders and stamping it from his boots.

“It’s a sugar snow,” he said. Laura put her tongue quickly to a little bit of the white snow that lay in a fold of his sleeve. It was nothing but wet on her tongue, like any snow. She was glad that nobody had seen her taste it.

“Why is it a sugar snow, Pa?” she asked him, but he said he didn’t have time to explain now. He must hurry away, he was going to Grandpa’s. Grandpa lived far away in the Big Woods, where the trees were closer together and larger. Laura stood at the window and watched Pa, big and swift and strong, walking away over the snow. His gun was on his shoulder, his hatchet and powder horn hung at his side, and his tall boots made great tracks in the soft snow. Laura watched him till he was out of sight in the woods.

It was late before he came home that night. Ma had already lighted the lamp when he came in. Under one arm he carried a large package, and in the other hand was a big, covered, wooden bucket. “Here, Caroline,” he said, handing the package and the bucket to Ma, and then he put the gun on its hooks over the door.

“If I’d met a bear,” he said, “I couldn’t have shot him without dropping my load.” Then he laughed. “And if I’d dropped that bucket and bundle, I wouldn’t have had to shoot him. I could have stood and watched him
eat what’s in them and lick his chops.” Ma unwrapped the package and there were two hard, brown cakes, each as large as a milk pan. She uncovered the bucket, and it was full of dark brown syrup.

“Here, Laura and Mary,” Pa said, and gave them each a little round package out of his pocket. They took off the paper wrappings, and each had a little, hard, brown cake, with beautifully crinkled edges. “Bite it,” said Pa, and his blue eyes twinkled. Each bit off one little crinkle, and it was sweet. It crumbled in their mouths. It was better even than their Christmas candy. “Maple sugar,” said Pa.

Supper was ready, and Laura and Mary laid the little maple sugar cakes beside their plates, while they ate the maple syrup on their bread. After supper, Pa took them on his knees as he sat before the fire, and told them about his day at Grandpa’s, and the sugar snow. “All winter,” Pa said, “Grandpa has been making wooden buckets and little troughs. He made them of cedar and white ash, for those woods won’t give a bad taste to the maple syrup. To make the troughs, he split out little sticks as long as my arm and as big as my two fingers. Near one end, Grandpa cut the stick half through, and split one half off. This left him a flat stick, with a square piece at one end. Then with a bit he bored a hole lengthwise through the square part, and with his knife he whittled the wood till it was only a thin shell around the round hole. The flat part of the stick he hollowed out with his knife till it was a little trough.

“He made dozens of them, and he made ten new wooden buckets. He had them all ready when the first warm weather came and the sap began to move in the trees. Then he went into the maple woods and with the bit he bored a hole in each maple tree, and he hammered the round end of the little trough into the hole, and he set a cedar bucket on the ground under the flat end.

“The sap, you know, is the blood of the tree. It comes up from the roots, when warm weather begins in the spring, and it goes to the very tip of each branch and twig, to make the green leaves grow. Well, when the maple sap came to the hole in the tree, it ran out of the tree, down the little trough and into the bucket.”

“Oh, didn’t it hurt the poor tree?” Laura asked. “No more than it hurts you when you prick your finger and it bleeds,” said Pa. “Every day Grandpa puts on his boots and his warm coat and his fur cap and he goes out in the snowy woods and gathers the sap. With a barrel on a sled, he drives from tree to tree and empties the sap from the buckets into the barrel. Then he hauls it to a big iron kettle, which hangs by a chain from a cross-timber between two trees. He empties the sap into the iron kettle. There is a big bonfire under the kettle, and the sap boils, and Grandpa watches it carefully. The fire must be hot enough to keep the sap boiling, but not hot enough to make it boil over.

“Every few minutes the sap must be skimmed. Grandpa skims it with a big, long-handled, wooden ladle that he made of basswood. When the sap gets too hot, Grandpa lifts ladlefuls of it high in the air and pours it back slowly. This cools the sap a little and keeps it from boiling too fast. When the sap has boiled down just enough, he fills the buckets with the syrup. After that, he boils the sap until it grains when he cools it in a saucer.

“The instant the sap is graining, Grandpa jumps to the fire and rakes it all out from beneath the kettle. Then as fast as he can, he ladles the thick syrup into the milk pans that are standing ready. In the pans
the syrup turns to cakes of hard, brown, maple sugar.”

“So, that’s why it’s a sugar snow, because Grandpa is making sugar?” Laura asked.

“No,” Pa said. “It’s called a sugar snow, because a snow this time of year means that men can make more sugar. You see, this little cold spell and the snow will hold back the leafing of the trees, and that makes a longer run of sap. When there’s a long run of sap, it means that Grandpa can make enough maple sugar to last all the year, for common every day. When he takes his furs to town, he will not need to trade for much store sugar. He will get only a little store sugar, to have on the table when company comes.”

“Grandpa must be glad there’s a sugar snow,” Laura said.

“Yes,” Pa said, “he’s very glad. He’s going to sugar off again next Monday, and he says we must all come.” Pa’s blue eyes twinkled, he had been saving the best for the last, and he said to Ma, “Hey, Caroline! There’ll be a dance!” Ma smiled. She looked very happy, and she laid down her mending for a minute. “Oh, Charles!” she said. Then she went on with her mending, but she kept on smiling. She said, “I’ll wear my delaine.”

Ma’s delaine dress was beautiful. It was a dark green, with a little pattern all over it that looked like ripe strawberries. A dressmaker had made it, in the East, in the place where Ma came from when she married Pa and moved out west to the Big Woods in Wisconsin. Ma had been very fashionable, before she married Pa, and a dress-maker had made her clothes. The delaine was kept wrapped in paper and laid away. Laura and Mary had never seen Ma wear it, but she had shown it to them once. She had let them touch the beautiful dark red buttons that buttoned the basque up the front, and she had shown them how neatly the whalebones were put in the seams, inside, with hundreds of little criss-cross stitches. It showed how important a dance was, if Ma was going to wear the beautiful delaine dress. Laura and Mary were excited. They bounced up and down on Pa’s knees, and asked questions about the dance until at last he said, “Now you girls run along to bed! You’ll know all about the dance when you see it. I have to put a new string on my fiddle.”

There were sticky fingers and sweet mouths to be washed. Then there were prayers to be said. By the time Laura and Mary were snug in their trundle bed, Pa and the fiddle were both singing, while he kept time with his foot on the floor:

“I’m Captain Jinks of the Horse Marines,
I feed my horse on corn and beans,
And I often go beyond my means,
For I’m Captain Jinks of the Horse Marines,
I’m captain in the army!”
Ah hh... *excuse me for _____________*, but it has been a long winter and I slept like a log! I am an old sugar maple tree. If you could count my growth rings, you would see that I am at least ____________ old. Don’t be surprised, most trees can live to be my age.

There are _____________ of different trees on our planet, and trees give people lots of things that they use every day. Some of these things are: bananas, cinnamon, cocoa for ____________, oranges, medicines, rubber for balloons and ____________, and chicle for chewing gum. As a maple tree, I can do something equally amazing. I make sap for maple syrup that people put on ____________! I’ll tell you how I do this.

Since I am alive, I need nourishment to live and grow. I make my own food in the summertime by using my _____________, the sun, and water. My food is called SAP because it is made up of Sugar And Pure water. I store my sap in my ______________ during the winter while I am sleeping. In the spring, I wake up and bring gushes of my sap from the ground to feed my new _____________.

You have blood vessels that carry nourishment in you, and I have tubes that carry nourishment in me. What makes me different from other trees is that my sap is a little sweet. Thousands of years ago, the _______________ learned how tasty my sap was and began making maple syrup. Over all of those years, maple syrup making has been perfected. The people who live here now put a small _______________ in my trunk, attach a spout, and a little of my sap collects in a bucket. They gather the sap, _______________ the pure water and are left with the tasty _______________.

Last night was really cold and it is lovely and warm today. My sap is really going to be _____________! Here come the people that I haven’t seen since last year and they are carrying _______________. They must know...it’s maple sugaring time!

**Word List**

<table>
<thead>
<tr>
<th>roots</th>
<th>sugar</th>
<th>flowing</th>
<th>boil off</th>
<th>thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>yawning</td>
<td>100 years</td>
<td>erasers</td>
<td>chocolate</td>
<td>hole</td>
</tr>
<tr>
<td>leaf buds</td>
<td>pancakes</td>
<td>buckets</td>
<td>green leaves</td>
<td>Native Americans</td>
</tr>
</tbody>
</table>
A Sugar Maple Story
Use the word list below to finish the story....good luck!

Ahhhh...excuse me for yawning, but it has been a long winter and I slept like a log! I am an old sugar maple tree. If you could count my growth rings, you would see that I am at least 100 years old. Don’t be surprised, most trees can live to be my age.

There are thousands of different trees on our planet, and trees give people lots of things that they use every day. Some of these things are: bananas, cinnamon, cocoa for chocolate, oranges, medicines, rubber for balloons and erasers, and chicle for chewing gum. As a maple tree, I can do something equally amazing. I make sap for maple syrup that people put on pancakes! I’ll tell you how I do this.

Since I am alive, I need nourishment to live and grow. I make my own food in the summertime by using my green leaves, the sun, and water. My food is called SAP because it is made up of Sugar And Pure water. I store my sap in my roots during the winter while I am sleeping. In the spring, I wake up and bring gushes of my sap from the ground to feed my new leaf buds.

You have blood vessels that carry nourishment in you, and I have tubes that carry nourishment in me. What makes me different from other trees is that my sap is a little sweet. Thousands of years ago, the Native Americans learned how tasty my sap was and began making maple syrup. Over all of those years, maple syrup making has been perfected. The people who live here now put a small hole in my trunk, attach a spout, and a little of my sap collects in a bucket. They gather the sap, boil off the pure water and are left with the tasty sugar.

Last night was really cold and it is lovely and warm today. My sap is really going to be flowing! Here come the people that I haven’t seen since last year and they are carrying buckets. They must know…it’s maple sugaring time!

Word List

roots sugar flowing boil off thousands
yawning 100 years erasers chocolate hole
leaf buds pancakes buckets green leaves Native Americans
“Tapping Your Brain Sap” Vocabulary Words

Listed below are words related to making maple sugar or to maple trees. Next to each word, write how it is related.

roots:

bark:

kettle:

sugar:

rocks:

sugar bush:

spile:

Native Americans:

syrup:

water:

sap:

sugar maple:

evaporator:

leaves:

bucket:

photosynthesis:

evaporation:
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?

2. There were 6 sugar maple trees in the backyard that could be tapped. Each tree could only be tapped once. How many taps did they make?

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?

4. How much money did they have left after buying the spiles?

5. They also needed buckets to collect the sap. For each tap they needed 1 bucket. How many buckets did they need?

6. Buckets at the nature center cost $2.00 a piece. How much money did they spend on the buckets?

7. How much money did they have left after buying the buckets?

8. Did Mike and Susan’s parents give them enough money to buy all of the supplies they needed?

---

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
Maple Mix-Up

You saw all these things on your field trip to the Maple forest at Coral Woods. Can you remember what they are called? Unscramble the letters to discover what the names for these things are.

- Where maple sap is boiled into maple syrup: TOARPVAROE
- Maple trees have this kind of branching: SOEPTPOI
- Warm days and cold nights make this flow: PSA
- This is used to tap a maple tree: RLILD
- Trees drink water from the ground through these: TORSOR
- The Native Americans kept maple sugar in this: KOMKU
- This is also used to tap a maple tree: LSEP I
Start with the sun and draw lines between things that need each other. When you come to a new element, answer the question to keep on going. How many connections can YOU make?
Post–Visit: Sugar Maple Woodland Murals

**Objective:** To build an understanding of the sugar maple woodland as an ecosystem.

**Method:** Students create murals of a sugarbush during different seasons showing the sugar maple woodland as a forest ecosystem with many interconnected living and non-living components.

**Materials:** Large roll of newsprint; markers or crayons.

**Procedure:**
1. Ask students to brainstorm what they saw in the sugar maple woodland on their trip to Coral Woods (sugar maples, other trees and plants, stumps, sap buckets, trails, people, sugar house etc.)
2. Ask them to describe what the sugar maple woodland was like and what other parts of the forest they think are a part of a healthy sugar maple ecosystem (wildlife species, snags, dead and downed trees, saplings, rotting logs, insects, leaf litter etc.)
3. Discuss how the sugar maple woodland would look different during the summer, fall, and winter.
4. Divide the class into four groups and give each group a roll of newsprint.
5. Have each group create a mural of sugar maple woodland during one of the seasons.
6. Display the murals when they are complete.
7. Compare the differences in the forests between the seasons and discuss how the parts of the sugar maple woodland are interconnected.
8. Discuss the importance of this habitat for all who live there, and for this region.

*Adapted from Vermont Audubon*