
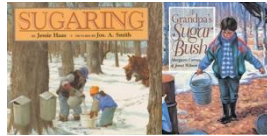


<p>Unit 4</p>  <p>Week 3</p>	<p><b>Outdoor Learning Opportunities:</b></p> <p>Maple Sugaring</p>	<p><b>Standards:</b>  S.LS.PS.1-3, 6  SED.ED.SE.PS.1  ALT.IC.PS.4  SS.G.PS.3</p>
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<p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>● Maple leaves</li> <li>● Twigs with opposite branching</li> <li>● Maple syrup bottles</li> <li>● Hand drill</li> <li>● Spiles</li> <li>● Scoops</li> <li>● Bucket</li> <li>● Hammer</li> <li>● Book – <i>Sugaring</i> by Jessie Haas and/or <i>Grandpa's Sugar Bush</i> by Margaret Carney</li> </ul>	<p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>● Spile</li> <li>● Opposite branching</li> <li>● Sap</li> <li>● Maple sugaring</li> <li>● Scoop</li> <li>● Bucket</li> <li>● Tapping</li> <li>● Sapwood</li> </ul>
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Introduce maple sugaring to children by placing different tools (hand drill, spile, scoop, bucket) used in the process of tapping a tree on the carpet during a group time. Ask the children what these are and then go around and explain each item. Play the “what’s missing” game by placing a cloth over the items and taking one away (while the children close their eyes). Then ask the children to tell you what item you took away.

Read a book about maple sugaring to give the children some information about the process. Ask if any of the children’s families have tapped trees before.

Take the children outside to find a maple tree. Use the tree identification information (see lesson plan from unit 3) to find a maple tree (specifically opposite branching). Once a tree is found, make sure it is big enough by hugging it (arms around tree where fingers barely touch or don’t touch). Have the children ask the tree if it will be OK to tap it and give it a hug to see if it seems to say yes. Start the hand drill to drill a hole in the sapwood. Children can take turns turning the drill. Sing the song “Tap, tap, tap, the sap” while turning the drill.

(Sing to the tune of “row, row, row you boat”)

Tap, tap, tap the sap

From the maple tree  
Boil it, boil it, boil it down  
A treat for you and me.

Once the hole is made, have the children take turns looking inside the tree. Then put the spile in with a hammer. If sap starts to flow, the children can put their tongue under the spile and taste the sap.

As the children stand around the tree have them pretend to be the sap in the tree. They squat down and become the sap in the roots when it is cold outside. Then during the day, it warms up and have the children jump up and make a sound to show the sap flowing up. Then repeat this while saying that the nights are cold and the days are warm so they begin to understand how the weather affects the maple tree.

Extension: If possible, collect the sap and boil it down to make maple syrup. This requires more detailed information, but is worth the effort.

***Guiding Questions:***

- Where does maple syrup come from? Children may think the syrup comes directly out of the tree.
- Why does the sap flow only in late February and March? Days need to be warm (above freezing) and nights need to be cold (below freezing) for the sap to flow. Maine is one of the few states that have the weather that Maple trees thrive in and that allows the sap to flow.
- How many gallons of sap will it take to produce a gallon of syrup? 30-40 gallons of sap to make one gallon of syrup.