

## Economics and History of Maple Syrup in Appalachia Elementary Level Curriculum

**Objective:** Students will gain an understanding of the history of maple syrup production in the Appalachia region as well as learn about the economic value of sap versus syrup.

### This lesson corresponds to:

- SS.3.9 Sequence the path of a product from the raw material to the final product.
- SS.3.24 Identify the four physical geographic regions of WV, the major communities and the natural resources found within each region.
- SS.4.11 Plan and construct maps to demonstrate the effect of geographic conditions on historical processes, practices and events (e.g. colonization, industry, agriculture, major engagements in the Revolutionary War, Westward expansion, etc.)
- SS.4.17 Analyze the impact of West Virginia's geography on transportation, settlement, jobs, clothing, food, shelter, services and interaction with others outside the state.
- SS.4.18 Compare and contrast West Virginia's population, products, resources and transportation from the 18th century through modern day.

### Materials:

- Area or state map, with road and town names
- Computer, to display webpage ([https://wvmspa.org/our\\_farms/](https://wvmspa.org/our_farms/))
- Buckets, 2 small and 1 large, or an area to dump water
- Water Source
- Some form of money or token
- A representation of syrup, i.e. picture of syrup bottle
- A representation of sap, i.e. picture of maple lead

**Background Information:** West Virginia and the rest of Appalachia has a long history of maple syrup production, from the Cherokee's to the 1700's. Historically, maple syrup production was a way for farmers to generate jobs and income during the winter months when transportation off their land was difficult. Maple syrup production was also an important component of a subsistence lifestyle, meaning people made do with what they could produce and were able to live off of their land.

The equipment people have used to tap trees and turn sap into syrup has changed dramatically over time. Native Americans, early settlers and subsistence farmers used hollowed out pieces of wood to tap trees and let the sap run into large buckets or hollowed out trees. Sap would then be boiled over wood burning fires in cast iron pots until it was syrup. In present day trees are tapped with plastic or metal spouts that are drilled into trees and sap is collected in metal buckets or with plastic tubing. Sap is now boiled in large metal pans and evaporators. When producers use buckets to collect sap, that sap has to be transported to a larger collection tank, historically buckets of sap were transported by people, oxen and carts and today sap is transported using vehicles.



As people moved away from the subsistence lifestyle and began to congregate in towns and cities, maple syrup production declined. In recent years, people across WV have started producing maple syrup for commercial sale. As these producers have increased their production capacity, a new industry has begun to develop. In an effort to increase the amount of syrup they are producing each season; many producers will buy unprocessed sap from people who have maple trees but are not in the business of syrup production. This trade is beneficial for producers as it reduces the amount of labor necessary to produce more syrup.

The maple syrup business has left its mark on towns throughout the Appalachia region; the legacy of maple syrup can be seen by looking at a map. You will notice towns with names such as “Sugar Grove” and “Sugar Gap” or streets like “Maple Hill Rd.”

**Introduction/Hook (5 minutes):** The goal is to get students thinking about how long maple syrup production has been an important industry in West Virginia and the broader Appalachia region.

-Ask students:

-Has anyone’s family have ever made maple syrup in the past, or do you know of anyone who has.

-Can you think of any town or street names that use the words ‘maple’ or ‘sugar’?

-Show students images, see appendix, of modern-day maple sugaring operations and historic operations, have the students look at and comment on the types of equipment being used.

-Ask students these questions and have them create a venn diagram to compare and contrast old and new methods and equipment.

-What materials are used?

-How many trees are tapped?

-How much sap do they think will be collected, a lot, a little?

-How much syrup will be made?

-Why would historically people want to make less maple syrup?

-Why are modern producers trying to make as much as possible?

**Activity 1:** Use maps of the area/state to look for towns and roads that have names suggesting a history of maple syrup production in the area.

-Make a list of all the student’s findings and consolidate onto one map

-Using the map feature on [www.wvmspa.org](http://www.wvmspa.org) ([https://wvmspa.org/our\\_farms/](https://wvmspa.org/our_farms/)) look where maple syrup operations are set up presently.

-Have students compare where present-day maple syrup operations are located and where historical traces of maple appear on the map.

**Game:** Sap collection relay

-Go to an open area where students can run.

-Divide students into 2 relay teams, have each team stand at a different maple tree.

-The goal is for each student to carry a bucket of ‘sap’ (water) to a collection tank (larger bucket or dumping area) some distance away. That student must then return the bucket to the tree.



-The relay continues until each team member has brought a full bucket of water to the collection tank.

**Activity 2:** Students will act as syrup and sap producers, and syrup buyers. Through this game students will understand the economic value of sap and syrup.

Procedure:

- Assign students roles: sap producers, maple producers, and merchants or store owners.
- Outline the trading process. Sap producers want to trade their sap to syrup producers in exchange for money. Syrup producers want to trade their syrup to merchants in exchange for money, and the merchants want the syrup for their stores.
- Give the Syrup producers and Merchants \$5 each.
- Give the sap collectors 5 to 10 representations of sap.
  - 5 sap = 1 syrup, syrup costs \$5 a unit.
  - Once a syrup producer has 5 saps, they can exchange them for 1 syrup.
- Let the students trade amongst themselves, and see if each role ends up with what they want.

Lead students in a discussion about what each role discovered about the economics of the maple syrup industry.

-What was it like to be a sap producer? Syrup producer? Merchant?

-What obstacles would have made your job harder? Easier?

**Resources:**

<http://www.appalachianhistory.net/2018/02/when-winds-in-west-sap-runs-best.html>

<https://gotmountainlife.com/introduction-to-maple-syrup/>

[https://wvmspa.org/our\\_farms/](https://wvmspa.org/our_farms/)

**Appendix:**

Modern day maple sugaring operations and tapping equipment:



Modern day sap collection buckets.



Sap running into a bucket from a plastic tap.



Lines of tubing on a large scale maple operation that are transporting sap into a collection bin somewhere down the line.



The sap is being run through the light blue tubes into a collection bin somewhere else.



Syrup being bottled in a modern day sugar shack.

Historic maple syrup operations and equipment:



Women boiling sap over a wood fire.



Oxen being used to collect sap and haul to the sugar shack.



These are examples of different taps used historically.



The sap would run out through the canal that has been carved out in the long part of this tap and the narrower bit would stick into the tree.