



Maple Syrup Science

Grades: 6-8

Standards

Michigan K-12 Standards in Science

Next Generation Science Standards

STEM Connection

Students will learn about the complex environmental and biological factors that are involved in maple syrup production. Maple syruping is a STEM rich activity.

Take Home

Activity worksheets are available via email upon request.

Overview

Students will experience the exciting process of making maple syrup from tree sap. This naturalist-guided program will include an introduction to the techniques used to identify the proper trees for tapping, a walk to the “sugar bush” to see tapped trees and sap collection buckets, and a discussion of the sap collection process. The program will conclude by gathering as a group around the outdoor sap stove for a demonstration of how maple syrup is made. All participants will be offered a taste sample of syrup produced on site! During this program we will cover plant physiology, historical aspects, and the regional occurrence of maple syrup production.

Details

- This program lasts 1½ hour and can be adapted to suit your needs
- Offered in March
- Appropriate for Grade Levels 6-8

The Experience

In this program, students will be engaged in a multifaceted program experience with activities that may include:

- Exploring a forest habitat where we tap maple trees to make maple syrup
- Learning and using techniques of tree identification
- Seeing sap from local trees being boiled down into maple syrup in an outdoor sap evaporator

Helpful Hints

This program will be held in the great outdoors, please make sure students are dressed for the weather and potentially slippery, icy, snowy, and/or muddy conditions.

Standards

6th - 8th Grade

MS-LS1-6

Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling matter of flow of energy into and out of organisms

- Students will be prompted to explain how photosynthesis in a maple tree makes it possible for maple syrup to be made from sap.

MS-LS4-4

Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

- Students will be asked to consider how the growing conditions suitable for sugar maples may factor into their continuing ability to survive in our region.

MS-ESS3-5

Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

- Students will learn that sugar maples need cold winters to survive, and will discuss how warmer winters brought about by climate change may lead to the decline of sugar maples in our region.

* - Integrates traditional science content with engineering.

** - Allow for local, regional, or Michigan specific contexts or examples in teaching and assessment.