



## TAPPING INTO MAPLE TRADITION

**Lesson Title:** Maple Economics

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**Grade Level:**

- Early Elementary (K – 2<sup>nd</sup>)
- Upper Elementary (3<sup>rd</sup> – 5<sup>th</sup>)
- Middle School (6<sup>th</sup> – 8<sup>th</sup>)
- High School (9<sup>th</sup> – 12<sup>th</sup>)

**What National Agriculture Literacy Outcomes does your lesson address?**

<http://www.agclassroom.org/get/doc/NALObooklet.pdf>

T5.9-12fij

**What Common Core Standards does your lesson address?**

CCSS.MATH.CONTENT.HSN.Q.A.1

CCSS.ELA-LITERACY.SL.9-10.1

CCSS.ELA-LITERACY.SL.11-12.1

**Brief description of your lesson plan:**

In this activity, students will simulate the relationship between producers and consumers while learning about the New Hampshire maple syrup industry and its competitors.

**Time:** 1 hour

**Materials:**

- Tables and chairs arranged so that they can be used as the market tables
- Multiple empty (or full) bottles of maple syrup
- Play Money (ie Monopoly money)
- Envelopes with a random amount of money in them
- Change boxes (shoe boxes work well) for each producer to use for collecting payments.
- Containers for students to use in carrying their purchases.

**Background:**

According to the U.S. Forest Service, to produce maple syrup today, an operator would incur an initial investment cost of about \$6.31 per tap. The average annual operating cost would be about \$2.87 per tap or about \$11.50 per gallon of syrup.<sup>1</sup> This includes such things as equipment, labor, insurance, etc. These numbers do not factor in the amount of money it costs to market maple syrup and other maple products. If producers do not sell to a bottler and sell their own product, they are responsible for all the costs of getting the product to you. Maple sugaring therefore contributes heavily to the local economy of New Hampshire, in

ways that are not necessarily obvious, like tourism.<sup>1</sup>

Contrary to the way maple syrup is produced in the New Hampshire, much of the maple syrup produced in Canada is held in a supply reserve. This helps to control the price as the Federation of Quebec Maple Syrup Producers only release a certain amount of syrup at a given time. Producers are also given an allotment of how much syrup they can produce per year. Maple syrup producers must sell their products through the Federation. This highlights the economic idea of supply and demand, the lower the supply, the higher the demand, which leads to a higher price. Canada produces 80% of the world's maple syrup, with Quebec producing 75% of the world supply itself. This heavy regulation of the industry in Canada has led to a black market for syrup products. Recently, \$18 million worth of maple syrup was stolen from the reserve and was in the process of being sold for lower cost when the perpetrators were caught.<sup>2</sup> Due to this system of syrup deployment, U.S. producers are in constant competition with Canadian producers.

### **Interest Approach – Engagement:**

1. Discuss which costs more and why - pure maple syrup or pancake syrup (i.e. Aunt Jemima or Mrs. Butterworth)
2. Consider the climatic requirements for maple production and determine what regions would be suitable for sugaring.

### **Procedures:**

1. Discuss as a group the different maple syrup grades and products that can be sold.
2. Divide the group into two groups: producers and consumers
3. The producers group should be further split in two groups: Quebec Producers and US Producers
4. Consumers should be given an envelope with money in it, they should go through their money and mark on their sheets what they would like to buy. At the same time the Quebec producers group should decide together what products will be sold and what the price of each item should be, then break up into groups of two or three. The US producers should break up into groups of 2-3 and in each group decide what products and the prices for the items. All producer groups should have a name for the business.
5. After all the prices are set, the consumers will walk through the shops and compare prices for the items they are looking for. They should note the price differences on their sheet.
6. When the consumers have found the items they want to purchase they should purchase them from the business with the play money.
7. Once all the consumers have made purchases, each business will tally their money and determine what products sold the best and how much money they made.

### *Wrap up*

Discuss with students about their respective experience as consumers and producers. What did they notice? Also the two major items this activity does not address, cost to produce and costs associated with selling direct to consumers versus third party stores.

### **Did you know? (Ag Facts):**

Canada produces 80% of the world's maple syrup, with Quebec producing 75% of the world supply itself.<sup>2</sup>

### **Enriching Activities:**

1. Have students explore and record the different prices of syrup in the grocery store, make sure they

record where the syrup is from. What do they notice about the price?

2. Have students research value added maple products, how does that help maple producers to increase their income?
3. Research the Canadian Maple Syrup Heist (see separate sheet)

**Sources/Credits:**

1. [https://extension.unh.edu/resources/files/Resource001848\\_Rep2650.pdf](https://extension.unh.edu/resources/files/Resource001848_Rep2650.pdf)
2. <http://www.economist.com/blogs/americasview/2013/09/maple-syrup-canada>
3. [http://vermontmaple.org/wp-content/uploads/2016/03/Maple-Producer-Economic-Contribution-Report\\_final.pdf](http://vermontmaple.org/wp-content/uploads/2016/03/Maple-Producer-Economic-Contribution-Report_final.pdf)