

Maple Learning Activity 1 How Sweet Is Maple Sap?

Maple sap as it comes from the tree in the woods has about 2% sugar. At this level it does not taste sweet to most people. Maple sap can commonly range from as low as .5% sugar to as high as 5 or 6%. The genetics of the tree combined with how crowded by other trees the sugar maple is and recent weather condition all influence the sap sweetness. It is an interesting question as to how Indians learned to make sugar from a liquid that doesn't really taste sweet. Students will be given the opportunity to taste liquids of different sweetness to see at what level they can begin to taste the sugar that is present. This will help teach the huge difference between maple sap and maple syrup. They will also learn that items can be present in water even though they cannot taste or smell their presence.

Materials:

For each student: 5 small paper cups for each student identified with 1,2,3, 4 and 5. Do not tell the students what the numbers represent in advance. One activity worksheet for each student

For the whole class: 1 liter of good tasting plain water for the whole class

1 liter of good tasting water with 10 grams of white cane sugar or 13 grams of a light or medium maple syrup stirred in. This represents 1% sugar.

1 liter of good tasting water with 20 grams of white cane sugar or 26 grams of light or medium maple syrup stirred in. This represents 2% sugar.

1 liter of good tasting water with 30 grams of white cane sugar or 39 grams of light or medium maple syrup stirred in. This represents 3% sugar.

1 liter of good tasting water with 40 grams of white cane sugar or 52 grams of light or medium maple syrup stirred in. This represents 4% sugar.

As an extra the students could be provided a small sample of maple syrup to compare with the sweetness samples.

Procedure:

Have the students sample each of the cups and respond to questions on the activity work sheet. Tally the results and show the class the distribution of when different students could identify which samples tasted sweet and which ones did not.

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Circle the right box for what you experience tasting each sample.

Sample 1	not sweet	a little sweet	sweet	very sweet
Sample 2	not sweet	a little sweet	sweet	very sweet
Sample 3	not sweet	a little sweet	sweet	very sweet
Sample 4	not sweet	a little sweet	sweet	very sweet
Sample 5	not sweet	a little sweet	sweet	very sweet

Which sample is the closest to the sap sweetness most maple produces collect from the average woods? _____

Based on this average sweetness of sap it takes 44 gallons of sap to be boiled down to one gallon of syrup.

Sap sweetness	Gallons of sap to make one gallon of syrup
1% sugar	88 gallons
2% sugar	44 gallons
3% sugar	33 gallons
4% sugar	22 gallons

