

Wisconsin Winter Foods

Grade Level: Adaptable for 2-5
Total Lesson Time: 45 minutes



Lesson Overview

Eating local foods may seem easy enough during warm months when gardens are growing and farmers' markets and U-pick operations are in full swing. But how do we eat local foods in the winter in a cold state? In this lesson students learn several different ways to eat Wisconsin foods in the winter. We had the fortune of having four adults to run stations simultaneously for this lesson. If that option is not available, you may choose to run the stations as four individual activities. We taught this lesson in late November when it was cold and snowy outside which made the visualization activity more effective.

Objectives

Students will:

1. Identify local sources of healthy food (WI.N.A; Agricultural Education D.4.1; Science F.4.1; Social Studies D.4.3)
2. Understand seasonality in Wisconsin (Social Studies A.4.6; Science F.4.3)
3. Know how to make healthy food choices (WI.N.C, WI.N.E; Health A.4.3, B.4.1)

Preparation

1. Collect necessary materials
2. Set up 4 stations if you are able to run them simultaneously

Materials

Food

Dried apples
Chips and salsa
Winter spinach
Purple potatoes
Sweet potatoes
Winter squash
Garlic
Winter radish (Beauty Heart or Black Spanish), enough for tasting
Onions

Supplies

Canning pot and jars
Dehydrator
Pictures of hoop houses
Pictures of root cellars
Paper plates
Napkins

Wisconsin Homegrown Lunch is a joint project of:



REAP Food Group:
www.reapfoodgroup.org

UW-Madison Center for Integrated
Agricultural Systems: www.cias.wisc.edu



Procedure

Introduction

Students will be further exploring local/seasonal foods. Allow students to recall and share some of what they learned in previous lessons from this unit.

Visualization

Students close their eyes and imagine a summer garden. Ask them to put themselves in that garden. What do they see? What do they smell? Can they feel, taste, or hear anything? Students open their eyes and share what they experienced in the summer garden.

Now students should look outside where it is cold, snowy, and trees have no leaves. Have students close their eyes and visualize being in the same garden in the winter. How is that experience different than the summer?

Stations

There is a lot of food growing in Wisconsin in the summer. In the winter we get some food from warmer places like California and Mexico, but we can still get some great Wisconsin foods as well. Ask students how they think we can still eat local foods when nothing is growing outside? Let them know they will discover answers to this question at the four stations.

Divide students into groups of 4 or 5 to rotate through the stations.

Dehydration Station

Either have a whole apple on display or ask students to pick up an imaginary apple. Take a bite. What's it like on the inside? Crunchy and juicy? What would happen if the apple was left on the counter for a week or two? It would become brown and rotten. You might also ask students what the difference is between a raisin and a grape.

There is a way, other than the refrigerator, to keep apples tasty and healthy all winter. You can use a machine called a Dehydrator. Show students the dehydrator and ask if anyone knows what that word means. What does it mean for a person to become dehydrated? The machine pulls the water out of the apples. Show them the trays and discuss how air circulates through to dehydrate foods. Turn on the dehydrator and let students feel the air and the heat that is generated. Have dried apples or other dried fruit for students to taste.

If you have the time and space it is great to have students slice up apples and actually dehydrate them in the classroom.

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Canning Station

For this station, you'll need a jar of salsa, pasta sauce, or some other canned fruit or vegetable. Ask students if they have ever canned tomatoes or anything else? Show students the jar and ask them what it is? Ask why the salsa is in a jar? What do you hear when you open a new jar? (A pop.) Why would it make that sound?

Canning is a way of preserving food for a long time without have to refrigerate or freeze it. Most often when foods are canned they are in a vinegar solution, which helps kill some harmful microorganisms that can make us sick. The jars are also cleaned by putting them in boiling water before putting the food in them. Then when the food is added and the lid is put on tight, the jars are put back in the boiling water. The high temperature of the water helps create a vacuum in the jar, so all the air is pulled out. Some microorganisms (things we can't see, but can make us sick) survive on oxygen, so it must be removed from the jar. The high temperature of the boiling water also kills harmful bacteria and seals the lid to the jar. The rubber ring on the lid softens up a bit and connects tightly to the glass jar so no air can get in after it's been boiled. Highly acidic foods or recipes keep longer. That's why vinegar is often needed. Have students name as many canned foods as possible.

Serve chips and salsa for a snack.

Winter Veggies Station

We had purple potatoes, sweet potatoes, winter squash, onion, beauty heart radishes, and garlic at this station for students to examine in order to become familiar with some typical storage vegetables. What do students notice about these vegetables? Let them explore. Reasons why some vegetable store well, and the conditions in which they need to be stored can vary, but we kept it simple. Generally, winter vegetables store well by imitating the conditions underground, which means putting them in a cool, dark, and dry place like a root cellar. (See the attached photos of old root cellars.) They should also be put in a container that allows for some air circulation like a basket or a mesh bag.

Ask students what would happen if you leave a tomato out on the counter for a month? It would rot and get moldy. The winter vegetables at this station can last 1 to 5 months if they are kept in the right conditions. What do they notice about these vegetables that might make them last longer than a tomato? These vegetables are hard, dense vegetables and some, like the winter squash have a thick skin that protects the edible part inside.

Slice up some of the radish for students to taste. They can be spicy so you may want to have water to drink.

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Hoop House Station

Near Madison, Wisconsin there are a couple farms that grow spinach through the winter in unheated hoop houses. Hoop houses are like green houses. They are built of a sturdy frame wrapped in thick plastic sheeting. (See the attached photos.) The spinach for this station came from Snug Haven Farm.

Ask students if they have ever seen or been inside a green house. What are they like on the inside? What are they used for? Show students the pictures of the hoop houses and explain that they are much like green houses, but they usually are not heated from the inside. When the sun is shining during the day the hoop houses can reach interior temperatures of over 100 degrees and often need to be ventilated to keep them from getting too hot. In order to grow winter spinach, the hoop houses don't need to be heated because spinach produces a natural "anti-freeze" in the form of sugar. When night time temperatures dip below freezing inside the hoop house, the spinach plants increase sugar production and though the plant may freeze at night, it thaws out and comes back to life during the warm days. This process not only keeps the spinach growing through the winter, it makes for extra sweet and delicious spinach.

If you are lucky enough to be able to get some winter "frost-sweetened" spinach, serve it as a snack at this station.

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Examples of Hoop Houses



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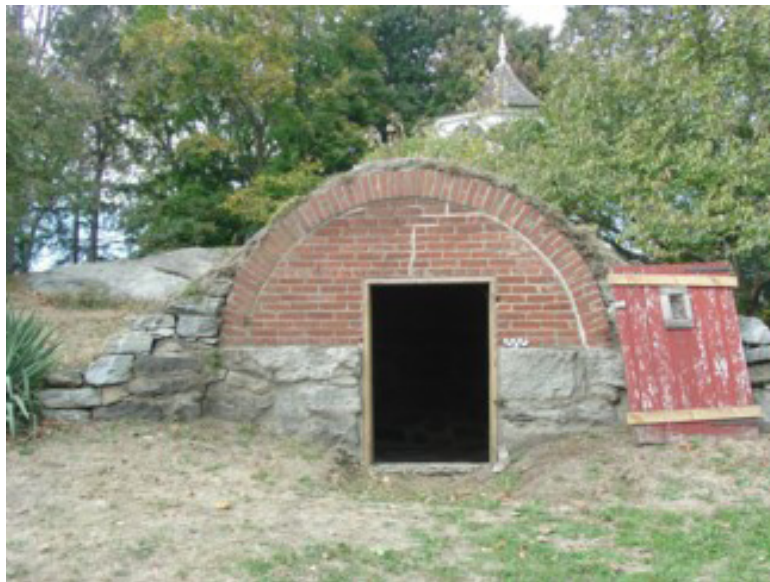


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Examples of Root Cellars



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