



Kentucky Harvest of the Month

NOVEMBER: POTATOES

History

When you think of potatoes in history, what do you think? Maybe the Irish Potato Famine that took place during the late 1840's? There is much more potato history long prior to that though!

Incas in Peru were the first to grow potatoes, doing so somewhere between 8,000 BC and 5,000 BC. The potato did not make its way to Europe and Ireland until near 1600 when Spanish Conquistadors brought potatoes back over to Europe.

Did you know...?

- In 1995, the potato became the first vegetable to be grown in space!
- There are more than 4,000 varieties of native potatoes
- The potato is the third most consumed crop in the world, after rice and wheat
- The average person living in the US eats nearly 124 lbs of potatoes per year and the average person living in Germany eats 2x as much as that!
- The potato you purchase in the store may be up to 12 months old! (they store well a long time)

Ideas for your Classroom

Elementary:

- Explore potatoes with [*Potato Exploration Lesson Plan!*](#) (Growing Minds Farm to School Program)
- For a taste testing activity, cook different types of potatoes (yukon gold, kennebec, purple, petite, fingerling, etc.) and have students try a small bite of each type. Compare and contrast the characteristics including taste, color, smell, etc.

Middle:

- Grow a potato in your classroom with this [*Powerful Potato Lesson*](#) (National Agriculture in the Classroom)

High school:

- Osmosis & Potatoes Experiment (Attached)



Osmosis & Potatoes Experiment

Required Time: approximately 1 hour over 2 days

Objectives:

As a result of participating in this activity, students will:

1. Understand the process of osmosis and how solutes affect that process.

Materials:

- Potatoes
- Salt
- Distilled water
- Cups
- Copies of student handout

Introduction to the topic:

Say - *Has anyone ever heard of the process called Osmosis?* and give students a chance to respond.

Then show students this [video on Osmosis](#).

Experiment:

After watching the video, explain to students that we will be conducting a science experiment to understand the effects of osmosis. Divide the students into groups and have them complete the experiment and observations (see document attached). At the end of the procedures for day 1, have a class discussion about the students' hypothesis for what will happen to the fries in the different cups. At the end of the procedures for day 2, have a class discussion about the students' observations of the fries and discuss why they look different (the potatoes in the salt cup will become floppy and brown because the water from the potato will be drawn out into the salty water due to osmosis).



Name: _____

It's time to experiment! Now that you have learned a little bit about osmosis, write your own definition of what osmosis is below:

For this experiment, you will need the following materials:

- Potatoes
- Salt
- Distilled water
- 2 Cups

Procedure Day 1:

1. Fill two glasses mostly full with water. Label one as "just water" and the other as "water with salt."
2. Stir 2-3 tbsp of salt into **ONE** of the cups (the cup labeled "water with salt").
3. Slice up a potato into French fry-like pieces. Before proceeding to step 4, write observations about the potato fries below.
4. Put a couple pieces of potato into each cup (water should be covering the fries entirely). They will stay in the cup overnight until class tomorrow.
5. Answer the question below.

Initial Observations about Potato Fries (pay attention to color, flexibility, smell, etc.):

Question: Based on what you learned about osmosis today, what do you think will happen to the potato fries in each cup? Explain your answer.



Procedure Day 2:

1. Remove the pieces from the cup onto a plate.
2. Write final observations below

Final Observations about Potato Fries (How are they different? Why do you think they are different?)