



Potato Exploration



Projects all about potatoes!

At ASAP, potatoes are the featured "Get Local" vegetable for November. Visit <http://www.growing-minds.org/> for the full "Get Local in Schools" schedule.

Goal

Introduce students to potatoes and how they grow. Teach students about measurement and guide them practicing close observation through potato explorations.

NC Standards Addressed

Kindergarten: English Language Arts – 1.01, 4.02; Mathematics – 2.01.

First: English Language Arts – 4.06; Mathematics – 2.01, 5.02; Science - 2.01.

Second: English Language Arts – 4.06; Mathematics – 2.01, 4.01.

NC Common Core

Kindergarten: English Language Arts – RI.K.5, RI.K.6, RF.K.1, W.K.2, W.K.3; Mathematics – K.MD.1, K.MD.2.

First: English Language Arts – W.1.5; Mathematics – 1.MD.1

Second: English Language Arts – W.2.3; Mathematics – 2.MD.1, 2.MD.3.



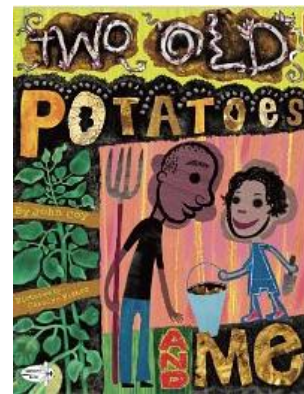
Materials

Potato Exploration Supplies

- Magnifying glass
- Local red, brown, and blue potatoes
- Rulers
- String
- Scale

Journal Supplies

- White and colored paper
- Pictures of potatoes growing
- Potato facts
- Examples of potato illustrations
- Crayons/colored pencils



Books to Read

Two Old Potatoes

by John Coy

From Eye to Potato

by Ellen Weiss

Pigs Love Potatoes

by Anika and Christopher Denise



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Activities

Read Two Old Potatoes by John Coy. In this book a girl discovers two old potatoes that have begun to sprout in the rear of the cupboard. She goes to throw them away, but her dad suggests that instead they try to grow new potatoes from the old ones. The story details how they prepare the soil, weed, water, and protect the plants from potato beetles. In September, their patience and hard work are rewarded with a brimming bucket of new potatoes.

For more information on how potatoes grow, read From Eye to Potato.

Vegetable Exploration

Start the vegetable exploration with a joke! Q: What has eyes, but cannot see? A: A potato!

Show different varieties. Show the students two different varieties of potatoes. Ask them to compare the differences. Record the difference and similarities in a VENN diagram or chart. **Look closely. Ask the students to describe what they see. Can students count how many eyes are on their potato?** Review what happens at the “eye” of the potato. (A stem forms.) Is there one variety of potatoes that has more eyes than the others?

What foods are made from potatoes? Ask students to brainstorm all of the foods they know that are made from potatoes. One of the really special things about potatoes is how many different foods we make with them—from chips to crackers to bread and more!

Journaling About Potatoes

1. Potatoes have a bad reputation because we use them to make chips and French fries. But potatoes themselves are actually very healthy (it’s the stuff we put ON them that makes them bad!). Using the attached potato pictures and facts, ask students to make a collage poster about all of the positive aspects about potatoes. Display your poster in the hallway. Can your class change the school’s mind about the virtues of potatoes?
2. Challenge students to write creative stories detailing how the potato chip might have been invented, then use references to research the real story.

Using Potatoes to Learn about Measurement

Organize students in pairs. Give them a ruler, a measuring tape, and a scale. Demonstrate how to use the tools. Have the students come up with as much information as they can about their potato. For example: How long or wide is their potato, what is the circumference of the potato? How much does the potato weigh? How many eyes does the potato have? Next, for older students, have them work with larger groups to determine the average weight, average number of eyes, whether the number of eyes correlates to weight or size, etc.

Potatoes as a non-standard measurement

How many “potatoes” tall are you? Help students mark their height on a wall or help them measure their height



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using a string. Cut the string at the student's height. Ask the students to lay their string on the floor and place potatoes one by one along the string to determine their "potato height."

Use the garden to measure more.

What else can students measure with potatoes? Ask them to work in groups to measure the length or width of the garden.

Learn about Rhyming with Pigs Love Potatoes

Read [Pigs Love Potatoes](#). As you read, ask students to identify the rhyming words from the book. Write the rhyming words on the board.

More Potato Activities

Play "Hot Potato!" -- Get the class to stand in a circle. Take a raw potato and toss it back and forth across the circle from one player to another. If someone drops the potato, they have to sit down, and everyone takes a step back to make the circle bigger and the distance to toss the potato from one person to the other greater. Keep going until only one person is left standing. They're the "Hot Potato!"

Potato Science Experiment -- If you have some old potatoes, the "eyes" may have sprouted. You can use a sprouted potato to show your child how a plant seeks the light of the sun in order to grow (it's called phototropism -- in Greek "photo" means light and "trope" means turn).

Take a shoebox and poke a round hole (approximately 1" in diameter) in one end of the shoebox. Put the sprouted potato at the opposite end (from the hole) of the shoebox. Put the lid on the box, secure it with duct tape (so that light doesn't "leak" through the lid) and set the box in a sunny spot with the hole facing the light. The idea is that the light should be coming in from the hole only. Now you wait.

Count how many days until you see the sprout growing out of the hole in the box, in search of light. If you want, you can do this experiment with 3 or 4 different potatoes (one for each member of the family). Everyone can put their potato-in-a-box in a different window of the house. Have a race to see whose potato finds the light first!

But what about Sweet Potatoes?!-A Tasting Activity

Sweet potatoes and white potatoes are in completely different plant families (they're not even cousins!). While the white potato we eat is actually a tuber, or a modified stem, we eat the root of the sweet potato plant. Consider extending the potato lesson by showing students a sweet potato next to a white potato and explaining these differences to students. Begin this comparison lesson by leading them in a mystery taste test.

Tasting Materials:



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- 2-3 sweet potatoes
- 2-3 brown bags
- Small paper plates or napkins

Tasting Preparation: Place one sweet potato in each of your small brown paper bags. Cut the other sweet potato into small sticks and place them in a bowl.

For the taste test: Pass out a sweet potato stick to each of the students, asking them to wait to taste the snack until everyone has one. Don't tell the students what it is! Tell the students you want them to taste the snack and guess what it is. Does anyone have any guesses?

One more clue

If students can't guess the mystery vegetable after the tasting, give them one more clue. Tell the students you have the snack inside the brown paper bags. Ask students to reach inside the paper bag and use their sense of touch to explore the object inside. Give each child a chance to feel the "mystery object" in one of the bags. (Having two bags and a helper makes this part of the lesson go more smoothly.) Ask the children to describe how the object feels. Is it hard or soft? Smooth or bumpy? Do they have any guesses about what it might be?