



Food Education Standard #3: Food and the environment are interconnected.

The Roots: Learning About Root Vegetables & Where They Come From

Grade Levels & Subjects: Grades 3 - 5 English Language Arts

Learning + Food Objectives:

Students will explore the origins and uses of various kinds of root vegetables.

Common Core Standards:

Common Core English Language Arts

Compare and contrast new information

CCSS.ELA-LITERACY.SL.4.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.

CCSS.ELA-LITERACY.SL.4.2

Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

CCSS.ELA-LITERACY.SL.4.4

Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.



MATERIALS NEEDED

- Pilot Light Video: Making Sweet Potato Fries by Grace Chang <https://vimeo.com/591090644>
- Root Vegetables Student Worksheet (Attached below)
- Root Vegetable Pictures (for posting or student use)
- Big Chart Paper

- Chart markers
- Root Vegetables Slideshow Slides (Attached below)

CLASSROOM PROCEDURE

INTRODUCTION (15 minutes)

1. Before this class session:
 - a. Create four posters (big chart paper) labeled: SUMMER, WINTER, FALL/AUTUMN, and SPRING. Student responses to the opening activity will be added to these charts. Alternatively, you could create these tables electronically and write in responses for students.
2. Pass out Student Worksheet. Explain that the opening activity will require them to draw and think about fruits and vegetables that they eat at different times of the year. *Teachers may wish to focus on the season they are in at the time of the lesson.*
3. Direct students' attention to the drawing space in the first part of their student worksheet.
4. Ask the following prompt for each season: Draw a picture of a fruit or vegetable you typically eat in the [insert season]. Label the food you draw or write a description underneath your drawing.
Sample responses include: Fresh fruit salads in the summer, apple pies in the fall, greens in the winter, roasted asparagus in the spring.
5. Bring the class back together to debrief their drawings. Inform students that everyone will share their food choices from their drawings and the teacher will be taking notes on their work.
6. As students share, the teacher writes the foods from their lists on the corresponding "season poster."

INSTRUCTION (30-60 minutes)

1. Display the first "What are Root Vegetables?" slide from the Root Vegetables slide deck (attached below student worksheet). Ask if anyone recognizes any of the root vegetables in the picture. Allow a few volunteers to respond before continuing.
2. Explain that today's lesson focuses on a particular type of vegetable known as a root vegetable. Point out the pictures of different root vegetables around the room (that are posted or available at their desks) or on a learning platform if teaching virtually/over a computer.
 - a. A root vegetable grows underground from the base of a plant.
 - b. The bulbs, roots and tubers of root veggies absorb water and nutrients to feed the rest of the plant.
 - c. Give examples of root vegetables
3. Watch the [Making Sweet Potato Fries](#) video. Then, ask some or all the questions below:
 - a. Why is it important to wash the sweet potatoes well?
 - b. What are some special characteristics of this sweet potato (physical characteristics)?
 - c. What are some things to keep in mind as you cut the sweet potato? How do you make sure they cook evenly?
 - d. There are several tips to help make the fries crispy. Name one.
 - e. Would you add salt & pepper or another seasoning? Why?

4. Direct students' attention to the Venn Diagram. Explain that they will use this graphic organizer for the next couple of slides.
5. Then, display the "More Root Vegetables" slide and read the names of each vegetable.
6. Ask students what they notice about the physical appearance of each vegetable pictured.
7. Explain that as a class, they will now compare two of the root vegetables using the Venn Diagram.

Teachers can either choose two vegetables or allow students to select the two root veggies to focus on.

- a. Tell students to write/copy the name of each vegetable above each circle. For example, "Carrots" & "Red Beets"
- b. Then, in the inner circle ask students to write, "root veggie."
- c. Next, for each root veggie (in the outer circles), tell students to describe the color and shape (physical appearance) of each vegetable. For example, under "Red Beets," a student may write red/purple, round/circle body, purple stem, green leaf. Younger students may need to dictate or give responses verbally. Some students may need help with spelling. Consider having color and shape charts close to the front of the room for student reference.

CLOSING (10 minutes)

1. Display the "Even More Root Vegetables" slide and explain to students that they are going to use the Root Vegetables Exit Slip template to describe the five root vegetables on the slide.
 - a. Ask students to read the names of the vegetables aloud.
2. Ask students to draw the root vegetable they would want to try next.
3. Share out.

ADDITIONAL RESOURCES

- ["How the Sweet Potato Crossed the Pacific Way Before Columbus Did"](#) by Michaelleen Doucleff
- ["George Washington Carver: Biography, Inventions & Quotes"](#) by Live Science
- ["What's the difference between a sweet potato and a yam?"](#) by Alyse Whitney
- ["What is the difference between a Yam and a Sweet Potato"](#) by North Carolina Sweet Potatoes

RECIPE FROM VIDEO

Video: [Pilot Light Video: Making Sweet Potato Fries by Grace Chang](#)

Below is the recipe from the video in this lesson. Pilot Light Anywhere lessons are designed to be able to be delivered from a remote setting; however, this recipe can be demoed by the teacher virtually/in person, sent home to families, or used for reference.

Recipe Name: Sweet Potato Fries

Serves: 2-3

Ingredients:

- List ingredient 1 (including measurements and any prep like chopping, washing, etc.)
- 2-3 sweet potatoes
- Olive oil (enough to drizzle fries before seasoning)
- Salt and Pepper, if desired

Materials:

- Knife
- Cutting board
- Baking sheet

Preparation:

1. Heat oven to 400 degrees.
2. Scrub any kind of sweet potato and cut into slices about 1 centimeter thick.
3. Then cut slices in sticks about 1 centimeter side. Try to keep the sticks uniform in thickness.
4. Coat generously with olive oil.
5. Add salt and pepper, if desired
6. Spread out in one layer next to each other on baking sheet.
7. Bake in middle rack for 30 minutes.
8. Turn fries so that different side can be on the baking sheet. Then, turn up to 425 degrees.
9. Bake about 10 minutes longer, checking frequently that they don't burn.
10. When fries are golden brown and crispy, take out of oven and sprinkle with fine salt.
11. Eat warm or at room temperature

The student worksheet below can be printed or copied onto
any online learning platform.



Root Vegetables Student Worksheet

Introduction Activity

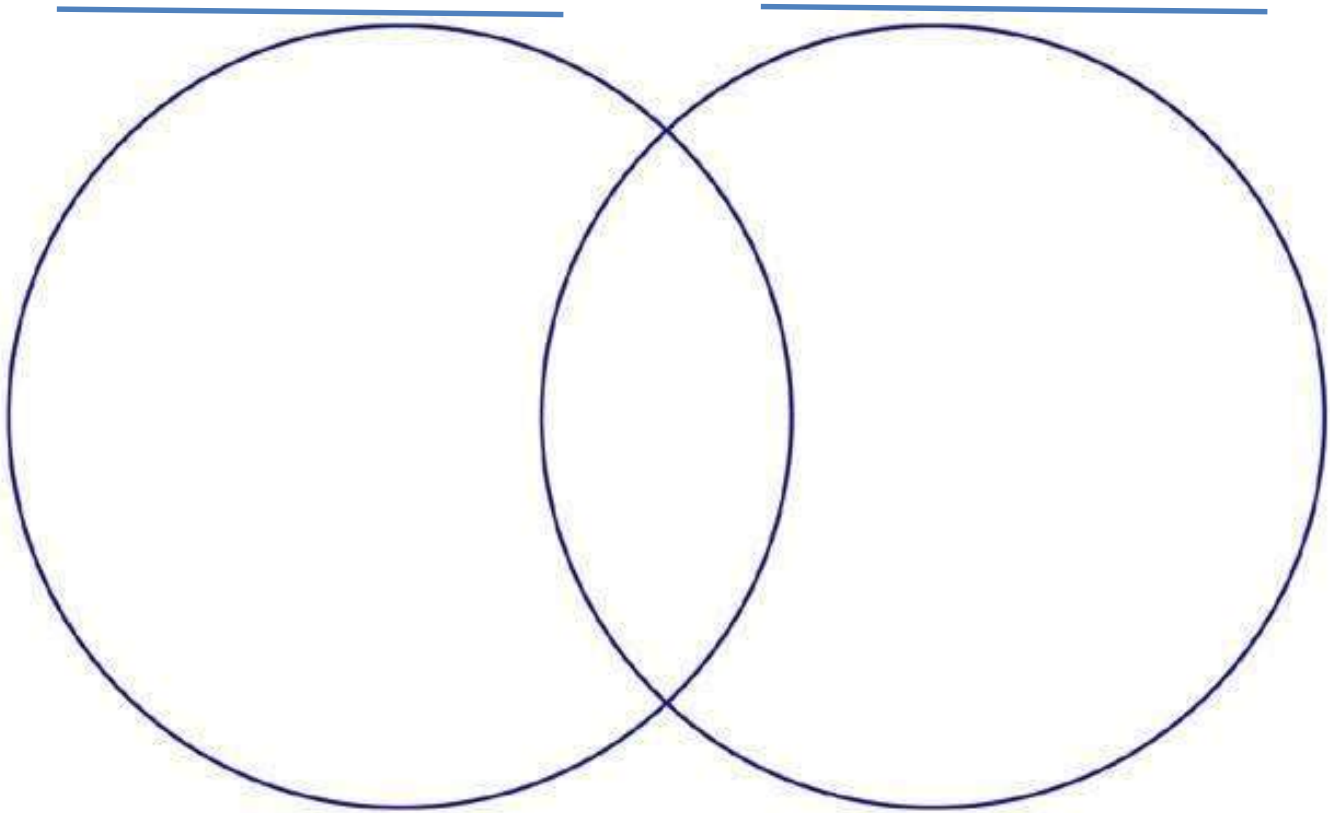
Directions: Draw your fruits and vegetables in the space below. Label your drawing or be prepared to explain it.



Compare Root Vegetables Venn Diagram

Directions: Follow the steps below to compare two different types of root vegetables.

1. Write/copy the name of each vegetable above each circle. For example, "Carrots" & "Red Beets"
2. In the inner circle write, "root veggie."
3. Next, in the outer circles underneath each vegetable's name, describe the color and shape (physical appearance) of the vegetable.





Root Vegetables Exit Slip

What root vegetable would you like to try?
Why?

I would like to try _____

because _____



Photos of Different Root Vegetables
(for class display or to be laminated and available for student use)



Sweet Potatoes



Idaho Potatoes



Yukon Gold Potatoes



Red potatoes



Carrots



Red Beets



Purple Top Turnips



Hakurei Turnips



Red Radish



Watermelon Radish



Purple Radish



Parsnips



Onions



Slideshow

PILOT LIGHT

The Roots: Learning About Where Root Vegetables Come From

Instruction



What Are Root Vegetables?

- ☐ Root vegetables grow underground from the base of a plant.
- ☐ The bulbs, roots and tubers of root veggies absorb water and nutrients to feed the rest of the plant.
- ☐ Examples of root vegetables are sweet potatoes and yams.





Sweet Potatoes

- ☐ Sweet Potatoes are considered root vegetables.
- ☐ They are planted in the spring and harvested in the fall.
- ☐ Sweet Potatoes can keep for a long time and are referred to as “storage vegetables.”



Facts About Sweet Potatoes

- ☐ Sweet Potatoes originate from Central and South America
- ☐ There are more 1, 245 different kinds of sweet potatoes worldwide.
- ☐ George Washington Carver, a scientist, created over 100 different products using sweet potatoes, like rope and shoe polish.



Making Sweet Potato Fries [Video](#)

Answer the following questions about the video:

- ☐ Why is it important to wash the sweet potatoes well?
- ☐ What are some special characteristics of this sweet potato (physical characteristics)?
- ☐ What are some things to keep in mind as you cut the sweet potato? How do you make sure they cook evenly?
- ☐ There are several tips to help make the fries crispy. Name one.
- ☐ Would you add salt & pepper or another seasoning? Why?

More Root Vegetables



Carrots



Yukon Gold Potatoes



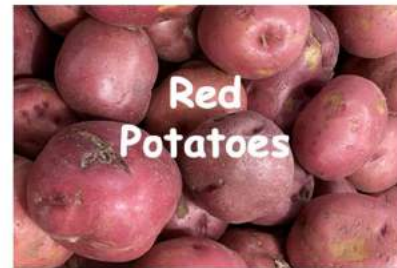
Idaho Potatoes



Red Beets



Red Radishes



Red Potatoes