



The Giving Garden

Noticing Reciprocity in the Garden

Day 5 of Cultivating Connections Spring Sequence

Emily Jenkins – UO Environmental Leadership Program – 2017

Target Grade Level
1st-5th grade

Essential Question
Why is it important to take care of the garden?

Objectives
By the end of this lesson students will be able to:

- List 2 acts of how you take care of the garden.
- Describe the connection to how the nutrients in vegetables provide nutrients for our bodies and health.

STE(A)M Integration
Art: journals, cooking, coloring
Science: nutrition facts, plant life cycle, observation & data tracking

NGSS Performance Expectation

Primary Standard
K-LS1-1.

Use observations to describe patterns of what plants need to survive.

Disciplinary Core Idea(s)

LS1.C:
All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

Lesson Length
60 minutes

Summary

This activity introduces 1st-5th grade students to the reciprocal nature of gardening, meaning we care for the garden and in return, the garden cares for us nutritionally. This is accomplished through the use of a garden based cooking lesson, discussion of nutritional elements provided within foods from the garden, and a discussion of how we take care of the garden.

Rationale

This lesson provides a hands-on interactive learning experience where students have the opportunity to gain nutritional knowledge, develop sensory awareness, and connect with their food from right where it starts. Beginning to understand the concept of food growing in the garden can be used to make a meal that provides the students the ability to recognize that their food grows from the ground; it does not just come from the store.

Further, this lesson starts fostering a connection to nature through the garden, instilling a sense of responsibility toward the environment, and contributes to identifying sense of place.

Background

Beet Nutrition



A beet is a **root vegetable**, meaning it grows underground. Beets help keep our blood flowing smoothly, which results in an energy boost. Beets are also loaded with Vitamin C, which keeps our heart, skin, and eyes healthy and helps to prevent and cure the common cold. Beets also contain folate which also contributes to a healthy heart.

Preparation for Lesson

1. Set up should go as follows: Spread one large sheet of paper over table(s) in the garden and put down one cutting board and one grater on the table(s) for each student.

2. Separate station for mixing bowl, serving bowls/forks, tablespoon, mixing/serving spoon, ACV, OO, lemon juice, optional ingredients, salt & pepper, knives

3. Food preparation: beets, carrots, and apples peeled and cut into easy-to-handle pieces for each student to have one to grate

Key Vocabulary

- Beta Carotene
- Root vegetable
- Healthy diet

Materials

(see materials section)

- Recipe card & worksheet printout
- Colored pencils
- Rain gage
- Thermometer
- Journals (from Day 1)
- Student measuring sticks (from Day 1)
- Ingredients for ABC Salad
- Cooking Supplies

Carrot Nutrition



A carrot is a root vegetable as well. Carrots are full of **beta carotene** which strengthens your eyes and is also what makes the carrot orange. Carrots also contain Vitamin k, which is good for your heart, builds strong bones, and keeps your blood flowing smoothly

Apple Nutrition



Apples are fruits that are filled with potassium and vitamin C, which helps our heart, skin and eyes. Apples are also loaded with carbohydrates which gives us energy. These all keep our bodies safe and healthy.

The term health or 'being healthy' means that you are free from illness or injury, mentally and physically. Having a **healthy diet** means eating foods that contain nutrients that are beneficial to our bodies and help keep us healthy. Empty foods are those that do not have beneficial nutrients for our bodies in them. Examples of these would be, cake, cookies, and soda. These are all empty calories.

There are many ways in which we help to **care for the garden**. A few of these activities include: watering plants, weeding, taking care of the soil (not walking on the beds), planting, harvesting, and planting in an area with access to sunlight. In the **Spring**, plants have the ideal conditions that they need to begin growing. These conditions are water, sunlight, soil, and warmth. The rainy weather of the spring provides water for the plants and as the days begin to get longer, more sunlight is available to the plants. The sunlight heats up the soil, giving the plant the warmth it needs.

Materials

- Recipe/worksheet printout (attached) (one for each student)
- Colored pencils (enough for students to share)
- Student made measuring sticks (from Day 1)
- Journals (from Day 1)
- Rain gauge
- Thermometer
- Ingredients (Feeds 6) {adapt for number of students in class}
 - 1 beet, peeled
 - 2 carrots, peeled
 - 1 apple, diced (prepped before lesson by teacher)
 - 1 tablespoon of lemon juice
 - 1 tablespoon of apple cider vinegar
 - 1 tablespoon olive oil
 - Optional: special toppings: raisins, salt & pepper, and others
- Cooking supplies
 - Hand graters (1 per student)
 - Cutting boards (1 per student)
 - Large bowl for mixing (1)
 - Tablespoon (1)
 - Mixing/Serving spoons (1)
 - Serving bowls (1 per student)
 - Paper for covering table (1 large sheet per table)
 - Forks (1 per student)
 - Knife (1-2) for adult supervisor(s)

Procedure

Journals (5 minutes)

This time will be used to analyze the data that the students have collected over the past weeks.

1. Take out the data collection charts for plant growth, rain, and temperature.
2. Display the charts and ask *“What do you notice about the data we have been collecting?”*
 - The students should make a correlation between how the rain and temperature affects the plant’s growth.

TO ADD COMPLEXITY

Have the students answer the following prompt in their journal.

- *“Look at the plants we have been measuring. Draw a comparison from how small the plants were at Day 1 to today. How have the plants changed over time? Are they taller? More flowers? List or draw: What garden care activities have helped the plants grow?”*

Introduction (2 minutes)

During this time the plan for the day should be laid out. Give an overview of the activities by saying *“First we are going to be cooking, and then we’re going to color and talk about the vegetables we have been eating”*.

Activities (37 minutes)

Cooking Lesson

Introduction and Preparation (7 minutes)

1. Ask the students *“How do you take care of the garden?”*. Emphasize planting in the garden.
2. Ask the students *“When do you think is a good time of year to plant seeds?”*. Review the elements that make Spring the ideal time to begin planting. These elements being: rain, sunlight, temperature, pollination, and pollinators.
3. Ask *“As we take care of plants and watch them grow bigger, what do we end up with when they are fully grown?”*. Talk about how caring for plants leads us to delicious foods that we can eat and make meals out of!
4. Hand out the recipe cards and explain that the recipe we are going to make is an ABC (apple, beet, carrot) salad.
5. Explain how everyone is going to have a different role in helping to put the salad together. The students pick their role. Ask for:
 - 1 student to be the Apple Cider Vinegar measurer and pourer
 - 1 student to be the olive oil measurer and pourer
 - 1 student to be the lemon juice measurer and pourer
 - 1 student to be the mixer
 - Every student will help grate

Cooking and Serving Table Preparation (20 Minutes)

6. First have the students wash their hands and make sure hands stay clean. Say *“We need to make sure our hands stay clean, so if we sneeze or cough make sure to turn away, and not into our hands”*.
7. Talk about how to safely use the graters.
8. Hand out pre-prepped easy to handle pieces of carrots, and beets and have students begin to grate.
9. When a student finishes grating have them bring the cutting board full of grated pieces to the serving station and put shredded ingredients into the large mixing bowl.
10. When all shredded ingredients are added to the large mixing bowl, add the diced apples and have the students pour apple cider vinegar, olive oil, and lemon. Ask the students to come up to the serving station and measure and pour their ingredient into the large mixing bowl.
11. Lastly, have the student mixer come up and toss all of the ingredients together with the mixing spoon.

As the students are grating and preparing the salad ask sensory awareness questions:

- *“What do the veggies feel like?”*
- *“Do they have a smell?”*
- *“What do they look like?”*

Eating Time (10 minutes)

Portion out the salad into bowls and hand out utensils. Ask the students questions and talk about the nutritional value in beets and carrots. Start by asking *“What can you taste?”* and follow up with *“What makes a food healthy?”*. Discuss that the nutrients in foods are what make them healthy. Then explain the specific nutritional value in beets and carrots and how these nutrients fill our bodies and help us stay healthy and keeps us from getting sick. Empty foods, such as candy, cookies, and soda, do not contain nutrients that benefit our bodies in a positive way.

Assessing Understanding (10 minutes)

This activity will be using the bottom portion of the recipe card/worksheet handout to assess if the learning outcomes were achieved.

Adaptations

For students who are in **1st-3rd Grade**, use the attached recipe card/coloring nutrition worksheet. The students color the beet, carrot, and apple and read the nutritional facts. As they are coloring ask the students:

- *“What do you provide for the garden?”*
 - Students should respond with general garden care tasks (i.e. watering, weeding, ect.)
- *“What does the garden provide for you?”*
 - Students should respond with nutritional elements provided by garden (i.e. about beets, carrots, apples)

For students who are in **4th-5th Grade**, use the attached recipe card/fill in the blank/coloring worksheet. Ask the students to fill in the boxes with answers to the questions:

- *“What do you provide for the garden?”*
 - Students should respond with general garden care tasks (i.e. watering, weeding, ect.)
- *“What does the garden provide for you?”*
 - Students should respond with nutritional elements provided by garden (i.e. about beets, carrots, apples)

The students can then color the beet and carrot drawings.

Wrap-up (6 minutes)

Now we will connect the dots. Reiterate how we care for the garden and in doing so, nutritional foods that are beneficial for our bodies and health result. Do this by asking:

- *“Why/how should we take care of the garden?”*
- *“How is the garden taking care of us?”*
- *“Was there something in the garden that you are grateful for?”*

- “What did you like or learn about the salad?”

Adapted From:

Fuller, Nancy. "Shredded Beet and Carrot Salad." *Food Network*. Food Network, 24 Aug. 2015. Web. 14 Feb. 2017.

Mercola. "10 Important Facts About Vitamin K That You Need to Know." *Mercola.com*. Mercola, 24 Mar. 2004. Web. 24 Feb. 2017.

"School Garden Project ." *School Garden Project of Lane County*. School Garden Project , 2016. Web. 07 Mar. 2017.

"Topmarks - Primary Resources, Interactive Whiteboard Resources, and Maths and Literacy Games." *Topmarks - Primary Resources, Interactive Whiteboard Resources and Learning Games*. TopMarks, 2017. Web. 07 Mar. 2017.

ABC Salad

(Apples, Beets, Carrots)

Ingredients:

- 1 beet, peeled and shredded
- 2 carrots, peeled and shredded
- 1 apple, diced
- 1 tablespoon of lemon juice
- 1 tablespoon of apple cider vinegar
- 1 tablespoon olive oil
- Special toppings: raisins, salt & pepper, nuts, etc.



Directions:

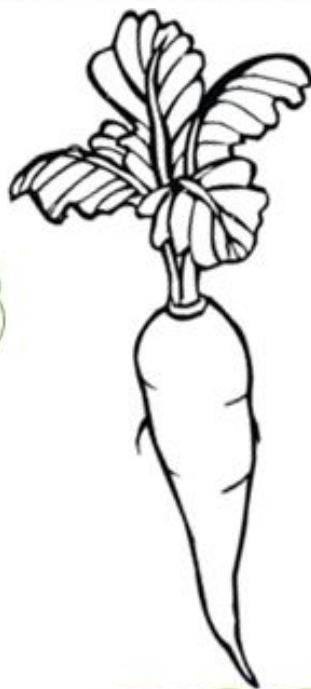
- Peel and shred beet, carrots
- Dice apple
- Mix together in a bowl
- Add apple cider vinegar, olive oil, and lemon juice
- **Optional: add salt & pepper, raisins, nuts, etc.

Makes 6 servings



I am a **root**
vegetable
(I grow
underground!)

I am red and round
I keep your blood moving
and give you energy!



I am orange and long and
yummy to munch,
I give you my **beta carotene**
which help your eyes a
bunch!



I grow high up in a
tree, I give you
energy, and help you
heart, eyes, and skin!

ABC Salad

(Apples, Beets, Carrots)

Ingredients:

- 1 beet, peeled and shredded
- 2 carrots, peeled and shredded
- 1 apple, diced
- 1 tablespoon of lemon juice
- 1 tablespoon of apple cider vinegar
- 1 tablespoon olive oil
- Special toppings: raisins, salt & pepper, nuts, etc.



Directions:

- Peel and shred beet, carrots
- Dice apple
- Mix together in a bowl
- Add apple cider vinegar, olive oil, and lemon juice
- **Optional: add salt & pepper, raisins, nuts, etc.

Makes 6 servings



How do you take care of the garden?

What does the garden give to you?

Fun Nutrition Fact!

