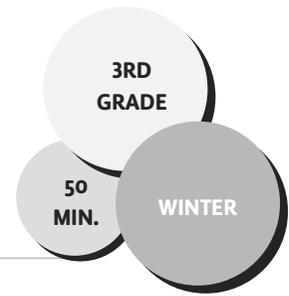


Root Fruit Slaw

THEME: PREPARING HEALTHY FOOD



ESSENTIAL QUESTION

How can we prepare a healthy dish?

LEARNING OBJECTIVES

- ✓ Students will be able to explain the function of plant roots and fruits.
- ✓ Students will be able to assemble a slaw with root vegetables and fruits.

CONCEPTS

ingredients kitchen tool safety
observation plant parts storage crops

Engaging the Classroom Teacher

- Prior to the lesson, discuss whether there are other adults, such as parents or volunteers, who can supervise while students are using graters.
- During Action Steps 5 and 6, suggest that the teacher supervise as students are grating vegetables. Have the teacher help groups take turns coming up and delivering their prepared ingredients to you.

LESSON DESCRIPTION

In this lesson, students consider the importance of storage root crops in our diet during the winter, closely examine root veggies using magnifying glasses, and create a tasty root

and fruit slaw. (An extra adult, such as a parent or community volunteer, would be helpful because students will be using box graters.)

MATERIALS

- Ingredients for Apple Cider Vinaigrette (see recipe)
- Small jar
- Tongs
- Materials for cleanup

For each student:

- Tasting cup
- Fork

For each group of 4–6 students:

- At least one root vegetable with root hairs (for observation)
- Half a pear or apple (for observation)
- Magnifying lenses
- Box grater
- Cutting mats
- Container for compost
- 1 piece each of apple, 1 carrot, and 1 beet (for salad)
- Bowl

PREPARATION

- › Wash and prepare produce for students to grate.
- › Prepare a slideshow of pictures of root cellars to show students while you're discussing storage crops (optional).
- › Set up a station in the room, where all students can see you, at which you will demonstrate grating. Set out a bowl and cutting mat.

Root Fruit Slaw

Yield: 6 cups, 24 servings of ¼ cup

3 medium apples, cored, one large chunk per table group
2–3 large carrots*
2–3 large beets*
Salt, to taste
Lemon juice, to taste

Apple Cider Vinaigrette

Two tablespoons apple cider vinegar
Two tablespoons cup honey
Juice of 1/2 lemon (1–2 tablespoons)
1/2 teaspoon salt, more to taste
1/3 cup olive oil

- Whisk together vinegar, honey, lemon juice, and salt. Then drizzle in olive oil and whisk until emulsified (or shake in a lidded jar).
- Wash and prepare ingredients, then shred each on the largest holes of a box grater, so you have roughly even amounts of each fruit or vegetable.
- Mix each shredded ingredient together in a large bowl. Combine with vinaigrette. Taste and adjust with salt or more lemon juice.

*Tip: Leave the tops of carrots and beets on as a “grip” for grating.

GUIDING QUESTIONS

- Which two parts of the plant are we going to eat today? How do you know?
- What interesting things do you notice about these parts of the plant?
- What can you see with a magnifying lens that you can't see with only your eyes?

ACTION STEPS

1. Exploration: Gather students in a circle, and explain that today they're going to prepare something to eat with two parts of the plant. Say, *I'm going to see if you can guess which parts of the plant they are by doing a close observation.* Go over the Guiding Questions and then pass out carrot or beet and halved pear or apple, as well as magnifying lenses, to small groups. **(5 min.)**

2. Discussing: Ask groups to share their observations. You might discuss how you know that a plant part is a fruit if it contains seeds inside. When students mention the small hairs they see on the root vegetables, have them consider their function, asking, *How do you think the root hairs help the plant?* Discuss how they help the plant gather water and nutrients from the soil as well as anchor the plant in place. Explain, *The roots of a plant also store the sugars or food for the plant during the cold, dark months when it's not producing new food. It's just like if we buried our food underground during the winter to save it until it was warm and more food was growing. In fact, root vegetables are what we call a storage crop because people have traditionally saved them over the winter because they provide a lot of nutrients.* Show students the slideshow of root cellars, if using, and explain that people have always had to figure out ways to have enough food in the winter, when it is harder to grow things. Now we can store foods by freezing them, or we can go to the grocery store and buy foods imported from places where it is less cold, but it wasn't always that way. **(5 min.)**

3. Hand-Washing Break (5 min.)

4. Model: Demonstrate how to grate the produce onto the cutting mat, keeping your

fingers high on the fruit or vegetable and taking long strokes. Say, *Make sure to stop early! Don't worry about getting the last bit,* and show students how you stop grating long before your fingers are close to the grater. Explain to students that they'll be sharing the box graters in their groups, so it's important to make sure everyone gets a turn. **(5 min.)**

5. Grating: Pass out trays to groups of students. While students are grating fruits and vegetables, circulate through the room, keeping an eye out for safe techniques and ensuring students are sharing materials. **(10 min.)**

6. Assembling Slaw: Have a student from each group bring up their grated fruits and vegetables as you show them how to prepare the dressing. Mix the dressing with the grated produce, then taste and adjust the flavor with salt and pepper and lemon if needed. **(5 min.)**

7. Tasting: Distribute the slaw into small tasting cups for each student. Have student volunteers pass out forks and tasting cups. **(10 min.)**

REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

Social and emotional learning

- *Ask yourself: How did I share and take turns with my classmates?*
- *How did you help make this dish?*

Check for understanding

- *How would you describe the flavors of our root fruit slaw?*
- *What other vegetables would be good in this dish?*

- *Why are root vegetables an important food for winter time?*
- *Why do vegetables store sugar or energy in their roots?*

ADAPTATIONS

Science Extension: For a possible extension, see the first grade lesson Root-View Cups, in which students sow seeds in clear plastic cups to observe the growth of roots.

Garden Setting: Grow carrots in the garden, and leave them in the ground over the winter to harvest in the cold season. See if your students notice the extra sweetness of their winter carrots!

ACADEMIC CONNECTIONS

English Language Arts Common Core State Standards

CCSS.ELA-LITERACY.SL.3.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.