

Beet

In season:



Summer

Lakota: p̣haŋǵí šašá

Lesson Plan

Objectives

- Participants will identify beets as a vegetable from MyPlate.
- Participants will increase knowledge in growing beets as well as the selection, storage and preparation of beets and beet greens.
- Participants will demonstrate the use of beets and the skills needed to prepare a recipe.

Items Needed for the Lesson

- MyPlate poster
- ½ cup measure
- Parts of a plant visual
- Fresh beet to identify variety and size
- Nutrition Facts from beets

Handouts or Take Home Items

- Pick It, Try It, Like It Handout with recipe
- Additional recipe card with alternative recipe

Recipe Choices

- Easy – Beets with Dijon Dressing
- Intermediate – Red Beet and Apple Salad

Facts to Share with Students

- Start with Ice Breaker – guess the fruit or vegetable
- How to grow beets in a garden and how to harvest beets
- How to choose, store and use beets and beet greens
- Why we should eat beets
- Using beets in a recipe

Cooking and Food Safety Skills

- Wash hands for 20 seconds
- How to wash fresh beets
- Safely storing leftovers
- Washing fruits and vegetables
- Cooking terms- toss, roast and grate
- Oven safety
- Dietary guidelines for sodium

Supplies for Beets Lesson

- **Beets with Dijon Dressing**
 - » Knife
 - » Bowls
 - » Measuring spoons
 - » Roasting pan
 - » Timer
 - » Liquid Measuring cup
 - » Whisk
 - » Cutting board
 - » Disposable gloves

- **Red Beet and Apple Salad**
 - » Knife
 - » Large bowl
 - » Grater
 - » Measuring spoons
 - » Small bowl
 - » Spoon

What You Say:	What you do:
<p>Every class we're going to learn about a different fruit or vegetable. I'm going to give you some clues and I want you to try to think of what it is. After each clue, raise your hand if you think you know what it is.</p> <ul style="list-style-type: none"> • These may be eaten raw or cooked and are rich in folate. • They are in the same plant family as spinach • They are also known as blood turnips • The red coloring that comes from them is processed into food coloring that is sometimes used to improve the color of tomato paste, sauces and jams • Their coloring can even be used to make red colored mulches for landscaping. 	<ul style="list-style-type: none"> • Name off each clue; allow a few guesses before moving on to the next clue. • After someone guesses the answer, or you tell them, show them visuals of beets.
<p>The table beet is a popular garden vegetable that is grown throughout the United States. In South Dakota, beets are available from July to Mid-October.</p> <p>Beets come from the Red and Orange subgroup of vegetables.</p> <p>Different vegetables come from different parts of the plant. They may be the root, stem, fruit, seed, leaf, or flower. What part of the plant do you think beets are? (Answer: root)</p> <p>Why are roots important to plants?</p> <p>Roots provide support by anchoring the plant. Roots also absorb water and nutrients for the plant and store sugar and carbohydrates. Some plants have tubers for extra storage of nutrients.</p>	<ul style="list-style-type: none"> • Show the vegetable subgroup diagram. • Show the Parts of a Plant Visual. • Allowing discussion regarding roots.
<p>MyPlate shows us how to eat healthier. If we notice, ½ of the MyPlate diagram in fruits and vegetables. Depending on your age and gender, we should be eating between 1 and 3 cups of vegetables a day.</p> <p>One half cup of raw or cooked beets counts as ½ cup in the MyPlate Vegetables group.</p>	<ul style="list-style-type: none"> • Point to the MyPlate poster. • Show a ½-cup measuring cup.
<p>Have any of you ever grown beets before?</p> <p>Beets can actually be planted in the garden 30 days before that first frost-free date for your area. Beet seedlings grow well in cool, moist conditions, while the more established plants grow well during warm weather.</p>	<ul style="list-style-type: none"> • Allowing participant discussion time.

What You Say:	What you do:
<p>Several seedlings may grow from each beet seed. Seeds should be planted ½ inch deep and 1 inch apart with 12-18 inches between rows. Planting too deep results in a poor stand. Beets should be planted in fertile soil. They do not compete well with weeds, so they need to be weeded often; Beets also need to be thinned by hand to keep seedlings about one to three inches apart.</p> <p>Beets can be harvested whenever they grow to the desired size. Thinnings, which are beets that are pulled before they are fully mature, can be eaten raw including the tops, in salads or they can be roasted, which brings out their natural sweetness.</p>	
<p>It takes about 60 days for beets to reach the mature stage where the beets have a diameter of 1 ½ to 2 inches. This is the size often used for cooking, canning or pickling; Beets that are larger than 3 inches in diameter are often tough and woody.</p> <p>Beets vary in color and shape depending on the variety. The most common beet is round in shape and had a deep maroon color.</p> <p>Beets can also be orange, white or pink.</p>	<ul style="list-style-type: none"> • If possible, show a real beet of the common variety, making note of the diameter.
<p>If purchasing fresh beets, select beets with firm skin. If the greens are still attached, select those with fresh looking leaves.</p> <p>Remember that smaller beets (1 ½ to 2 inches) are more tender.</p> <p>Beets store well in a plastic bag in the refrigerator. Use them while they are firm and fresh, usually within a week.</p>	
<p>Beet greens are edible and are packed with nutritional value, but they have to be prepared separately from the beet. If the greens are left on during storage, they will draw moisture from the beat causing them to shrivel and lose flavor. Cut the greens off, leaving a one-inch stem on the beet to retain moisture and nutrients.</p>	<ul style="list-style-type: none"> • Demonstrate cutting the greens and leaving a one-inch stem.

What You Say:	What you do:
<p>Why should we eat beets?</p> <p>Beets are rich in folate, Folate has been found to help prevent neural-tube birth defects and aids in the fight against heart disease.</p> <p>Beets also have both soluble and insoluble fiber. Insoluble fiber helps to keep our intestinal tract running smoothly. Soluble fiber helps to keep our blood sugar and blood cholesterol levels in check, the beet greens are a good source of Vitamin A, which helps to keep our eyes and skin healthy.</p>	<ul style="list-style-type: none"> • Call on participants that want to answer.
<p>How do we eat beets?</p> <p>First, we need to wash the beets carefully under cool running water without breaking the skin. Breaks and tears allow color and nutrients to escape. Beets are known for their red pigment, which stains towels, cutting boards, sinks and skin. Salt easily removes the stains from hands or you may want to eat disposable gloves.</p> <p>After cooking and cooling, the beet skin can be rubbed off.</p>	
<p>Beets can be microwaved, steamed, boiled, pickled, roasted or eaten raw. Beets of different sizes cook at different rates. Select beets uniform in size to prevent overcooking. Beets are done when they are easily ricked with a fork.</p> <p>When eating raw, the beets only need to be scrubbed and sliced as thin as possible or grated.</p>	

What You Say:	What you do:
<p>To bake: Pierce and wrap in foil. Bake at 350 degrees F for 45-90 minutes.</p> <p>To grill: Place ½-inch thick slices in a plastic bag and drizzled with olive oil and seasoning. Shake to coat. Put slices on skewers over a preheated grill. Cook 15-20 minutes.</p> <p>To microwave: place 2-3 small beets in a small amount of water. Microwave on High 8-15 minutes or until tender.</p> <p>To roast Place ½ inch thick slices in a plastic bag. Drizzle with olive oil seasoning. Shake bag and coat beets. Place beets on a baking sheet and roast at 400 degrees for 30-40 minutes.</p> <p>Salad Greens: Beet greens can be used much like spinach. Rinse the leaves well before adding them to salad.</p> <p>Borscht is a popular soup made from beets that can be served cold in the summer or warm in the winter.</p> <p>In order to enhance their natural flavor, beets can be seasoned with allspice, basil, cinnamon, cloves, dill weed, ginger or nutmeg.</p>	
<p>Beets can also be frozen. To do so, first choose tender young beets. Wash them gently under cool running water. Trim the tops, leaving a one-inch stem and the small root. Cook in boiling water until tender, 25-45 minutes. Cool right away in cold water. Rub the peel away and trim the stem. Cut the cooled beets into cubes or slices. Place in freezer bags, seal and freeze.</p>	
<p>Beets are also available in the store in canned and pickled form</p>	<ul style="list-style-type: none"> • If possible, show a can of cooked beets and a container of pickled beets.

Use this page if you are going to prepare Beets with Dijon Dressing

Equipment List

- Knife
- Bowls
- Measuring spoons
- Roasting pan
- Timer
- Liquid Measuring cup
- Whisk
- Cutting board
- Disposable gloves

What You Say:	What You Do:
<p>Today we are going to make Beets with Dijon Dressing.</p> <p>What is the first thing we need to do before we begin? (Answer: Wash hands)</p>	<ul style="list-style-type: none"> • Go over handwashing from the resource section.
<p>Let's read through the recipe to see what steps we need to do. The oven will need to be preheated.</p>	<ul style="list-style-type: none"> • Pass out the recipe and read through together for understanding. Ask someone to turn the oven on.
<p>We are going to wash the beets first. Remember that we need to wash them gently in order not to break the skin. Breaks and tears allow the color and nutrients to escape.</p>	<ul style="list-style-type: none"> • Allow participants to tell how to wash vegetables. Refer to Resource section - Washing fruits and vegetables.
<p>The recipe tells us to toss the contents of the bowl. What does the cooking term "toss" mean? (Answer: to combine ingredients with a lifting motion)</p>	<ul style="list-style-type: none"> • Call on someone who would like to answer.
<p>We are going to roast the beets. Does anyone know the definition for the cooking term "roast"? (Answer: to cook by dry heat in an oven)</p>	<ul style="list-style-type: none"> • Call on someone who would like to answer.

Use this page if you are going to prepare Red Beet and Apple Salad

Equipment List

- Knife
- Grater
- Small bowl
- Large bowl
- Measuring spoons
- Spoon

What You Say:	What You Do:
Today we are going to make Red Beet and Apple Salad. Before we begin food preparation, what do we need to do? (Answer: wash our hands)	<ul style="list-style-type: none"> • Refer to the Handwashing guide in the resource section.
Let's read through the recipe so we know what steps we are going to do.	<ul style="list-style-type: none"> • Pass out the recipe and read it through together.
How many food groups are represented in this recipe? (Answer: 2-vegetable group – beets, and fruit group – apples) According to MyPlate, we should be filling half of our plate with fruits and vegetables. Depending on our age and gender, 1-3 cups of vegetables and 1-2 cups of fruit are recommended daily.	<ul style="list-style-type: none"> • Allow participants to answer. • Show the MyPlate poster and the Daily Fruit and vegetable Table
The first step in this recipe is to wash the beets. It also states that the beet can be peeled if desired. How will we wash the beet? (Answer: gently under cool running water) If we choose to peel the beet, how will we do that step? (Answer: use a knife or vegetable peeler)	<ul style="list-style-type: none"> • Allow participants to answer.
What does the cooking term "grate" mean? (Answer: to rub on a grater that separates the food into various sizes of bits or shreds) We will be doing this to both the beets and the apples.	<ul style="list-style-type: none"> • Call on someone who would like to answer.
For the dressing we will mix the honey and lemon juice together. The recipe says we can add salt to taste.	
Salt is one thing we need to watch in the foods we eat. Our bodies do need salt, but too much can lead to high blood pressure and possibly cardio vascular disease.	
Dietary guidelines recommend that people over the age of 14 limit sodium intake to 2,300 mg per day (about 1 teaspoon). Individuals who already have high blood pressure should limit sodium intake to 1,500 mg per day. Sodium is in many foods we eat and can be especially high in boxed meals, canned soups and vegetables. It is important to check the nutrition facts labels for sodium. If the daily value for sodium is higher than 20%, that means it is high in sodium. Look for foods that are 5% or lower in sodium. Use spices and herbs to season foods at home. You can get creative with cooking and find different flavor combinations you and your family like.	<ul style="list-style-type: none"> • If possible, show a few food labels to look at the sodium content.
If you recall from the lesson, allspice, basil, cinnamon, cloves, dill weed, ginger and nutmeg were suggested to enhance the natural flavor of beets.	<ul style="list-style-type: none"> • Prepare the recipe with participants.

Visuals



Beet growing in the ground



Beetroot and greens



Yellow beets



A beet cut in half

Beets Nutrition Information

Type	Serving Size/Weight in grams	Calories	Fiber (g)	Vitamin A (International Units)	Vitamin C (mg)	Potassium (mg)	Folate (mcg)
Beets, cooked	½ cup 85 g	37	1.7	2%	3	259	68
Beet greens, cooked	½ cup 72 g	19	2.1	n/a	18	654	10
Daily Recommendations RDA=Recommended daily allowance AI=Adequate intake	1-2 cup servings of fruit per day depending on age	Varies according to age and activity level	AI (depending on age) ranges from 14-33.6 g	Daily Value based on a 2,000 calorie per day diet	RDA (depending on age) ranges from 25-90 mg	AI (depending on age) ranges from 3000-4700 mg)	RDA (depending on age) ranges from 150-400 mcg)

Daily Fruit Table

Daily Recommendation*		
Children	2-3 years old	1 cup
	4-8 years old	1 to 1 ½ cups
Girls	9-13 years old	1 ½ cups
	14-18 years old	1 ½ cups
Boys	9-13 years old	1 ½ cups
	14-18 years old	2 cups
Women	19-30 years old	2 cups
	31-50 years old	1 ½ cups
	51+ years old	1 ½ cups
Men	19-30 years old	2 cups
	31-50 years old	2 cups
	51+ years old	2 cups

Daily Vegetable Table

Daily Recommendation*		
Children	2-3 years old	1 cup
	4-8 years old	1 ½ cups
Girls	9-13 years old	2 cups
	14-18 years old	2 ½ cups
Boys	9-13 years old	2 ½ cups
	14-18 years old	3 cups
Women	19-30 years old	2 ½ cups
	31-50 years old	2 ½ cups
	51+ years old	2 cups
Men	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	2 ½ cups

Daily Dairy Table

Daily recommendation		
Children	2-3 years old	2 cups
	4-8 years old	2 ½ cups
Girls	9-13 years old	3 cups
	14-18 years old	3 cups
Boys	9-13 years old	3 cups
	14-18 years old	3 cups
Women	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	3 cups
Men	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	3 cups

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate.

<https://www.choosemyplate.gov>

Handwashing

Washing hands often and properly helps kill harmful bacteria. We need to wash our hands before starting to work in the kitchen and prior to handling food. To wash properly follow these steps:

1. Wet hands well with warm water.
2. Add soap.
3. Scrub hands, wrists, fingernails, and between fingers for at least 20 seconds. To measure 20 seconds, sing the Happy Birthday song twice OR sing the ABC song.
4. Rinse hands thoroughly.
5. Dry hands with a clean paper towel.
6. Use the paper towel to turn the water off.
7. Discard the paper towel.



Washing Fruits and Vegetables

- Start with clean hands. Wash hands for 20 seconds with soap and water before and after preparing fresh produce.
- All fruits and vegetables should be washed before eating. This includes produce purchased from the grocery store, farmer's market, or produce grown at home.
- Wash fruits and vegetables under cool running water just before eating, cutting or cooking.
- Even produce that is going to be peeled before eating needs to be washed first.
- Scrub firm produce, such as melons, cucumbers and carrots with a clean produce brush.
- After washing, dry the produce with a clean cloth or paper towel, this may remove even more bacteria that may be present.
- Cut away any bruised or damaged areas before preparing or eating. Produce that is moldy or that looks rotten should be thrown away.

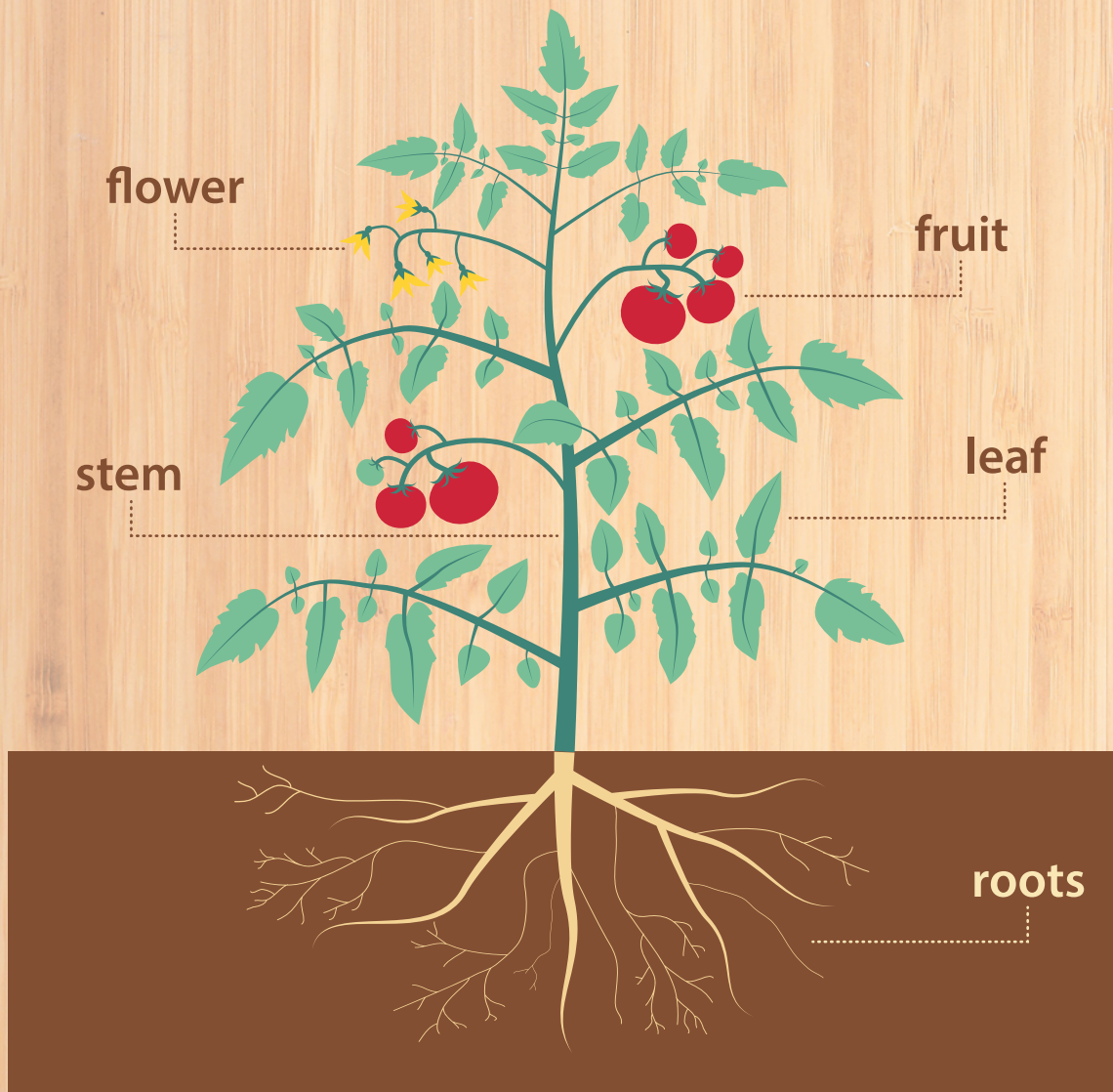


Oven Use and Safety

- Position oven racks before preheating the oven.
- Give your oven time to preheat to the proper temperature before placing the food to be cooked in the oven.
- Bake items on a rack placed in the middle of the oven for more even cooking.
- Keep a close eye on food cooking inside an oven.
- Use potholders or oven mitts when handling hot pots, pans or baking sheets. Do not use a dish towel for a potholder.
- Place hot dishes on a hot pad or cooling rack after taking them from the oven so they do not burn counter or table tops.
- If there is an oven fire, turn the oven off and keep the oven door closed. Call for emergency help.

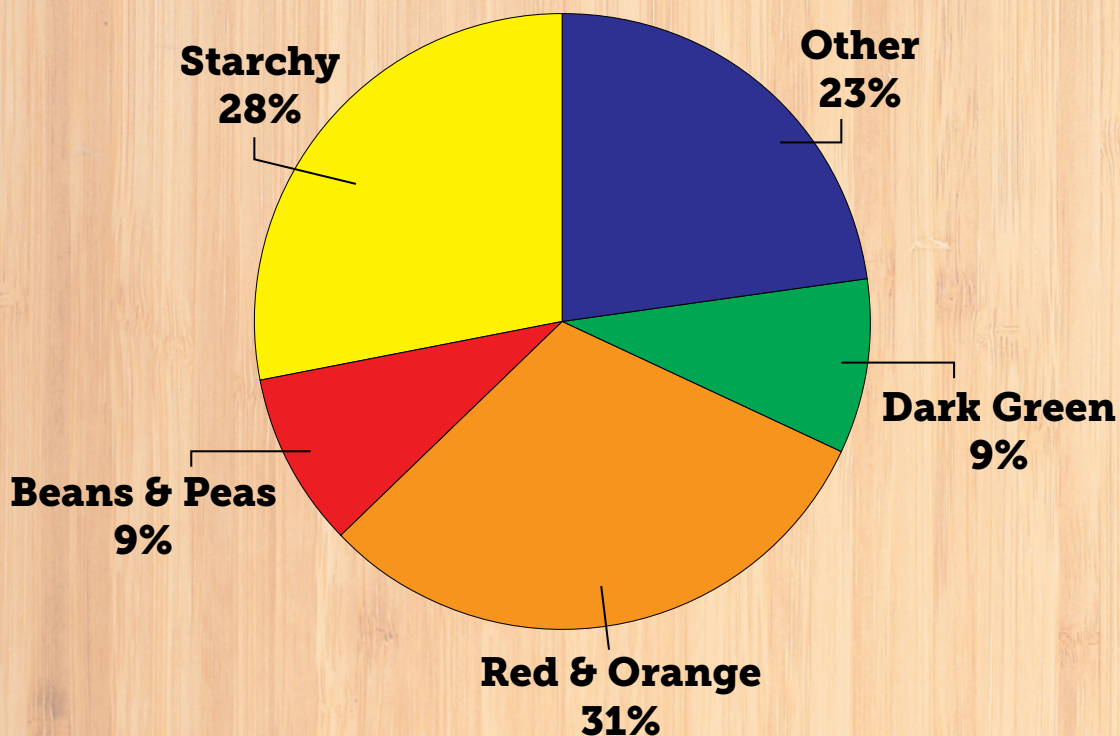


Parts of a Plant





Vegetable Subgroups



Examples of each group:

Dark Green: spinach, broccoli, kale, mixed greens

Red and Orange: acorn squash, bell peppers, pumpkin, sweet potatoes, tomatoes

Beans and Peas: Black beans, chickpeas, black-eyed peas, lentils, soy beans

Starchy: corn, green peas, white potatoes, parsnips, water chestnuts

Other: zucchini, cucumber, green beans, asparagus, cabbage, mushrooms

Beet Sources

Information

- www.pickyourown.org
- <https://extension.illinois.edu/veggies>
- www.msuextension.org

Recipe

- www.eatfresh.org

Cooking terms

- https://www.d.umn.edu/~alphanu/cookery/glossary_cooking.html

Lakota translation:

- Translate by Jeshua Estes