The goal of the How to Nourish With lesson series is to provide adults and older children with helpful information and demonstrations about selecting, preparing, cooking with, and storing vegetables. This basic knowledge may encourage families to include vegetables more often as a mainstay of family meals and snacks.

Objectives:

1. Adults will explain a health benefit provided by root vegetables.
2. Adults will explain how to select root vegetables.
3. Adults will discuss cost- and time- effective strategies for incorporating root vegetables into family meals.
4. Adults will discuss preparation and storage techniques of root vegetables, including cleaning, trimming, cooking, and storing.
5. Adults will make and taste food that includes root vegetables.

Total Time: ~1 hour

Materials

- Chalk/dry-erase marker or marker and paper for writing a list
- If budget allows, bring one of each of the following root vegetables for display and identification (If budget does not allow, there are pictures at the end of the lesson plan):
  - Rutabaga
  - Carrot
  - Potato
  - Parsnip
  - Turnip
  - Beet
- Vegetable brush
- Recipe ingredients
- Plates, forks, napkins
- Ingredients for Mashed Root Vegetables recipe

Preparation Required

- Review lesson plan.
- Make a copy of the handout for each participant.
- Preheat the oven to 400°F.
LESSON PLAN

***Begin the Mashed Root Vegetables recipe: Preheat the oven, cut root vegetables, place in oven. Invite participants to help clean, cut, etc. ***

Introduction: Who knows root vegetables?
Time: 5-10 minutes

- Thank everyone for taking the time to come to class to learn about root vegetables. Briefly explain what you are doing with the recipe.
- **Ask the class:** Who knows what root vegetables are?
  - Have the class raise their hand according to the answer to the questions. This will also aid in gauging how detailed the lesson should be.
  - Explain that the participants should not be shy if they have not heard of root vegetables. After all, they came to the class to learn more about them.
- **Ask the class:** Please name as many root vegetables as you can.
  - Write the answers on the chalk/whiteboard or on a large piece of paper. Answers may include:
    - Parsnips
    - Carrots
    - Potatoes
    - Rutabaga
    - Turnips
    - Beets
    - Radishes
    - Jicama
    - Sweet potato

- **Ask the class:** If someone were to approach you in the grocery store and ask you about root vegetables, how would you describe them? In other words, what do you think of when you think of root vegetables?
  - They taste “earthy” (like dirt, like minerals).
  - They take a long time to cook.
  - They taste great roasted.

- Explain that you are going to talk more about root vegetables so that those who are unfamiliar will get familiar and those who already know about root vegetables will learn more.
- **Ask the class:** Which root vegetables have you tried? Recently?

***Stir root vegetables around (10 minutes into cooking). ***

Objective 1: Adults will explain a health benefit provided by root vegetables.
Activity: Nutrition fact discussion
Time: 5 minutes

- Explain that you would first like to talk about the health benefits of root vegetables, particularly the fact that they are high in fiber.
- **Ask the class:** Why is fiber important to your health?
  - Fiber helps you feel full longer because it slows digestion. If you feel full longer, you will likely cut down on your calorie consumption because you will tend to eat less.
  - Scientific research has shown that adequate fiber consumption helps prevent colon cancer and other digestive problems.
  - Fiber helps prevent constipation. If you or people in your family are constipated often, it is a good idea to increase your fiber. Eating root vegetables is a delicious way to do it.
Objective 2: Adults will explain how to select root vegetables.
Activity: Root vegetable identification and selection discussion
Time: 5-10 minutes

- Part of knowing about selection is knowing which root vegetable you are selecting. We will briefly go through each of the root vegetables and come up with ways to help you remember which is which.
  - Carrot: Display carrot. Is there anyone who needs help remembering what a carrot looks like?
  - Parsnip: Display parsnip. A good way to remember what a parsnip looks like is that it is very similar to a carrot except that it has a creamy white or tan color. They come in many sizes and shapes from long and skinny to short and fat. The parsnip is sweet and was used as a sweetener before the development of the sugar beet in the 19th century. It has a celery-like fragrance and a somewhat nutty flavor. The whiter ones tend to be more tender.
  - Rutabaga: Display rutabaga. They are also called “Swedes”. They have a yellow complexion. Many people mash rutabagas like mashed potatoes. The smaller ones have a sweeter taste.
  - Turnip: Display turnip. It looks a lot like a rutabaga but is a smaller cousin of the rutabaga. Turnips have higher water content than rutabagas. Turnips are purple on the top where the leaves were attached and are a whitish color near the roots. Turnip greens (leaves) are also good to eat either boiled or sautéed.
  - Radish: Display radish. Radishes are crisp with a peppery flavor and are usually eaten raw. Most have bright red skin with white, crunchy flesh. They mature from seed to salad in about 3 weeks.
  - Beet: Display beet. Beets have a distinctive “earthy” flavor that is enhanced by cooking. Beets are also sweet. Their greens are good, too. An interesting side note is that eating beets can temporarily turn your urine (pee) and stools (poop) pink or red; however, it only happens in about 14% of the population. It is said that the color change is dependent on how many beets you eat and your genetics. (This may be appropriate to share depending on your audience. Many people think they have a disease after they eat beets for the first time because of the change in their urine and feces. Clearing this up for them will prepare them for a new experience.)
  - Sweet potato: Display sweet potato. Sweet potatoes are naturally sweet and taste great mashed or baked. In terms of preparation, they behave a lot like regular russet potatoes. Technically, yams and sweet potatoes are two completely different vegetables that are not related. True yams are not available in the United States. The vegetable in the grocery store that is called a yam is actually a sweet potato.
  - Jicama: Display jicama. Jicama is also known as the Mexican Potato. It is very crisp and watery and tastes somewhat like a water chestnut. It can be eaten raw or cooked, plain or with a dip.

- Ask the class: What are some of your suggestions as to how we can remember which is which?
  - Rutabaga, for example, sounds like “root that’s bigger,” so you can remember that it looks like a turnip, but is bigger.
  - Radish is “reddish”.
  - A turnip “turned up” looking like a rutabaga.
- Do a quick quiz with the class. Hold up the different pictures or vegetables one at a time to quiz the group.
Even though root vegetables are different, there are some general guidelines to selecting high-quality root vegetables.

- Look for firm vegetables. If they are mushy or feel limp, it means they are old.
- They should be heavy for their size.

***Turn root vegetables with spatula (20 minutes into cooking). ***

Objective 3: Adults will discuss cost- and time-effective strategies for incorporating root vegetables into family meals.

Activity: Idea sharing

Time: 5-10 minutes

- **Ask the class:** How can using root vegetables help you save time and money?
  - Root vegetables can be left alone while you bake or roast them, giving you time to do something else while they are cooking.
  - Most root vegetables are quite inexpensive and very filling, so they can be added to meals to stretch the amount of people the meal feeds, or can be served as a delicious side dish.

- **Ask the class:** In what ways do you currently use root vegetables in your cooking?
  - Make a list on the board so that people can write down ideas on their worksheet as desired.
    - Stews, soups
    - Pot pies
    - Roasting
    - Raw, on a veggie platter
    - In a salad
    - Mashed

Objective 4: Adults will discuss preparation and storage techniques of root vegetables, including cleaning, trimming, cooking, and storing.

Activity: Discussion

Time: 10-15 minutes

**Cleaning**

- Scrub root vegetables with a vegetable brush (a brush that is not used for cleaning dishes) to remove dirt residue.
- Peeling root vegetables is not always necessary but may be preferred in some cases. It’s not true that most of the vitamins and minerals are in the peel, but it is true that peels are rich in fiber.
- Potatoes, sweet potatoes, radishes, parsnips and carrots (wash before eating) can be eaten with the peel on.

**Storage**

- The key to storing root vegetables in general is to keep them in a cool, dry place, like a root cellar.
- Most root vegetables last for months. if stored properly.
- If you don’t have a root cellar, you can store them in a cool basement or garage.
  - When storing them, your first concern should be temperature; about 50°F is ideal. Do not allow to freeze or they will spoil.
  - Your second concern should be humidity.
  - Some people use large boxes and fill them with dampened sawdust between layers of root vegetables. This helps keep the cool temperature constant instead of fluctuating. You can go and retrieve vegetables form your homemade root cellar and repack the sawdust around the remaining root vegetables. If you want to learn more about root cellaring, you may want to
read the book Root Cellaring: Natural Cold Storage of Fruits and Vegetables by Mike and Nancy Bubel.

- If you want to store them for a few weeks, you can wrap them in plastic and put them in the refrigerator.

**Preparation**

- **Roasting**
  - Roasting is a classic way to prepare root vegetables and exemplifies their rich, sweet flavor.
  - Root vegetables are perfect for preparing and using during the winter season when other vegetables are expensive and must be imported. Root vegetables are grown in the United States and are inexpensive.
  - Stir-frying and roasting are great dry, high-heat ways to develop amazing flavor. The high heat will cause a reaction that caramelizes the surface of the food. A brown crust is developed on the outside that seals in moisture and flavor. Cooking root vegetables in the microwave does not do their flavor justice.
  - To roast, cut the root vegetables into uniform chunks.
  - You can get great flavor by roasting 4 or 5 different root vegetables together, including onions, which also sweeten during the roasting process.
  - Toss the vegetables with some olive oil, about 2 teaspoons per 3-4 cups of vegetables, to roast the vegetables. If oil is not used, the vegetables will burn rather than caramelize.
  - Heat the oven to 400°F and roast for at least 30 minutes, stirring every 10 minutes. Add some salt and pepper as desired.
  - Rutabagas can be roasted with maple syrup, salt, and pepper until slightly crispy as a breakfast treat.
  - Leftover roasted vegetable chunks can be added to soups or casseroles, or can be pureed and used as the base for a hearty soup.

- **Mashing**
  - Mash root vegetables either as individuals or together. Mash them after roasting for the best flavor profile.

- **Raw**
  - Carrots and turnips can be eaten raw.
  - Carrots do not need to be peeled if they are well-scrubbed.
  - Turnips should be peeled whether eaten raw or cooked.

**Objective 5:** Adults will make and taste food that includes root vegetables.

**Activity:** Taste Mashed Root Vegetables

**Time:** 5 minutes

- Plate some of the root vegetable pieces before mashing the rest so participants can compare appearance and flavors.
- Mash together the remainder of the roasted root vegetables, inviting a few participants to help you prepare them.
- Serve the root vegetables to the participants to taste.
- **Ask the class:** What do you enjoy about this recipe? Do you think your family would like this?
- **Ask the class:** What might you change about this recipe so your family will like it?
- Thank the participants for attending the class and answer any questions.
Rutabagas

Turnips

Carrots

Parsnips

Beets

Radishes
Sweet potato

Jicama
“Root” for your new favorite vegetable.

<table>
<thead>
<tr>
<th>Types</th>
<th>Choose it.</th>
<th>Use it.</th>
<th>Prep it.</th>
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Notes:

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Mashed Root Vegetables

½ lb. (1 1/2-2 cups) sweet potatoes, scrubbed and cubed
½ lb. (1 1/2-2 cups) parsnips, peeled and cubed
½ lb. (1 1/2-2 cups) celery root or another root vegetable, peeled and cubed
1 pound Idaho potatoes, scrubbed and cubed
salt
pepper
3 tablespoons butter or margarine
½ cup milk
Other spices to taste

Preheat the oven to 400°F.

In a mixing bowl, toss all vegetables with the oil. Season with salt and pepper. Place on a baking sheet and roast for 40 to 50 minutes or until golden brown, turning every 10 minutes with a spatula. Mash roasted vegetables and butter in a large bowl and stir and mash until the butter melts completely. Add the milk and stir to mix. Serve hot.

Brown Sugar-Glazed Beets

Adapted from Eating Well magazine, Feb 2009

3 tablespoons dark brown sugar
2 tablespoons orange juice
1 tablespoon butter
1/4 teaspoon salt
1/4 teaspoon freshly ground pepper
3 cups steamed cubed beets*, 1/2 to 1-inch cubes

Combine brown sugar, orange juice, butter, salt and pepper in a large nonstick skillet. Cook over medium heat until the sugar and butter are melted and starting to bubble. Stir in beets and cook until most of the liquid has evaporated and the beets are coated with glaze, 6 to 8 minutes. Serve hot or warm.

*To steam beets: Trim greens and root end; peel the skin with a vegetable peeler. Cut beets into 1/2 to 1-inch thick cubes, wedges, or slices. Place in a steamer basket over one inch of boiling water in a large pot. Cover and steam over high heat until tender, 10 to 15 minutes. You can also boil beets whole until fork tender. The skins will slip off easily after allowing them to cool... then you don't have to turn your hands so red!

**The red pigment in beets will stain your clothes, hands, and cutting board. Because the pigment is water-soluble, it should come out with a little soap and water.

Remember that you can easily add leftover cubed root vegetables to casseroles, soups, and pot pies.

You don’t have to mash ‘em to love ‘em! Get your favorite root vegetables together, cut them into cubes that are roughly the same size, and roast, following the steps above (except the mashing part, of course).