

Feed the Garden , Feed Ourselves



Grade Level: Adaptable for 2-5
Total Lesson Time: 30-40 minutes

Lesson Overview

This lesson focuses on how plants help maintain soil health through cover cropping and decomposition. Students participate in an introductory discussion about sources of food, decomposition, and healthy soil. Then they help spread compost on their garden and plant a cover crop of winter rye. They also eat a healthy snack of vegetable quesadillas (see attached recipe). To complete the lesson in 45 minutes it is necessary to have an extra adult to prepare the quesadillas while students are working in the garden.

Objectives

Students will:

1. Understand the need to maintain healthy soil to produce healthy food (Science F.4.1, H.4.1)
2. Understand how food connects people to the natural environment (Science F.4.4)
3. Know how to make healthy food choices (WI.N.C, WI.N.E; Health A.4.3, B.4.1)

Preparation

1. Collect materials
2. Purchase and prepare ingredients for the quesadillas. If the corn is raw or frozen, partially cook it ahead of time.
3. Students may get dirty spreading compost on the garden. Let parents know in advance so students can dress appropriately.
4. Students will need to wash up a bit after the garden activity and before enjoying their snack.

Materials

Food

- 8" tortillas
- Shredded cheese
- Corn (Fresh off the cob, frozen, or canned)
- Grated carrots
- Refried beans
- Cooking oil or spray

Supplies

- Napkins
- Knife
- Plates
- Hotplate and fry pan, or electric griddle
- Compost
- Shovels
- Winter Rye Seeds (or another cover crop)
- Copies of Quesadilla recipe

Wisconsin Homegrown Lunch is a joint project of:



REAP Food Group:
www.reapfoodgroup.org

UW-Madison Center for Integrated
Agricultural Systems: www.cias.wisc.edu



Procedure

Discussion

Gather in or near your garden for a discussion. Ask students how nutrients get into plants and/or into the foods we eat? We know fruits and vegetables are healthy for us because they are full of vitamins and minerals, but where do those nutrients come from? (If you've used previous lessons from this curriculum, this may be a review.) Nutrients are absorbed into the plants roots along with water in the soil. Then those nutrients are transported throughout the plant.

Next, ask students: If plants get nutrients from the soil, where does soil get nutrients? To help students answer this we used some leading questions such as: What time of year do plants grow? What happens to plants in the Fall? What happens to plants when they die? One of the primary ways soil gets nutrients is from plants that decompose. Have students pick up a handful of compost and examine it. What do they see? There should be small pieces of decomposing plants, leaves, or twigs. As dead plants breakdown, with the help of worms and microorganisms, they become soil and supply nutrients that then help grow new plants and healthy food for us. This is one of nature's many cycles, and one that we rely on to grow and live.

Spreading Compost

One way people can help return nutrients to the soil is by composting and spreading the compost on our gardens and in farm fields. Include students in this process by having them spread handfuls or shovels full of compost onto the garden creating a thin layer on top of the existing soil.

Planting the Cover Crop

Another way to return nutrients to the soil is by growing a cover crop or "green manure" and tilling that crop into the soil where it will decompose. Common cover crops include clover, vetch, oats, and barley. If you are planting a cover crop in the fall, as we did for this lesson, winter rye and winter wheat are hardy plants that will grow in cool weather and can be tilled under in the spring. We used winter rye.

Ask students to remind you what time of year we usually grow plants outside in Wisconsin. What will happen if you plant seeds in the fall? The winter rye seeds are "magic" seeds because they grow in cold weather, unlike most plants.

Have each student take a small handful of seeds, examine them a bit, and then toss them on the garden. It's always nice to wish the seeds well. Ask students what they might want to say to the seeds in order to help them grow. We said, "Good luck little seeds!"

Finally, have students spread a bit more compost to cover the seeds to protect them from being eaten by birds or wash away by rain. Total coverage is not necessary, but it is helpful.

Wash up

Students should stop to wash up and sanitize their hands before eating the snack.

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Quesadillas

See the attached recipe for quantities and directions. While eating the snack, ask students which ingredients come from plants? All of them, including the cheese because cows eat plants in order to produce milk. You may also ask students to identify all the plant parts that are represented in the quesadilla: seeds (beans, corn, and wheat in the tortillas) and roots (carrots). Most importantly however, students should enjoy the healthy snack and be given a copy of the recipe to take home.

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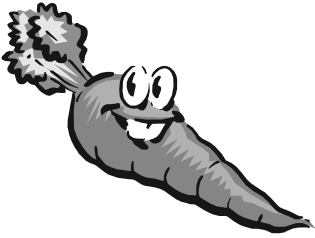
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Carrot & Corn Quesadilla

Recipe feeds 4 students a snack size portion.



Ingredients

How Much?

Tortilla	2 each
Refried Beans	2 Tablespoons
Corn	1 Tablespoon
Carrots (shredded)	1 Tablespoon
Cheese (shredded)	1 Tablespoon

Directions:

1. Spread tortilla with refried beans.
2. If needed, shred carrots and cheese.
3. Add corn, shredded carrots and cheese on top of beans.
4. Place 2nd tortilla on top of filling.
5. Spray skillet and cook quesadilla on each side for about 2 minutes or until light brown and crispy.
6. Cut into four triangles and enjoy!