

MATERIALS

- (2) 5-gallon buckets
- (1) Spading fork
- (1) Pruning shears
- (6) Pint boxes
- (4) Peck baskets
- (2) Hand scrubbers
- Harvest knife
- Damp cloth

PREPARATION

- Assess quantities of produce in the garden and the needs of other teachers. Modify lesson accordingly.
- Place spading fork by carrot bed; Place garden scissors and peck baskets by squash bed; Place pint boxes by tomato bed.
- Fill (2) 5-gallon buckets with water and place by carrot bed. Label as "1" and "2" Place hand scrubbers and one peck basket covered with a damp cloth next to the buckets.

PROCEDURE

Part 1: As a class, tour each of the following stations, modeling each of the harvest methods for the students.

Tomato Station

- Look for tomatoes that are deeply colored and have no cracks or disease spots. (Cracked cherry tomatoes should not be put in a pint box. They will spoil easily and contaminate the other tomatoes.)
- "Tomatoes are harvested by hand." Gently pick one off the vine, being careful not to crush it. Remove the calyx (the green "cap") and place the tomato into a pint box.
- "Store tomatoes at room temp and wash them just before eating (not sooner). If you want to eat it right off the plant, you don't even need to wash it." Gently pick a leaf of basil off a plant, wrap it around a cherry tomato, and eat it. Encourage students to do the same when they harvest. Suggest that it's like the fresh ingredients in pizza.

Carrot Station

- "Carrots are roots and grow underneath the soil. They are harvested with a spading fork." Insert the spading fork into the soil about 6 in. away from the section of carrots with the tallest tops. Pull back on it to loosen the soil around the carrots. Pull a carrot from the loosened ground, and use your hands to brush off as much dirt as possible.
- "Wash and dry carrots before storing them in a cool place." Dunk each carrot into two consecutive buckets of water. Use the scrubber to clean the carrot in Bucket 1. Rinse off the carrot in Bucket 2. Place the cleaned carrot into the peck basket covered with a damp cloth.

Winter Squash and Popcorn Station

- "Winter Squash is cut from the vine with pruning shears." Identify a squash with hard skin. Using the pruning shears, cut the stem of one winter squash about an inch from the point where it meets the squash. Brush off any dirt off with your hand, and place the squash in the peck basket. "Squash is cured by keeping it at room temperature for about two weeks. Then, we move it to a cool pantry." Each group will harvest one squash.
- "Popcorn is harvested by hand when the husks of the popcorn have turned yellow or even brown." Remove ears of corn by gently grasping the corn stalk alongside the ear with one hand and pulling down on the ear with the other hand. It will snap off at the base. Peel back the husk (without removing). "Tie husks together and hang out of direct sunlight for 2-6 weeks. Then remove kernels and transfer to a sealed container."

Broccoli Station

- "Broccoli is harvested with a harvest knife by adults." Identify a broccoli head that is firm and at least the size of an adult fist. Using a harvest knife, cut 6 in. below the base of the head. Inspect for worms. Students will not harvest broccoli, but can go to the broccoli station in their groups if there is an adult with each small group.

Part 2: Split the class into three groups. Move groups through the stations on a 7 minute rotation schedule.

- Tomatoes: each group fills one to two pint boxes.
- Carrots: one/student.
- Squash/Popcorn: One squash per group. The rest of the students in the group harvest popcorn. (Harvesting these will not take as long as the other activities. When the group finishes, they can make a list of other crops that look ready for harvest in the garden.)

ENGAGE

Riding a bicycle, Using a knife, Building a fire, Swimming... What can go wrong when doing these things? Rate the danger on a scale of 1-10. Why do we keep doing them if they're dangerous? What do we do to make these activities a little safer? Eating food can have its own dangers. People have gotten sick from meat, spinach, peanut butter, strawberries... Today we're going to talk about the ways that we make our food safe so that we can enjoy eating produce right out of the garden.

OBJECTIVES

- Students will be able to harvest produce safely.
- Students will be able to weigh the costs and benefits of eating produce without washing it.
- Students will be able to decide whether the risk of eating produce from the garden has been minimized to an acceptable level.

EXPLAIN

Food Safety in the Garden

Take these precautions to keep garden produce safe from contamination: 1) *Clean your tools*. There are four tools used for harvesting: spading fork, pruning shears, knife, and your own two hands. All except the first should be washed with warm soapy water for 20 seconds before harvesting. Students with open cuts or wounds on their extremities should not participate in harvest. 2) *Use potable water*. Do not water leafy crops with compost tea or with water from the rain barrel (if you have one). Be sure to water only the roots of fruiting plants (not the fruits). Both compost tea and rain barrel water can harbor harmful organisms, and rain barrels can be contaminated with heavy metals from roofing materials. Also, only use potable water to rinse dirty produce. Water for rinsing should be 10° warmer than the internal temperature of the produce. 3) *Look for scat*. Neighborhood cats are prone to use a garden bed as a litter box. Also, birds can poo on crops. Inspect beds for feces before harvest. If you find any, remove it and the crop around it. 4) *Compost damaged produce*. Do not harvest overly soft fruits (such as tomatoes) whose skins are broken. Use any produce damaged during harvest ASAP. 5) *Know what you are eating*. Poisonous weeds can grow right next to edible crops. Don't put it in your mouth unless you know what it is.

A few notes on eating from the garden...

Food safety is a significant concern as our agricultural system scales up. Our food passes through many hands from field to plate, and one misstep can turn into a widespread outbreak. In addition, industrial agriculture often creates conditions that can grow organisms more harmful than those you could grow in your backyard. The risks associated with a properly managed school garden, however, are very low, especially when there is no raw manure in the garden and no raw meat in the kitchen. Students should be encouraged to eat straight from plants that bear their edible portions above the soil (e.g. sugar snap peas and tomatoes). Too often, students are afraid to get their hands dirty. Encourage them to enjoy the pleasure of a sun-warmed tomato straight from the vine. In a properly managed chemical-free garden the only reason to wash produce is to rinse off visible dirt.

ADDITIONAL CONTENT INTEGRATION *(see previous page)*

Before Part 1, introduce the five ways food is contaminated in the garden. Then, after Part 2 is complete, gather in circle and ask students to list some of the crops growing in the garden. Record their answers on the left side of a piece of chart paper, leaving space for two columns on the right. Label the columns • *Eat in Garden?* • *Wash?* Discuss each crop and decide whether it can be eaten straight from the garden without washing.

ADDITIONAL MATERIALS

- Chart paper
- Marker
- Cleaning solution: 3 cups water, 2T castile soap, 1T white vinegar

EVALUATE

Exit Slip: What five rules do we follow to make eating from the garden less risky?