



Unit 4: Food Safety and Garden Activities

Gardens come in many shapes and sizes. They can be small or large, inside the classroom or outside in the school yard. Garden activities are a core component of any farm to preschool program and a great way to expose young children to the healthful world of fruits and vegetables.

[Film] *When we do the farm to garden activities with children it allows children who otherwise may not want to eat these kinds of foods, they're part of the experience. They get so excited to see how a seed sprouts, how it then grows into a green thing. We can put it in the garden and with carrots, even children who, you know, we have baby carrots on a regular basis. We've had them with hummus, we've had just carrots to be able to taste. If they've come from the garden and we've scrubbed them and made them an opportunity where they've been part of the process they're much more willing to give it a try.*

Farm to preschool programs allow children to taste fruits and vegetables, learn how they are grown, and participate in the excitement of a garden to classroom harvest. Some of the many benefits are increasing access to fruits and vegetables, introducing new varieties of fruits and vegetables to children, and blending cross curricular activities such as science and nutrition.

While the garden is a great setting for learning it is important to be aware of food safety risks. Because the risk of foodborne illness can increase when fruits and vegetables are not handled, cleaned, and stored properly it is important to keep in mind that regardless of where the produce is farmed or sold fresh fruits and vegetables all carry a risk of foodborne illness.

In this unit Food Safety and Garden Activities you will learn how to make your garden activities food safe. By the end of this unit you will be able to identify safe soil, water, and compost practices when gardening. Identify proper handling, cleaning, and storage procedures when harvesting from your garden. Distinguish between safe and unsafe storage containers for the produce. Describe good personal hygiene practices to prevent cross contamination.

Good food safety practices in the garden begin at the planning phase. But even before you start it is important to be aware of local rules and regulations. Check local resources through your state's cooperative extension master gardener program and farm to school programs for ideas and recommendations.



Citing the garden is an important first step. Make sure it is located away from garbage cans, septic systems, and areas where wildlife and farm animals roam. It is also critical to know the composition of your soil that you plan to use because lead and other contaminants can be harmful to children's development. In a recent survey conducted by the University of Massachusetts and the University of New Hampshire of early childcare educators in Massachusetts and New Hampshire only 36% indicated that the soil in their center's garden had been tested for lead. If your soil is contaminated alternative methods might include raised beds or container gardens to hold soil you need to bring in.

To learn more about how to test for contaminants refer to the Resources section of this training. Take a moment now to update your Best Practices planning tool. Once you have answered these questions close the forum and continue with the training.

Compost is the result of the breakdown of organic matter and is used in gardens as a rich source of organic nutrients. If compost is used in your garden make sure it comes from approved sources. It is always best to use commercially prepared compost. Compost is often collected to reduce kitchen and classroom food waste and must be handled properly to prevent the buildup of harmful pathogens. If your center does composting on site it is very important to make sure it is prepared properly and does not include animal products or animal waste. Compost should be kept at 104° Fahrenheit for at least five days with the internal temperature reaching a minimum of 131° Fahrenheit for at least five hours to remove pathogens. A compost thermometer should be used to test the internal temperature of the compost pile. These thermometers have a very long stem allowing the temperature to be taken deep inside the compost pile. To reduce exposure to contaminants when handling compost it is recommended that both adults and children should wear gloves. Be sure to wash hands first before putting gloves on. While wearing gloves can provide a great barrier they are not foolproof. So always wash your hands after removing them.

Only potable water which is water safe to drink from municipal or public water supplies should be used to water the garden, wash fresh produce, or wash hands. Be sure to identify an appropriate water source for the garden early in the planning stages. Recycled water or collecting water runoff should not be used in a garden when produce is to be consumed. The water is not potable and can be a major source of contamination. If your center uses well water it is important to have the water tested yearly to check for contamination.



Now that you have learned about planning, compost, and water for your garden take a few minutes to update your Best Practices planning tool. Click on the Best Practices icon now to continue the unit.

When in the garden children and educators will be touching soils, tools, and fresh produce. To reduce the cross contamination everyone should wash their hands before and directly after all garden activities. Plan time for children to do this right away when gardening activities are over. Better yet, set up a hand washing station outside near the garden with potable running water stocked with soap and paper towels. To learn how to set up an easy and inexpensive outdoor hand washing station refer to the Resources section of this training.

Hand washing should follow these basic steps.

- One, wet hands with water and apply soap.
- Two rub hands together so that later forms. Be sure to scrub well between fingers and around nails.
- Three, rub hands for at least 20 seconds.
- Four, rinse hands with warm water.
- Five, use a paper towel to dry hands.

The question of hand washing versus hand sanitizer comes up often. Using hand sanitizer is not a replacement for hand washing. Sanitizing does not remove dirt or debris on hands. Sanitizer is not effective when hands are dirty.

Click on the Sharing Board icon and take a few minutes to explore the Food Safety and Garden Activities sharing board question. Once you have posted a response to a question or responded to someone else's post you will be able to continue with the training.

While we encourage children to eat more fresh fruits and vegetables it is not safe to eat them straight from the garden. Eating unwashed produce exposes children to harmful pathogens from the soil, compost, or other substances in contact with the soil. As with produce purchased at the grocery store, produce picked from the garden also needs to be washed with potable water before eating.

When harvesting produce from the school garden be sure to use food safe containers. Food safe means that the container has been manufactured specifically for contact with food. Plastic food storage bags or plastic tubs with snap on lids are common examples of food safe containers. Always wash your containers thoroughly before filling them with food. Garbage cans, garbage



bags, or buckets are not manufactured to contain food. Any containers that have held chemicals should never be used to harvest or store fresh produce.

[Film] Fresh fruits and vegetables go into the refrigerator unwashed. If you wash them before putting them in they may actually be prime for mold growth or spoilage and also microbial growth.

Keep in mind that berries are more delicate than other fruits and vegetables and should only be washed prior to eating. Berries washed before storing can quickly become moldy.

Storing fresh produce is an important step in the food handling process. Produce that requires refrigeration should be stored at temperatures of 41°F or less. Produce stored at room temperature such as onions and potatoes should be placed in a cool, dry, well-ventilated area. All food and produce should be stored away from chemicals.

Sometimes parents and members of the local community like to donate fresh produce. This may be a welcome gesture but food safety should be a priority. Follow these steps for accepting fresh produce donations. Check to make sure your local and state health regulations allow you to accept food donations. And create a list of guidelines for growing, handling, and harvesting fresh produce.

To learn more about guidelines for accepting donations refer to the Resources section of this training. Congratulations on completing Unit 4 Food Safety and Gardening Activities. What steps can you take over the next year to meet your best practices goals? Click on the Best Practices icon now and add your future goals to your Best Practices planning tool.