

Building & Maintaining School Gardens

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School Gardens: Getting Started

As a FoodCorps service member, you will be working with your school community to support school gardens. This may mean building a garden from scratch or maintaining or enhancing an existing garden. The tips in this section will help you in this effort while you're at your school and help you plan for a garden that will thrive even after your service term has ended.

School gardens have succeeded in all kinds of places—in both cold and warm climates and in urban, suburban, and rural communities. School gardens exist in schools with no bare ground and in schools with acres of land. Schools of all types have adapted strategies that work for them, tailoring gardens to fit their needs. The crucial ingredient is a core of passionate people invested in seeing the garden succeed over time.

Building a Garden Team

Teamwork is essential to a thriving school garden program. Consider involving the following people in your garden support efforts: teachers, parents, community members, local businesses, and—of course—the students themselves! See the “Key Relationships in FoodCorps Service” section of this guide for tips on connecting with these key players.

Setting Your Garden Goals

Establishing a Common Vision

Before building a garden, it is important to recognize that gardens require a long-term commitment. Gather the people interested in developing or maintaining a garden, and ask yourselves the following: What, ultimately, do we want this garden to be? What is its purpose? How will it connect to the goals of FoodCorps, the school, the students and families, etc.? How will students and staff use and care for it? What will it look like at the end of this year? What will it look like in three to five years? How will we get there?

Dream Big; Start Small

It is ideal to start with a vision that excites all stakeholders and is also manageable for you as a FoodCorps service member and for any other people involved. Although you may have visions of a mini-farm or a greenhouse, the best way to realize your dreams may be to start with a single garden bed and a compost bin. Remember, a tremendous amount of learning and discovery can happen with just a few seeds, a watering can, and small patch of earth.

Choosing a Site for a New Garden

Thriving school gardens come in all shapes and sizes, from a planter box outside the classroom to a sprawling mini-farm overtaking the corner of a field. A dedicated team can transform almost any site, from a dirt parking lot to a school courtyard, into a flourishing school garden. Whether large or small, here are a few things to consider when choosing your garden site:

- **Sunlight:** Most vegetables, herbs, and flowers need a minimum of six hours of full sun. Check possible garden sites for sun exposure at different times of the day, and take note of objects (such as buildings or trees) that might block light in different seasons when the sun is lower or higher in the sky. If you decide to include shady spots in your garden, you can use them for shade gardens, wildlife habitats, or teaching areas for hot, sunny days.
- **Water:** The garden should be close to a water spigot.
- **Drainage:** Both slope and soil type affect drainage. Avoid steep slopes. If that's not possible, consider terracing or raised beds. Also, try to avoid planting a garden in a low spot where puddles form in wet weather.
- **Soil:** If you are building in a space that has been developed in the past, it is essential to test the soil for lead contamination. Soil naturally contains low levels of lead, but exposure to paint or other building materials predating 1978, or exposure to runoff from roads or parking lots, can increase lead to harmful levels. To be safe, it's best to test any potential school garden site. Contact your county health department or Cooperative Extension office for information on testing. If your soil is toxic, it will be important to keep the entire garden in containers, where the toxins from the ground cannot leach into the garden soil. It's also a good idea to test your soil for nutrient content, pH, and texture (sand, silt, and clay content). You can buy a do-it-yourself soil test kit at a garden center, or contact your local Cooperative Extension office for information on where you can send your soil for testing. This information will help later in determining what, if any, amendments you should add when preparing to plant. Local County Master Gardeners are a great resource for helping new gardeners figure this out.
- **Accessibility:** Generally, if your garden is a short walk from the classroom, there will be more teacher involvement than if the site is a long trek across the school grounds. A garden close to the classroom makes it more convenient, more visible, and easier to incorporate into the curriculum on a regular basis. For the early grades, garden beds or planter boxes right outside the classroom work especially well. "Out of sight, out of mind" can apply to

gardens that aren't in a central, visible location.

- **Security:** If possible, it can be useful to locate your garden in sight of classrooms and neighbors. Fences and natural borders of plants, if they don't obstruct visibility and hide intruders, can also provide security. Make use of existing fences, trees, and hedges in selecting your site.

Designing a School Garden

Once you have selected the garden site, it's time to design the garden itself. You can organize your garden in a variety of ways. Many school gardens have individual beds for each class to plan, plant, care for, and harvest together as well as communal areas (such as a pumpkin patch) for the entire school to develop together. In addition to planting areas, many school gardens include sinks, tables, gathering areas, and other components.

Involving Students and Community

As a FoodCorps service member, you can facilitate a team of students and community members in designing the garden together. This approach maximizes student ownership and buy-in and ensures that the garden reflects their ideas and perspectives. Many schools encourage each class to design their own vision of the garden, and pick the best elements of each for the final plan.

When planning your site, be sure to seek out parents or other community members who will lend their expertise to your projects. Among them you may find a local garden supply store owner or garden club member who will volunteer to assist you in laying out the garden plan. You may also find a parent who is an irrigation expert willing to make suggestions about the garden's water needs and systems or a carpenter who can help you build a tool shed.

Garden Components

Possible School Garden Elements

- Outdoor class meeting area:** Designate a shaded area with adequate seating for class discussion, writing, and drawing. An area with deciduous trees works well—in winter, you have light and warmth; in summer, you have shade!
- Small group gathering areas:** If possible, leave some spaces open in the garden so that you have room for students to gather in small groups at activity stations.
- Bed(s) for each classroom:** Make beds no more than three feet wide so students can reach into the center of the bed and work without stepping on the plants and compacting the soil.
- Community growing area for schoolwide projects or plantings:** These can include a cut-flower growing area, herb garden, market garden, and specialty areas such as a pumpkin patch or plantings that attract butterflies and birds.
- Compost area:** Composting is a great way to turn garden waste into valuable soil amendments and teach about decomposition. If possible, set aside an area for collecting compost materials and building compost piles. You can never have too much of this important garden ingredient.
- Tool shed or storage area:** A tool shed or storage area provides a central location where you can clean, organize, and protect tools and equipment. If you plan to build a shed or other structure on your site, be sure to consult whoever in your district oversees building for information about any building codes relevant to your plan. Make sure all projects meet fire and electrical safety code requirements.
- Sink(s):** A sink in the garden makes washing hands and produce much easier. Make sure the water is potable (drinkable). Some school gardens use an old donated sink and build a stand for it with two-by-fours with a drainage pipe running under the nearest tree.
- Garden signs:** No matter what size your garden is, make a sign to give it an identity within the school and neighborhood. Signs help identify your school

garden as an outdoor learning center, announce times the garden is open, and provide rules and guidelines for using the space. Ask students to design the logo or drawing that will appear on their sign. Let a student construction committee make the sign. In addition to the overall garden sign, have your students design a sign for their class bed.

- Work tables:** Tables are essential for many garden lessons and projects.

Other Elements You Might Include

- Food-prep area:** An outdoor table or counter and sink can make it much easier to harvest, wash, prep, and enjoy foods together in the garden. If power is available, you can add blenders and other appliances. If possible, you can also add a gas stove for cooking on site.
- Greenhouse or cold frame:** A greenhouse or cold frame is a protected place for starting seedlings in a controlled environment and helps extend the growing season, particularly in cold climates. You can also set up an indoor growing area in your classroom.
- Theme beds:** Theme beds can include all the ingredients for a recipe (e.g., a salad bed, salsa bed, or pizza bed), or they can contain plants that have something in common, such as a bed of butterfly attracting plants or a bed for tea plants. Specifically, nutrition-themed beds could include an Eat-the-Rainbow bed or a MyPlate.
- Animal habitats:** Including elements such as bird baths, bird houses, native shrubs, trees, or a pond can welcome beneficial wildlife to your garden as well as provide an opportunity for your students to observe ecological interactions.
- Elements of whimsy and play:** Students easily connect with a garden that includes unique and kid-centered elements such as animal footprints in a cement path, wind chimes, suncatchers, a tunnel covered in vines, a special spot reserved for digging, or a tree with musical instruments hanging from its branches.

Container Gardens

Outdoor Container Gardens

If your school doesn't have a large, unpaved space for a garden, you can create a productive outdoor garden using containers filled with soil. These container gardens can provide herbs, vegetables, and flowers for your students all year long and can be set up over pavement or soil.

A wide variety of containers can be used, including fruit crates, wine barrels, cement blocks, buckets, trash cans, old baskets, bathtubs, coolers, wheelbarrows, and even old boots! You can brainstorm possibilities and gather supplies with your students and community members. Here's a note about tires: Tires are a popular type of container for growing flowers but should not be used to grow food because they can leach harmful chemicals into the soil.

If the containers you're using have solid bases, punch or drill holes in the bottom for drainage. Fill containers with a light planting mix rather than soil. You can purchase planting mix at garden centers or make your own by combining equal parts sterilized loam soil; peat moss; and coarse sand, perlite, or vermiculite.

Choose your plants carefully. Consider small plant varieties that are suited to containers. Think about how big the mature plants will be when deciding how many to plant per container. Large plants, such as tomatoes or squash, should be grown in containers that hold over 4 gallons of soil. Small containers are suitable for shallow-rooted crops such as lettuce, spinach, onions, strawberries, and herbs.

Indoor Container Gardens

If space issues or climate make it impossible to set up an outdoor garden, consider gardening in the classroom. An indoor garden has the advantage of being accessible to students even when time is short or weather is uncooperative.

Consult a manual such as the National Gardening Association's *GrowLab: A Complete Guide to Gardening in the Classroom* for detailed information and design ideas, or visit its website at <https://www.gardeners.com/buy/growlab-activities/8593682.html> for information on premade indoor garden setups.

Delivering enough light to your plants is the primary consideration in designing an indoor garden. Most windowsills don't receive enough light to grow vegetables but may be able to successfully grow a variety of houseplants. If you want to grow vegetables, flowers, or herbs, hang fluorescent lights over your indoor garden.

Outdoor Safety

If you are working outdoors in the sun and in warm temperatures, keep the following in mind:

- ✓ Students should wear sunscreen and sunglasses.
- ✓ Ensure students have sun protection like hats with brims.
- ✓ Light colored clothing will help repel the sun.
- ✓ Make sure students have regular access to water.
- ✓ Allow students to regularly rest in the shade.
- ✓ Monitor students for signs of heat-stroke or exhaustion: fatigue, weakness, irritability, sweating, or fever.

If you are working with students in cold temperatures, be sure that they have plenty of warm layers, proper insulated or waterproof footwear, and a warm hat or rain gear. Allow students to go inside if they are cold, with adult supervision and a preplanned backup activity

General Garden Safety

- Become familiar with poisonous plants, insects, and animals in your area. Monitor for these in the garden, and remove them when necessary.
- Keep an eye out for fungus, mold, or dust that can irritate students with allergies or asthma and remove these when necessary.

- If you plan to use manure to amend your soil, purchase only manure that has been sterilized or fully composted (not just “aged”). Manure can contain *E. coli* or other disease-causing pathogens if it hasn’t been sterilized or fully composted.
- Ensure students wash their hands after handling compost, worms, other animals, soil, or the like.
- Check with the grounds and maintenance staff to see if any pesticides or nonorganic fertilizers are used on the school grounds. If so, find out what they are, and check for “Keep out of reach of children” labels. Students should not be allowed in areas where these have been applied.
- Monitor the garden for signs of pests, like rodents, or pets that may visit unobserved. These animals can leave unwanted waste behind.
- Be aware of the water quality you are using to rinse produce and clean children’s hands.
- Don’t use treated lumber, granite, or rubber tires for raised garden-bed borders because they often contain toxins that are dangerous for human ingestion or contact.

Gardening Tool Safety

Before students use any garden tool, whether it’s a shovel, spade, or rake, demonstrate how to use your arms to make sure you are at least one arm’s length away from all other people when using the tool.

- **Tools with sharp ends:** Demonstrate how to hold the tool by the handle with the sharp end down, ensure that the sharp end is far from your toes, and then push the sharp end into a green plant to chop it up to show the sharpness of the tool. For tools like hand shears, demonstrate how to unlock and lock the shears. Also model how to hold only the handles and keep both hands (as well as all parts of your body!) away from the sharp parts at all times. Also model how to keep your eyes on the area where you’re working. This will help you avoid accidentally hitting someone’s hand with your trowel or flinging soil into anyone’s eyes.

- **Tools like digging forks:** Demonstrate how to lift the tines of the digging fork to the top of the pile that has been dug, but no higher, emphasizing that these tines are hard and sharp and belong far away from our heads, faces, etc.
- **Hammers:** If students are using tools like a hammer, emphasize that this tool is heavy and that it’s important to remain focused on the object being hammered. Demonstrate how to hold the tool with both hands to avoid hammering fingers.
- **Tool storage:** Always be sure that your tools are stored in a secure location. This will prevent them from disappearing or from being used inappropriately.

It is best to have students wear protective equipment.

- ✓ Wear clear safety glasses (or sunglasses) on projects where eyes need protection.
- ✓ Wear covered shoes while working in the garden.
- ✓ A dust mask should be on hand for use during potentially dusty jobs, such as turning compost. Have water on hand to flush eyes, if necessary.
- ✓ If possible, have sturdy work gloves available for use with tools such as shovels and rakes.

Harvesting Safety

Before students harvest any plants for eating, be sure to instruct them in how to identify the plant, and emphasize that they only harvest plants that they can identify. If they aren’t sure what the plant looks like, they should check with an adult first. Always ensure that students are eating a plant that can be identified as edible (and not a weed that snuck into the garden, which can potentially be poisonous). Also be sure to check that students are eating the part of the plant that is supposed to be eaten (e.g., the rhubarb stalk is edible, but rhubarb leaves are poisonous). Have students wash their hands before harvesting and collect items in a clean container.

SOURCING EQUIPMENT AND SUPPLIES

Basic Garden Tools and Supplies

- spades
- long-handled shovels
- digging forks
- hoes
- rakes
- buckets
- trowels
- hand rakes
- hula hoes
- clippers
- loppers
- wheelbarrows
- watering cans
- hoses/nozzles
- other irrigation supplies
- scissors
- sharp knife
- tool cleaning brushes
- clipboards
- plant labels
- twine
- stakes
- gopher wire and/or gopher baskets
- gloves (child and adult sizes)

The quantity of each sort of gardening tool you buy will depend on your budget and the scale of your program. Quality tools, even though they cost a little more, will hold up under the wear and tear youngsters often give them. If possible, acquire child-size tools, along with full-size tools for teachers and parents to use.

A local garden supply business or a local charitable organization may donate tools. Many schools have found garden tools at local flea markets and garage sales; one school placed a small notice in its local paper and was given the contents of a barn full of equipment. Other schools have had success using tools such as Freecycle, a network connecting people who have a need with people who have an item to give away. Visit www.freecycle.org/ to find a Freecycle group in your area. You can also consider borrowing or renting items you will only need once, such as a rototiller or a post hole digger.

Lumber and Other Building Supplies

You can approach a local lumber company about providing materials or offering a discount on materials for fencing, raised beds, or a tool shed; a parent may have the skills needed to design these elements and/or lead a volunteer work party in construction.

Seeds and Plants

Seeds are an ongoing need for a school garden. Many seed companies are happy to give away expired seeds to school gardens, and most seeds are still viable the year after they expire. Some are viable for many years. You could initiate a letter-writing campaign with your students to contact seed companies requesting donations.

Sometimes you will want to acquire plants for your garden instead of sowing seeds yourself. Home gardeners in the area may be delighted to pass on divisions of their perennials; garden centers may be willing to donate seedlings.

Compost

Check with your local waste management department; where green waste is collected, it is often composted and distributed for free or at a low cost. Mulch, in the form of wood chips, may also be available.