Step 2: Planning and Developing the School Garden

Starting a garden can be a very exciting project. The following provides some suggestions to aid in creating a successful garden. But before you get started with Step 2, revisit Step 1, Appendix 1: Sample School Garden Assessment. Reaffirm the purpose and goals with the school garden team, confirm that you and the team have the full support of school administration, and keep them apprised of the garden’s process in Step 2.

By now, members of your school garden team have provided numerous ideas for the garden and probably know where the garden will be located. Now, evaluate the proposed site; recommend a design for the garden; assess needed supplies and materials; determine budget need; finalize the design and budget; and, finally, build the garden. Sounds easy enough, but before you get started—do your homework: visit other school gardens and hold multiple planning meetings such as a meeting on the “garden vision and design.” And most importantly, develop strategies to engage teachers, families, and students in the process. Involving others will take more time and effort in the short term, but these individuals (teachers and volunteers) will be critical to the long-term sustainability of the garden.

Step 2, Activity 1. Assess Garden Site

Soil: A necessary, nonhuman resource for a sustainable garden is the soil—have it tested. The success of your school garden will depend in large part on the quality of the soil available. Soil for your school garden should have a loose and airy texture with lots of organic material to hold water for roots to grow. It is very important to complete a soil test if the land being used has not been previously tested. Given the school garden will involve working with young children, it is especially important to check for lead in the soil. NMSU has a soil-testing laboratory to test soil for lead, other metals, or contaminants. Contact them at http://swatlab.nmsu.edu. You can call them to determine the price and procedure for having the soil tested. School garden soils should be tested for both toxicity and nutrient content. Separate tests are required for resident soil and for soil that is imported (before using it) to fill raised beds. If you’re using an interior courtyard, soil compaction created during building construction and subsequent use will limit the soil depth of your garden beds, thus requiring extra planning and work to overcome. Consult with a master gardener on methods to deal with excess soil compaction.

Plants: What do you want to grow? What are the favorite foods of the students? Think about the time year, what will grow, and what plants you would like to grow. This will help you choose how much space you need.

Think Location: Where will the garden be grown? In southern New Mexico, location is crucial to prevent damage from the sun, strong wind, or poor soil quality. Contacting a master gardener is a great way to have a potential garden location assessed for
sustainability and longevity. Plenty of sunlight and well-drained, level soils are important factors in deciding where to put your garden. The site should also be fairly level to avoid erosion problems.

**Accessibility**: A garden that is close to classrooms can be used regularly. Can garden work be done without stepping on the soil where plants are growing? Is the garden accessible to all students (height, disability)?

**Soil Quality**: In Step 2, Activity 1 we recommended that you have your soil tested. Fruits and vegetables grow best in well-drained, fertile soil. Improving drainage and soil structure can help poor soil. Organic matter (compost, peat moss, manure, and decayed ground bark) mixed with tight soils will open them up and improve drainage.

**Sun**: At least six to eight hours of full sunlight daily is necessary to produce healthy, top-quality vegetables. Examine your space at different times of the day and year. If the best draining location has some shade, locate cool season crops (such as lettuce, radishes, carrots, and cabbage) in partial shade. Full sun is needed to grow such crops as sweet corn, snap beans, tomatoes, peppers, and squash.

**Water Supply**: Water is one of the most important needs of a garden. Is the garden located near a water source? If not, how will the garden get its water? Who will water in the summer? Make sure an adequate water supply is nearby. Water generously once each week with a one-inch application. You can set out a watering can with a one-inch mark inside to collect sprinkler water. By using this method, you will know when you have watered appropriately. If possible, consider installing an automatic timer on your watering system. Last, if your garden plot is located near a school building, you can collect rainwater from the eave spouts.

**Think Size**: Your garden's size depends on the kind and amount of vegetables desired, land availability, number of students utilizing it, and your time and funding commitment. A manageable size for a garden is 100 square feet (collectively), but smaller or larger spaces can be used. Make sure that your first garden is not TOO BIG!

**Time**: How much time are students being allotted to learn and work in the garden?

**Step 2, Activity 2: Design Your Garden**

Now that you have the support of the school principal; a committed and enthusiastic garden team that includes students, staff, parents, and volunteers; and have identified a good
location, it’s time to refine the design of your school garden. Invite students in each class to participate in the design. For example, have younger children design their ideal garden by using pictures cut out of seed catalogs. Have older students take measurements of the garden space to determine how much space is available versus how much space is needed to grow various plants, even if those plants are out of season.

Remember structures and established plantings in your growing area will affect the new plants around them. Different exposures or “microclimates” can help your garden grow to be healthy if used as shelter from southern New Mexico’s climate or can create more difficult growing conditions if plants are overexposed to sun and wind.

Following are sample questions to help you with your garden map/design:

- Given the season of the year, what edibles are recommended for growing?
- What will you grow?
- What structures (trellis, fence) or conditions (shade, certain soil types) do these plants need?
- How will your design reflect these needs?
- How can you plan the structures and planting to create ideal microclimates? For example, you might use climbing beans or sunflowers to shade other plants from strong western sun or plant lettuce on the east or north side of the tall-growing corn.
- Where are existing plants or structure? Of these, which will stay, and which will be eliminated?
- Where will the garden beds go? Where will walking paths go?
- Where will seating areas be?
- Where is water, and how will you access it?
- What signs do you need to identify the garden or plants?
- Where are fences needed?

There are numerous aspects to designing a garden, but one of the most important will be the type of garden beds you install. The garden’s location and purpose will help determine what type of beds to design, and your designated garden expert(s) on your team will more than likely know best from past experiences.

Appendix 5: Sample Garden Design Beds provides information on four common types of garden designs/beds in which to grow plants.

**Map it out – Draw it!** Once you have decided on the right garden design for your school, make a garden map, plan, or graph so you can make the best use of your garden space. A garden plan helps you organize ideas and needs for the coming season. As you develop your garden map, start making a list of needed materials and supplies that will be necessary to build the garden. A garden map will also prove useful after the growing season because you
will know where to plan for rotations of fruits and vegetables the following year. Crop rotation helps cut down on the build up and spread of diseases.

**Step 2, Activity 3: Finalize Garden Design and Budget**

This activity is a good job for a few of the garden team members to take on. Based on your garden design, developed a detailed list of materials and supplies necessary to build and maintain the proposed garden; and calculate the related cost. From this list determine what can likely be donated for free and what will likely have to be purchased. Worksheets provided in Appendix 6: Garden Materials, Supplies and Budget Worksheet can help you summarize this list.

This is also a good time to develop a “staffing plan” for garden participants. Growing a school garden is a great way to encourage parent and community participation in the educational process. Again, refer to Appendix 2: Volunteer Recruitment and Management for suggestions on volunteer recruitment and management — this is very important!

**Materials** – Where will you acquire the needed materials? With a little creativity and a list of needs drawn from your garden plan, many materials can be donated or accessed for free. Seeking recycled materials or other supplies from the businesses and others nearby provides a way for individuals to participate when they don’t have time to contribute.

**Supplies** – What supplies do you need? Typical materials include seed, plants, soil, tools, water related supplies such as hoses or drip irrigation, mulching materials, materials to build structures (raised beds, seating, shade structures), shade cloth, materials for staking large or tall plants, and curriculum/books/posters.

**Budget** – How much money do you need for your garden? How will you raise funds?

**IMPORTANT:** Before you do anything with the list, share the final garden design and budget with the school principal. He or she will likely want to know who is going to take care of this garden once it is built.

**Step 2, Activity 4. Build and Plant the Garden**

Regardless of your final garden design, building the garden can be a lot of work—and fun. Building your school garden can and

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**Helpful Tip:**

[www.grants.gov](http://www.grants.gov)

Grants.gov is your source to FIND and APPLY for federal grants. The U.S. Department of Health and Human Services is proud to be the managing partner for Grants.gov, an initiative that is having an unparalleled impact on the grant community.

Teachers who are interested in writing a possible grant or funding opportunities may contact:

Leslie Cervantes  
School-Community Partnerships  
Executive Director, Foundation  
Superintendent's Office  
Las Cruces Public Schools  
505 South Main Street, Suite 249  
Las Cruces, NM 88001  
(575) 527-5946 – office

- El Paso del Norte Foundation Garden Grants  
- LCPS Foundation School Garden Grants
should be a community event. Just like the rest of the previous activities, it is going to take a little effort, but organize a community workday to build your garden. Invite students, parents, staff, neighbors, local businesses, and elected officials.

Remember, it is important to allow children to participate in building their garden from the ground up without dependence on adults to haul in materials or provide equipment to prepare soil. Children also grow a connection with the living soil when they explore, observe, and struggle to dig small pieces of soil and turn them over. Kids that are great with an electronic device may be challenged to learn about managing a hand tool, but it is a lesson that will make connections to other basic skills.

Also, make sure you acknowledge the support of the principal, school staff, volunteers, and those individuals and businesses that donate materials and supplies.

**Loosening the Soil**

Compacted soil prevents plant roots from spreading and water from draining appropriately. Plants cannot thrive in this condition. Tilling with machinery is a popular method of loosening soil. Many school gardeners find they need to till when they first begin a garden to loosen compacted soil. However, many experienced gardeners discourage annual tilling because it disturbs the natural ecosystem of the soil, kills earthworms, and disintegrates the soil structure. Other less destructive methods for loosening soil include hand loosening with trowels, shovels, and pitchforks. Many schools find this method useful as it can involve many students. Students can also see the immediate results from working with hand tools. Schools can prevent soil compaction by minimizing walking on the soil. Mulching and adding compost regularly is the best long-term method in maintaining loose, healthy soil.

**Planting the Garden**

You might be tempted to plant your garden on the same day you have your community workday to build it, but we encourage you to resist this temptation. Remember, the students need to be involved in planting the garden. Try to involve as many classes and students as possible, even if their teachers don’t have immediate plans to use the garden as an outdoor classroom. Even students who help out in
the garden just occasionally are more likely to respect the garden when it starts to grow and produce. Students love to eat what they help grow in the garden and should be encouraged to do so.

Usually, the time of year and environment will dictate what can grow as well as where and when; each school will have to decide what crops are best for them. It is important that faculty and students have a say in what to grow because, ultimately, they will be the ones engaging with the garden as an outdoor classroom. Thus taking surveys and polls is a great way to hear from faculty, students, and volunteers to come to an agreement. For more information on themed gardens, planting schedules, and a school year planting calendar for growing edible plants, go to www.myhealthyschool.com.