



CHAPTER II. Building a School Garden into the Curriculum and Other Areas of School Interest

10 BENEFITS OF A SCHOOL GARDEN

1. Curriculum integration
2. Physical Activity
3. Cooperation and Community Development
4. School Beautification
5. Personal Development- Social Emotional
6. Nutrition Education and School Grown Food
7. Issues of Hunger
8. Artistic Expression
9. Wildlife and Habitat Restoration, Environmental Education
10. Promoting Local Agricultural and Healthy Food Systems

The benefits of a school garden program are often many and often evolve and become more apparent as the garden programs are implemented. Researching some of the possibilities and identifying your schools' interests will assist the garden committee in identifying goals and objectives as discussed in Chapter I. Identifying priorities can help address tasks, themes, and talking points about the garden. Below are some of the benefits a school garden may reap, along with activities to enrich these benefits.

1. CURRICULUM INTEGRATION

Often teachers start off the year with new curriculum, resource materials, and changing standards, so the key to successfully engaging teachers in using the garden comes through **enhancing** curriculum not adding curriculum. Gardens can interweave several academics on a single day or lesson. Science and math have clear connections with gardening, but all subject matter can be interwoven. English, reading, writing, foreign languages, culture and history can be incorporated into the garden program.

Examples of Curriculum Integration by Subject:

- **Science:** For elementary aged students and their curriculum, gardens can address physical and life science standards related to plant biology, life cycles, weather, ecosystems, water, decomposition, and the interrelationships between plants and humans. Upper grade levels can study biology, chemistry and botany in further depth in the school garden.
- **Math:** Gardens provide an excellent place for observation, data collection and experimentation. Math skills are obtained as we measure the growth of plants, trees, and plan for the dimensions of the garden. Comparing and contrasting the success of different plants and different conditions combine both science and math concepts.
- **English:** Reading and writing activities abound in a garden as they provide an often quiet, serene location for creativity and observation and a fresh subject matter for study. Gardens provide inspiration for poetry and storytelling.

- **Language** is incorporated with the study of plant names and their Latin roots.
- **History** shares an interesting and ever changing story about farming and gardening practices in different cultures and time periods. Examples of garden themes that enhance these are the Colorado History Garden, and Garden of Thyme and “Time.”
- **Culture:** Gardens provide an excellent means for celebrating, honoring, and educating on present day and past cultures. Promote multicultural education, with an emphasis on cultures in our region of the Southwest, by using a three sisters garden and/or a U.S. History Garden.
- **Horticulture:** Although developing Junior Master Gardeners may not be your school’s ultimate goal, a garden can teach conventional versus alternative gardening methods, local food issues, nutrition, optimal and challenging growing conditions, pest management, harvest practices and other related topics that illuminate elements of botany, science, environment and sociology.

2. PHYSICAL ACTIVITY

Shoveling compost, turning new soil, raking leaves, digging holes all provide a great physical outdoor activity for young bodies. Children of all ages can participate in the active garden chores no matter what the garden itself requires. Dividing physical projects into age appropriate tasks ensures that everyone can contribute.

Activities to Enrich Physical Activity:

- Invite students to wear a pedometer for a day in the garden.
- Create a ropes course or make shift obstacle course.
- Use logs, old tires, boulders to create an environment that encourages outdoor activity and play.
- Practice yoga in the garden with students, using poses such as tree pose, sunrise/sunset, or butterfly pose.
- Invite students to play out the lifecycle of plants. Students begin as a seed (huddled to the ground as ball), grow to a sprout (stretching out of the ball), and finally a full grown plant (stretching to the sky and swaying with the wind).

3. COOPERATION AND COMMUNITY DEVELOPMENT

A school garden cultivates relationships through classroom decision-making and teamwork. The more students are in agreement with a garden decision the more a garden will build interrelationships and opportunities to covet new leaders. Making a group decision is not often a quick process and will take patience and active listening from parents and teachers and students. If every class is involved and included in creating the garden, the school can celebrate its success as a whole.

Activities to Enrich Community Building:

- Share the harvest. Find unique ways to share the gardens' rewards by having a harvest party, sharing seeds for home use, or by incorporating food into a snack or school meal.
- Share the design by having students create their own garden theme, plant selection and placement or other design attributes.
- Share the load. Gardens carry work, responsibilities and daily chores. Use a handful of young students to move a single wheelbarrow. Shift the weight of heavy labor to older students or create a buddy system to get kids to work with kids of lesser skill or strength.
- Work towards a consensus. Choose a unique strategy depending on the age level and class character. Younger students may need to do a blind class vote, while older students can use other strategies and decision-making processes to get a consensus.

4. SCHOOL BEAUTIFICATION: ART AND THE GARDEN

Without much discussion, gardens are known for their beauty. Incorporating art in a schools' garden is an important piece to adding beauty to the garden and building the aesthetics especially in the off-season. The number of garden art activities are boundless. Below are just a few successfully tested projects.

Activities to Increase Beautification

- Research the school grounds and speak with the school's landscaping team or view the plans (if available) to incorporate the garden into the overall landscaping plan for the school.
- Use plants that provide structure and color through the winter season.
- Build handmade sign posts explaining where to go in the garden.
- Create handmade garden and plant signs using a plethora of weatherproof materials such as rock, metal, wood or laminated products.
- Add murals on tool sheds, school buildings (if permitted) and on garden gates. Mural design can use an entire team of students to complete the process.
- Add a picket fence project to your garden. Each student and teacher can be responsible for an individual picket and design. Use weatherproof paints or cover the pickets with a lacquer that will resist snow and rain accumulation.
- Weaving projects can be built to build arches or fences.
- Incorporate a peace pole into the garden. A peace pole can add color, architecture and culture to the school garden.

5. SOCIAL EMOTIONAL HEALTH AND WELLNESS

School gardens improve the social emotional health and wellness of our communities through the use of horticultural therapy practices. Gardens offer students a medium to release emotions and build self-empowerment. They teach lessons of trial and error and the meaning of reciprocity.

Horticultural therapy is the discipline of using gardening for its’ physical, mental, spiritual, and therapeutic benefits. The American Horticultural Therapy Association defines horticultural therapy as utilizing “professionally directed plant, gardening and nature activities for the purpose of improving human well-being” (www.ahta.org). Horticultural therapy has been shown to have great impact among underserved populations, including people with physical or mental disabilities, high-risk youth and older adults. The use of raised beds, adapted tools, and basket pulley systems allow students with physical limitations to utilize the garden.

Activities to Encourage Social Emotional Wellness

- Use the garden as a way to release stress, frustration, anger and hyper-activity. Gardening, similar to music and art, offers us a way to release our emotions without a conscious therapeutic agenda.
- Teach reciprocity by sharing with students the reciprocal relationships of plants and people. Explain how just as plants need water, food, light and constant attention to be healthy, so do people. Experience the importance of reciprocal relationships by witnessing the effects that a positive relationship can have on a garden.
- Use the garden as a place to make mistakes without judgment. Record your trials and errors as lesson for future school gardeners.
- A green thumb club can be integrated into the school program through providing in-class or after-school enrichment. Students may be appointed by a school counselor or teacher to join a garden or green thumb club. Students who may not excel in sports or academics could be perfect candidates for garden leaders.
- Build self-empowerment by giving youth a chance to see what hard work and dedication can produce. This sense of accomplishment builds self-esteem and self-respect.

6. NUTRITION EDUCATION

Fresh fruits and vegetables are the cornerstone to healthy eating. Fresh produce is filled with vital nutrients and vitamins for lifelong health. The carbohydrates from fruit and vegetables are necessary for energy; fiber maintains healthy digestive functions; and an array of vitamins and minerals are found only in fruits and vegetables. Homegrown (or school grown food) is also outstanding in its taste and local food has been proven to be healthier and fresher due to its short travel from field or garden to plate.

Providing early nutrition education to youth can make a profound impact on their future dietary habits. As health issues arise earlier and earlier, it is important to keep up with these challenges by combating obesity and cardiovascular disease with whole and nutrient dense foods. Research has proven that children who eat healthy foods while they are young have a greater chance of eating and enjoying healthier food later in life (Sears and Sears,1993). Every time we plant a seed or transplant into the garden, we are given an opportunity to teach the value of nutritious vegetables, fruits and herbs.

Activities to Enrich Nutritional Education:

- Invite dietitians and farmers to present on site workshops to youth and volunteers on food preservation, preparation and nutrition. Community kitchens may be available at your school or a nearby site to take the garden rewards into the kitchen.
- Invite an expert from [Turtle Lake Refuge](#), a local nonprofit organization, experienced in preserving and harvesting cultivated and wild foods. Ask them to present a class on harvesting local and wild-crafted food or visit the Turtle Lake kitchen to see how to use a large fruit juicer or dehydrate fruit and vegetables for winter use.
- Youth can make garden labels that indicate a plant's nutritional value along with other pertinent information on each vegetable or herb in the garden.
- A harvest party and open house demonstrates to the youth and their families that nutritious food can also be "tasty."
- Each month of the garden season can address an educational theme. Dedicate a theme or time of your garden season to talk about nutrition education and hunger.
- Fun nutrition lessons can be incorporated into the schools' lunch and snack time as youth can talk about who is eating leaves, roots, or flowers.
- Music can be a useful method of teaching younger students about nutritional education.
- Identify the use of the harvest (snack, salad bar, farm stand, etc.) as well as the time of planting and harvest for those foods. For a complete list of harvest times for Southwest Colorado visit www.sustainablecolorado.org/CFAreport/HarvestCalendar-2.pdf

7. ISSUES OF HUNGER

More than 12 million children are at risk of hunger in America; in Colorado, one in seven children are hungry or at risk for malnutrition. (Share Our Strength, www.strength.org) Gardening offers an opportunity to begin discussing with young students the issues of hunger and malnutrition. Lessons can be gleaned on the impact of locally grown foods' effect on alleviating hunger. They empower individuals to grow some of their own fresh fruits and vegetables; promote local food accessibility; and offer young people and adults an opportunity to give back to their community through providing local, healthy foods to those in greater need.

Activities to Teach Hunger Issues:

- A portion of the food grown by the school and youth gardens can be donated to the local soup kitchen. A sign, placed on the plot of food grown specifically for donation, will provide a continuous reminder what and for whom the food is being grown. Youth can choose an area of the garden or row or a specific crop that will be grown for the soup kitchen. Students can join the "Plant a row for the Hungry" campaign.

- Field trips to Manna Soup Kitchen will give students a hands-on reference to where their donated food is going. Manna also has their own gardens that may be available for school tours.
- Education on different plants and the various regions they are grown in will offer an opportunity to teach regional food issues, including hunger problems in other areas of the country.
- Participate in Share Our Strength's Operation Frontline (OFL). OFL is a 6-week cooking-based nutrition program, designed to teach low-income families how to prepare healthy, creative meals on a limited budget. Courses are free to participants and are taught by volunteer professional chefs and registered dietitians. Gardening components to the traditional OFL curriculum exist and can be incorporated. OFL is offered through the Colorado State University Extension Office in La Plata County.

9. WILDLIFE AND HABITAT RESTORATION AND ENVIRONMENTAL EDUCATION

“Environmental educations should illuminate the essential idea that all cultures have a relationship with the natural world which they and all others can draw upon for understanding and inspiration” (www.cityfarmer.org). A school's garden can have a direct impact on wildlife and can restore land impacted by traffic or construction. Gardens cultivate a nurturing relationship between youth and adults with the vegetation they plant, the wildlife they impact and thus the broader environment.

Examples of How Gardens Restore Healthy Habitats:

- Start by researching successful examples of schoolyard habitats. The National Wildlife Federation and Colorado Division of Wildlife both have programs and funding support to help schools create successful habitat restoration projects.
- Identify whether staff members have received training in Project Wet, Project Wild or Project Learning Tree. Or become a facilitator yourself. (To learn more about the curriculum, visit the national Project Wild at www.projectwild.org)
- Incorporate a bird and butterfly garden into the schoolyard that can serve as a prime habit for migrating and nesting birds and butterflies.
- Use Native shrubs to provide a source of nectar in the spring and summer.
- Add grasses to provide seeds and ground cover throughout the garden for ground nesters and wildflowers and other perennial native plants to provide larval food for birds and butterflies. Seeds from all these plants may provide a source for birds and small mammals.
- Incorporate specific gardens that display the varying growing climates in our areas such as the high desert, pinon juniper forest and the alpine and sub alpine forest that inhabits Southwest Colorado.
- Use companion planting, beneficial bugs that can create small ecosystems in the garden and teach the connections between all living things.

10. PROMOTING HEALTHY LOCAL FOOD SYSTEMS: HEALTHY COMMUNITIES

The implementation of school gardens contributes to a healthy local food system by increasing education, acceptance, cooperation, and the production of local food and agriculture. As food prices rise, energy becomes a greater global concern and in turn the economy suffers; healthy local food systems can combat these tough times. Food security is a critical component to the health of our region. La Plata County has defined food security as a situation “in which all people at all times have access to enough nutritious, safe, affordable, culturally-appropriate food produced in ways that are sustainable.” (La Plata County Food Assessment, 2007)

Activities to Build a Healthier Food System and Healthier Communities:

- Discuss the meaning of food security with students. Ask students what food security means to them, to their families.
- Examine the larger food system and the process of getting the food to the plate. Explore how far our food travels and how many hands our food touches before it reaches the table.
- Give local businesses and community members an opportunity to actively participate in their community. By gathering support from all facets of this community, a school or youth garden bridges gaps and builds ties between youth organizations, local businesses, public schools and other community organizations by providing a forum of community interaction.
- Share the garden with the community through the sharing or donating of vegetables, recipes and gardening and farming stories.
- Recognize the garden as a valuable visual and inspirational display of community support.