

School Garden Information for Planning and Sustainability

Provided by Master Gardeners Volunteers of
Cornell Cooperative Extension Orange County



Cornell Cooperative Extension | Orange County

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Strategic Planning

- Who will be on the planning committee
- Why do you want a school garden?
- How does a school garden fit into your curriculum?
- What type of garden do you want?
- Who will use the garden?
- Who will maintain the garden?
- What are your short-term goals?
- What are your long-term goals?
- Who are community partners to assist with the garden?
- Where can you obtain donations or funds for the garden?

Your committee should develop:

- **Mission Statement** (Your reason for having a garden)
- **Vision Statement** (over-arching short term goals to fulfill the Mission)
- Your short- and long-term garden goals
- a list of curriculum tie-ins
- some general rules for all to follow in the garden (limit to 3-5 garden rules)
- a binder or computer file of information to pass on to new members of the school garden committee
- a plan to get teachers, students, parents, & community partners involved.

Sustainability Plan for the Garden Program

Getting Organized:

- 1) Who is taking the lead/overseeing the garden (volunteers, teachers, parents, staff, and maintenance)?
- 2) Garden Committee Chairperson:
- 3) Sub committees:
 - a) Fundraising
 - b) Volunteer coordinator
 - c) Documentation/ handbook (to update and to hand down to future volunteers/staff)
 - d) In-service & Education
- 4) Do you have funding?
- 5) Where is the funding from?
 - a) National grant
 - b) Local grant
 - c) School budget
 - d) PTA budget
 - e) Local civic organization
 - f) Local grant
 - g) Other

About the Site:

- 6) Is there any open space available to you around your school or community for a garden? Any fencing?
- 7) If you do have available open space, check which of the following you have:

<input type="checkbox"/> landscaped garden	<input type="checkbox"/> unused parking lot/black top
<input type="checkbox"/> patch of dirt	<input type="checkbox"/> accessible roof
<input type="checkbox"/> concrete area around school	<input type="checkbox"/> grass area (adjacent to school)
<input type="checkbox"/> grass area (btw two buildings)	<input type="checkbox"/> courtyard
<input type="checkbox"/> other (please explain):	

- 8) What kind of light do these spaces receive?

☐ full sun (6 or more hours of direct sun a day)

☐ partial sun (2-6 hours of direct sun per day)

☐ shade (2 or less hours of direct sun per day)

- 9) Do any of these spaces have nearby water sources? If not, what is the closest water source available (you may need to check with your engineer)?

☐ yes ☐ no → How close? _____ feet

- 10) Do you know how safe your garden soil is? Check if:

☐ You have you had your soil tested for lead

- 11) Do you have a convenient and secure storage space for tools, hoses and carts?

☐ yes ☐ no → How close? _____ feet

Purpose of the Garden

12) How does or will the school use the garden?

___ Integrated into the curriculum

___ Individual lessons

___ After-school group(s)

___ Community gatherings

___ Used as an outdoor classroom (lessons not related to gardening)

___ Other (please explain):

13) If the garden is incorporated into the curriculum:

a) How?

b) What grades?

14) If the curriculum doesn't lead the garden, how can you do so? Who needs to be involved?

Keeping the Garden Growing Year after Year

- 15) Garden Clubs/ Community Service (before, during, after school? summer?)
- 16) Scouts- Girl Scout Gold/Silver/Bronze Awards / Boy Scout Eagle Awards
- 17) Volunteer Plan- who will coordinate this?
- 18) Maintenance plan – who will create and implement this?
- 19) Summer Maintenance Plan – who will care for the garden?
- 20) What kind of documentation or handbook will be written?
Who will create it (i.e. students, teachers, volunteers, etc.)?
If it's an ongoing process, who will oversee it?
- 21) Future funding sources
- 22) Future projects – expansion of the garden
- 23) How will you recruit more people, teachers, volunteers, etc. each school year?
Who will oversee this?
- 24) How could or will the garden be used in the summer or by after-hours staff programming?

25) Create a realistic timeline based on the questions you answered above:

[illegible]

Other Considerations:

- Does your school garden or community plot have a history?
 - Ask around and look for clues: are there tools or structures (like raised beds) that you could use for your garden?
 - Sometimes gardens exist at schools that all of the staff do not know about. Consider asking neighbors, older residents, retired teachers, or older students' families.
- There are many people to cultivate relationships with for a successful garden.
 - **School Administrators** – Support from your school's administration is essential; with it, you can make your garden incredible!
 - **Custodial Staff** – This person may be your greatest ally in the school for maintenance and enthusiasm (and it affects his/her job!). Talk to them and involve them in planning!
 - **Other School Staff** – Having at least two other school staff involved will keep you from being overwhelmed, ensure that the garden is used by more than one person, and will be your safety net if some of the original coordinators leave the school or community.
 - **Parents** – They can help work with you and your students in the garden.
 - **Surrounding Community** – By knocking on some doors, this group may offer the protection from vandalism and summer maintenance help that you will need.
 - **Local Organizations/Businesses** (including Local Garden Clubs) – They may be able to assist with funding, installation, and maintenance.
 - **Other School Gardens** – They can give you ideas about what has and hasn't worked for them.

Adapted from Cornell Cooperative Extension Rockland County.
(<https://rocklandcce.org/gardening>)

Checklist for a Good Garden Site

Does your garden have:

- ☐ Well-drained soil, free of heavy metals such as lead and arsenic
- ☐ Full sun and protection from wind
- ☐ Proximity to a water source
- ☐ Nearness to classrooms or other meeting place with seating and shade
- ☐ Storage space for tools and equipment
- ☐ Availability of additional space for composting, pathways, improvements, expansion, etc.
- ☐ Security from theft and vandalism (Do people who could watch over the site live nearby?)

Other things to consider:

- ☐ Are there on-site materials that need to be removed, such as blacktop or debris?
- ☐ Should you perform a soil test before planning? If so, contact your local Cooperative Extension Office.
- ☐ Will you build raised garden beds or plant directly into the ground?
- ☐ Is the site location safe for participants?
- ☐ Will you need a fence to prevent unwanted wildlife from entering?
- ☐ Is there a "garden guardian" who lives nearby who can watch over the site to help prevent theft or vandalism?
- ☐ Will you have a garden sign (or numerous signs) to educate visitors when no one is available to answer questions?
- ☐ How can you ensure the site is accessible to all?
- ☐ Is there easy access to nearby restrooms?
- ☐ Have you communicated with the custodial staff / groundskeepers?

Notes:

Designing For Children

A children's garden should be designed for children.
In the most practical way, it should suit their smaller stature.

- Raised beds should be no more than 3 feet wide
- Benches and other seating should be sized appropriately
- Garden maintenance should employ youth-sized tools.
- Themes that pique the interest of children, preferably suited to their penchant for fantasy, or adapted to familiar themes, such as a Peter Rabbit or an alphabet garden.
- Steppingstones that lead them into areas of the garden work well
- Incorporate clearly defined areas where they can get close to plants. Do not assume they will "stay out of the garden"— they will not, and you should not want them to.
- Avoid 'NO's (i.e. NO picking flowers, NO walking on the mulch, NO picking up stones, NO playing in the water, etc.).
- Key words related to planning for kids: multi-sensory; gross motor activity; vivid color; safety; eating and tasting opportunities; interactive; interesting surfaces, such as sand and water; and attention grabbers.

Young children enjoy vibrant color, like to be immersed in flowers, and enjoy having suitable places to hide, such as beanpole teepees. There are endless numbers of fun elements to add:

- Brightly colored structures; scarecrows; interesting seating elements; painted stumps; sculptures made by the children; and brightly colored tiles.
- Height can be added with beanpole teepees, arches, pergolas, and even treehouses or gazebos.

Themes that appeal to children:

- A to Z flower garden
- Art Garden
- Butterfly garden
- Children's literature themes (ex. Beatrix Potter Garden)
- Fairy Garden
- Garden of primary colors
- Herb garden

- House of sunflowers
- Moon Garden – use plants that bloom at night such as moonflower vine and flowering tobacco (*Nicotiana* spp.)
- Pizza garden
- Pond garden
- Salsa Garden
- Sensory garden – use plants have different textured leaves
- Sundial garden
- Teeny-tiny and giant garden
- Three Sisters Garden

Visit kidsgardening.org for even more youth-focused garden theme ideas

"I have found "thematic gardens" to be great sources of inspiration for designing educational gardens. For example, a rainbow-themed garden gives you an opportunity to integrate nutrition education by learning about the nutrient profiles of differently colored vegetables and fruits. A rainbow garden could also focus on flowers and weave in lessons on pollinators and beneficial insects that are each attracted to different flower colors and shapes. A second favorite thematic garden is a first aid garden to grow herbs and flowers that can be used as child-friendly medicine — calendula for making a healing salve, peppermint for brewing an iced tea, lavender for sewing a dream pouch... the list goes on!"

- Carolina Lukac, Garden Education Manager for the Vermont Community Garden Network Burlington, Vermont

Adapted from Cornell Garden-Based Learning
(<https://gardening.cals.cornell.edu/lessons/program-tools/>)

Possible Volunteer Opportunities

Commitment Level of Volunteers	Role or Project	# of volunteers needed	Time of Year
Long Term – Ongoing	Core Committee		
Long Term – Ongoing	School Staff		
Long Term – Ongoing	Garden Manager		
Long Term – Ongoing	Garden Administrator		
Seasonal: March - November	Watering		
Seasonal: March - November	Weeding		
Seasonal: March - November	Path Maintenance		
Seasonal: March - November	Garden Manager		
Seasonal: March - November	Educators (i.e. tours, lessons, etc.)		
Seasonal: March - November	Volunteer Coordinator		
One-Time	Sheet Mulching New Site		
One-Time	Installing Fence		
One-Time	Constructing Raised Beds		
One-Time	Filling Raised Beds		
One-Time	Mulching		
One-Time	Fall Clean-up		
One-Time	Planting Bulbs		
One-Time	Planting Trees / Shrubs		

Integrating a Garden into the School Curriculum

School gardens are living laboratories for learning! There are many different ways to integrate a garden into the school curriculum. Here are just a few examples:

Curriculum	Example of Garden-Based Activities
Language Arts	<ul style="list-style-type: none">• Read & write seasonal stories and poems• Make a garden scrap book• Produce a school garden newsletter
Math	<ul style="list-style-type: none">• Count the number of seeds, plants, and flowers per plant• Use fractions & percentages to calculate the number of seeds that germinate• Measure plant heights• Collect rainfall measurements
Science	<ul style="list-style-type: none">• Investigate what plants need in order to grow• Observe the life cycle of a plant• Watch and record changes in the garden through the seasons• Create beneficial habitats for wildlife and monitor the results• Make weather observations through the seasons
Geography	<ul style="list-style-type: none">• Study the water cycle• Make different scale drawings and maps of the garden
Computers	<ul style="list-style-type: none">• Use data collected in math and science class to produce graphs and charts on the computer• Investigate garden topics on the Internet• Upload gardening news onto the school website
Social Studies	<ul style="list-style-type: none">• Interview older gardeners to find out how gardening practices have changed• Cook different kinds of traditional foods from the garden harvest
Art	<ul style="list-style-type: none">• Make collages using natural materials• Draw & paint the garden at different stages• Create posters to publicize the garden for fundraising• Photograph the gardening year
Physical Education	<ul style="list-style-type: none">• Get exercise through weeding and harvesting• Try new fruits and vegetables and learn about health eating
History	<ul style="list-style-type: none">• Study plants and their traditional uses as food, medicine, dyes, etc.• Study gardening through history (i.e. Victory Gardens)

Adapted from Gardening with Children.

www.gardeningwithchildren.co.uk

Curriculum Mapping Template

The garden should not be an "add on" or one more thing on your plate. Instead, it should integrate all that you are teaching to maximize learning for students, to bring the curriculum to life, and to make your job a little bit easier. Use this template as a way to look, at a glance, at the curriculum and some ways in which garden-based learning integrates with all that you are teaching. We suggest you start small — take one unit or set of lessons and consider how it integrates with the garden.

The Big Idea What should students understand, be able to do?	Content Connections to learning standards, curriculum objectives, etc.	Processes/Activities Lessons, hands-on activities, other experiences in and around the garden	Assessment Evidence of learning, opportunities for reflection for teacher and students	Other Notes, timeline, special considerations, etc.
Language Arts				
Math				
Science				
Social Studies				

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Home and Careers				
Physical Education				
Elective				
Other				

School Garden Maintenance Plan

Why It's Important to Have a Maintenance Plan?

Talk to people who have implemented school gardens, and ask them what was the biggest setback in their program. Many will say that they did not anticipate the level of maintenance required. Starting small, having a number of committed volunteers, and being very organized about the schedule for maintenance — who is responsible and when — is essential for a well-maintained garden. Watering, weeding, and keeping paths maintained are important for plant health as well as a neat appearance.

What About Summer Care?

A commonly asked maintenance question for school gardens is, "How do we utilize or maintain our garden during the summer?" First, is a garden needed during the summer months? Some programs simply plant a spring garden that comes to fruition by the end of June. An alternative is to plant fall-harvested crops, such as pumpkin or winter squash, which require minimal maintenance over the summer if they are planted in early summer and well-mulched. When students return in fall the vines will have covered the ground and pumpkins or winter squash can be harvested in October.

Often, teachers will ask the custodian or groundskeeper to care for the garden over the summer. This that does not capitalize on building ownership of the garden and it does not show respect for the groundskeeper who most likely already has a full load of work in summer. (This is why it's important to include any maintenance staff early in your planning process.) Of course, as a courtesy, be sure to let the groundskeeper know who will be on-site during the summer, regardless of what maintenance plan you choose.

The ideal summer program may be one in which the garden is well-maintained, is utilized for activities, and has solid leadership.

Potential Alternatives:

- Ask the staff of a summer recreation program whether they would like to care for the garden, and simultaneously utilize it for activities.
- Put the garden up for "adoption." Take a master calendar to faculty, PTA, and other meetings and events, and ask individuals and families to sign up for a period of days or a week. What are the rules for adoption? They can vary according to the garden's requirements for maintenance, but the ideal is generally to have someone visit the garden daily if possible.

Having someone visible at the garden shows the community (and potential vandals) that the garden is much loved and well cared for.

Weeding and watering are basic maintenance requirements in summer, and possibly mowing grass paths. Some people also add deadheading, staking, removing spent stalks, etc. to the list. Let people know what is expected of them in advance and indicate where the hose and tools will be stored.

- Form partnerships among agencies, such as school, Cooperative Extension, youth bureau, and other community groups. For example, a 4-H club might be willing to care for a small school garden if they can use the garden for activities, utilize the produce, and display produce and flowers at a county fair.
- When it comes to maintenance, remember that frequent care is very manageable-much easier than attacking knee-high weeds only occasionally. As always, many hands make light work.

Adapted from Sowing the Seeds of Success, Cornell University in partnership with The American Horticultural Society

Seven Season School Garden Maintenance Guide

SUMMER: Mid-June – Mid-August

Main Objective – Prepare the garden for the school year to begin

1. Keep summer crops healthy and productive into the beginning of the school year so there is food to harvest and eat when school is back in session.
 - Weekly or bi-weekly watering, weeding, harvesting, pruning and pest control needed
2. Plant the next succession of crops so students have food when summer crops come to an end.
 - Direct seed second planting of cucumbers, squash, corn in early July
 - Start brassicas (ex. kale, collards, broccoli, etc.) inside under grow lights in early August
3. Familiarize yourself with the garden as a teaching space and inventory supplies.
 - Plan how you will utilize the garden space with the students, from seating to stations for smaller or self-guided group work
 - Gain access to the shed or find out where tools and supplies are stored

BEGINNING of SCHOOL YEAR: Late-August – September

Main Objective – Jump right in and engage students in the summer garden

1. Harvest productive summer crops.
 - Harvest tomatoes, squash, basil, etc. for tasting, snacks, and meals
2. Maintain and refresh summer garden.
 - Keep summer crops going as long as possible with plenty of water, weeding, pest control, and harvesting
 - Perennials, such as fruit trees, herbs, and pollinator garden need watering, weeding, and mulching at this time
 - Label plants with appropriate signage
3. Remove summer crops that are done, and plant fall seeds and seedlings.
 - Pull out finished summer crops, add compost or fertilizer, and direct seed carrots, radishes, lettuce mix, peas and mustard greens.
 - Transplant brassica seedlings started in August into prepared garden beds.

FALL: October – November

Main Objective – Keep garden growing

1. Harvest and remove remaining summer crops.
 - By this time all summer crops will be done. Harvest for food and prepare beds for fall seedlings by removing crops, adding compost and loosening the soil.
 - Exception- For seed saving, leave plants in ground to dry (i.e. beans, okra, or kale)
 - Check fruit trees for pears, apples, persimmons or figs
2. Plant seedlings, cover crop, and overwintering crops.
 - Transplant remaining brassica seedlings started in August into the garden bed early in October
 - Plant cover crop seeds (ex. winter wheat, crimson clover, daikon radish, field pea, etc.) to hold soil and nutrients in place over the winter and early spring
 - Plant garlic and onion bulbs, strawberry plants, and woody perennials (i.e. fruit trees, blackberries, blueberries, etc.) for overwintering and mulch heavily with straw
3. Water, weed, thin, harvest and explore perennial plants.
 - Continue to engage students in garden maintenance to keep plants healthy and productive
 - Thin directly planted seeds so there is enough space between each plant
4. Begin winterization projects.
 - Mulch crops heavily
 - Install row cover and hoops to prevent frost damage

EARLY WINTER: December – January

Main Objective – Put the garden to sleep

1. Final Harvest.

- Harvest remaining fall crops, except for those that are overwintering (i.e. carrots, hardy greens, cover crops, garlic)
- Harvest dried seeds and save for spring planting (i.e. bean pods, okra pods, perennial flowers).

2. Complete winterization projects.

- Make sure row cover is intact

3. Clean up.

- Put signage and other weather sensitive equipment back in storage for the winter

LATE WINTER: February – Mid-March

Main Objective – Plan for spring

1. Use or create a map template of your garden for students to design.
 - Use or create a blank map (bird eye view) of the garden. Have students label existing garden infrastructure, perennial plants, garden sections. Be creative and envision your garden for the spring and summer.
 - What plants do you want to grow?
 - What infrastructure improvements could be made?
 - What fun/celebratory garden elements can you incorporate?
2. Start seeds indoors with grow lights.
 - Gather supplies for starting seedlings indoors. You will need grow lights, seed trays and cells, soil mix, and seeds.
 - Tomatoes, peppers, eggplant, broccoli, cabbage, kale, collards, celery are all ideal crops to start indoors under the grow light and transplant as mature seedlings later in the spring
3. Create garden signs.
 - Inventory your garden signs. Replace damaged signs, or create new signs based off what you will be planting this year.

EARLY SPRING: Late-March – April

Main Objective – Wake up your garden and plant

1. Prepare your annual beds and clean up your perennial beds.
 - Turn in cover crops, remove mulch, and add compost and fertilizer to your annual beds
 - Prune back your dead woody perennials, remove dead herbs or pollinator plants, clear brush to slightly expose new growth, and add mulch around new growth
2. Plant spring crops and refresh perennials.
 - Direct seed peas, corn, lettuce, spinach, radishes, salad turnips (hakueri), mustard mix, potato tubers
 - Transplant more frost tolerant kale, collards, and broccoli seedlings
 - Plant any new woody herbs, berries, or perennial pollinator plants
3. Refresh your garden teaching space.
 - Begin to put signage back out in garden as you plant
 - Reorganize shed
 - Define garden stations and sections

LATE SPRING: May – June

Main Objective – Keep up with the spring garden

1. Harvest early and late spring crops.
 - Early: lettuce, radishes, peas, turnips, mustard greens
 - Late: strawberries, kale, collards, celery, potatoes, cabbage, broccoli, garlic (the last three may not be ready before school is out)
2. Plant summer crops and pollinator plants.
 - Transplant tomatoes, eggplant, peppers after threat of frost
 - Sprout sweet potatoes and transplant slips
 - Direct seed pollinator mix, sunflowers, etc.
3. Weed, water, fertilize, mulch, thin!
 - There are a lot of weeds to keep up with in the spring. Weed, and mulch around crops with straw as soon as possible
 - Thin seedlings when they come up so they have enough room to grow
 - Top dress with compost or fertilizer if needed
 - Heavily mulch perennials with wood/leaf mulch and annuals with straw to prevent soil from drying out as fast
4. Clean up garden for summer break and establish summer maintenance plan.
 - Remove all spring crops that are done or infested with pests or disease
 - Put valuables in storage
 - What is the plan for summer maintenance?

Requesting Donations for your School Garden

Before approaching businesses for donations, we suggest creating a Project Folder. This concise packet of relevant program materials can be used to represent your program and its needs. It can be left with a business for further review. Know your tax status and to whom checks should be written before you approach businesses.

Project Folder Check List

- An enthusiastic endorsement letter from the director, principal, or coordinator, stating that the gardening project is superb, is well organized, and has his or her full support
- One-page project description
- List of people (which will grow) who are supporting the project
- List of specific needs
- Garden plan
- Quotes and/or drawings by participants
- Other appropriate inserts

This is yet another opportunity for community participation. Seek family and youth input as to which inserts they feel are needed.

Garden Development Plans / Activities Timeline

Spring

- repair any damaged raised beds or tools
- example lessons in the garden on:
 - composting
 - planting seeds (ex. reading seed package, looking at different types of seeds, etc.)
 - 3 sister garden planting
 - good & bad bugs
 - life cycle of monarch butterflies, beetles, and lady bugs
 - harvesting lettuce, spinach, radish, & herbs to make a salad & dressing
- look for spring bulbs to bloom

Summer

- maintenance (watering & weeding) and harvesting as needed
- tarp or solarize weed problem areas

Fall

- continue maintenance (new students to the garden will need to be shown what to do)
- plant fall crops of lettuce, radish, ...
- harvest squash, pumpkins, dry beans, corn, and any tomatoes, potatoes... planted in spring, also watch over and harvest fall crops
- continue composting
- putting the garden to bed lesson (pull out old plant material, remove tomato supports...)
- leaving habitat for insects and bugs (i.e. Don't remove all leaves or dead lower stalks.)
- add leaf mulch on top of raised beds to break down through winter
- plant spring bulbs and garlic
- wash and store tools and winterize other garden materials (ex. drain irrigation systems)

Winter

- evaluate what worked and what needs to be changed
- plan garden beds & crops for spring planting
- order/ obtain seeds for donors
- search out funding and garden donations
- meet with committee to discuss garden moving forward
- meet with any new garden partners
- thank partners for past growing season assistance

List of Potential Partnerships for a School Garden

- teachers
- administrators
- students
- building & grounds
- security personnel
- librarian
- school nutritionist/cafeteria leaders
- parent volunteer
- PTO
- Cornell Cooperative Extension Master Gardener Volunteers
- local landscapers
- local plant nurseries
- local stores
- local community leaders
- Department of Public Works
- Local Police Department
- local scout or 4-H groups
- local service organizations
- local garden clubs
- local Nature Museum
- West Point Cadets
- High School students and other older students that may have been involved with the school garden when in Elementary School