



GROWING STRONG:

A COMPREHENSIVE GUIDE TO SUPPORT ALL SCHOOL GARDEN PROGRAMS IN THE DISTRICT



At the Office of the State Superintendent of Education (OSSE), we know that healthy bodies and healthy minds are the foundation of academic success. OSSE is proud to continue to support teachers, school administrators, community-based organization staff, community members, and parents in identifying high-quality instructional strategies that engage students. Garden-based teaching is one of these strategies. We see innovative approaches being implemented across the District that support gardening in schools, at home, and in the community. As students are spending more time learning in front of screens, OSSE recognizes the opportunity for students to go outside and learn in nature. As schools safely reopen for in-person learning, school gardens can be great places for students to have these types of meaningful engagements.

Growing Strong: A Comprehensive Guide to Support all School Garden Programs in the District is designed to support school garden programs at any stage of development. Whether you are looking to start a new school garden, maintain an existing school garden, or provide high-quality garden-based instruction, we hope you will find this guide useful. We are grateful to have collaborated with the United States Botanic Garden and City Blossoms in the creation of this guide. We all share a commitment to supporting the academic attainment and health and wellbeing of students attending District of Columbia Public Schools and public charter schools, and we are grateful for their continued collaboration.

A handwritten signature in black ink, reading "Heidi Schumacher" with a stylized flourish at the end.

Heidi Schumacher, MD
Assistant Superintendent, Health & Wellness

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INTRODUCTION

“I love our garden because it’s so peaceful and all of the stuff we grow, we eat and it’s always so good, it’s always so beautiful there’s always new stuff we learn. There are always very good hiding spots and last but not least it’s [in] our friendly community.”

~Bancroft Elementary School Student



Photo courtesy of City Blossoms

Research that Supports Garden-Based Learning

School gardens joyfully engage students and staff, improve academic performance, develop technical skills, promote social skills, and encourage healthy lifestyles. There is a large body of research that shows the [Benefits of School Gardens](#), including the positive impact on students’ grades, knowledge, attitudes, physical health, and behavior. Most of this research is focused on the impacts of garden-based learning on science, math, and language arts. Research also shows that garden programs contribute to stronger connections between a school, the surrounding community, and the natural world.

About School Gardens in the District

The District of Columbia has a rich history of school gardens that parallels a broader national school garden movement. To learn more about the history of school gardens in the United States including in Washington, D.C., review the [History of School Gardens in the United States](#).

The [OSSE School Gardens Program](#) is a part of the [OSSE Division of Health and Wellness \(H&W\)](#) within the [Office of the State Superintendent of Education \(OSSE\)](#). The OSSE School Gardens Program envisions a future in which all District youth are engaged in high-quality school garden programs. This program contributes to the OSSE Division of Health and Wellness mission: “Healthy bodies and minds are

the foundation of academic success.” The Division of H&W leverages programming, partnerships, policy, and data to remove health barriers to learning so that people of all ages and backgrounds are prepared to succeed in school and life.” The [Whole School, Whole Community, Whole Child model](#) is the foundation for this work at OSSE and may be used as a best practice by school garden programs to achieving healthy student development and academic achievement.

For more information about the state of school gardens in the District, please access the [Healthy Schools Act Farm-to-School and School Gardens Reports](#). For general information, check out the [DC School Garden Program Short Video](#), or [sign-up to receive Sprout it Out](#), a monthly school garden newsletter for the District.

Guide Overview

This guide will assist you with:

1. Starting a new school garden;
2. Maintaining an existing school garden; and
3. Providing high-quality garden-based instruction.

This guide is intended for a broad audience including teachers, school administrators, community-based organization staff, community members, and parents. It provides guidance for establishing a new school garden, maintaining an existing school garden, or using the school garden for instruction.

“We have different gardens in our big garden... My favorite is the Bug garden... All you have to do is lift a rock and you will see all kinds of different bugs. It was amazing how many bugs there are. I also like the butterfly garden. It is shaped like a butterfly and has a butterfly in it. There are plants in it so butterflies can settle on it. The butterfly garden is beautiful.”

~Stoddert Elementary School Student



Tyler Elementary School courtesy of OSSE

Gratitude and Acknowledgements

The District is home to an active network of organizations, community members, and schools working to create opportunities for children and youth to experience, care for, and learn in their school gardens. OSSE is grateful to the many communities and school partners that shared their expertise to make this guide a comprehensive, relevant, and accessible resource. This guide would not have been possible without the generous, collaborative, and thoughtful feedback from these many individuals and District Government offices:

Community Partners

- Tara McNerney, Rebecca Lemos-Otero, and Willa Pohlman—City Blossoms
- Ray Mims, Lee Coykendall, Amy Bolton, and Emily Hestness, Ph.D., Susan Pell, Ph.D., —United States Botanic Garden
- Sarah Holway—DC Greens
- Nadia Mercer, Jake Dacks, Brianne Studer, and Allie Arnold—Washington Youth Garden
- Jennifer Mampara and Rebecca Helgersen—FRESHFARM Foodprints
- Lola Bloom—DC Bilingual Public Charter School
- Rebecca Davis—Environmental Education Consultant
- Marjorie Share—MLSHARE Creative Solutions
- Ariel Trahan—Anacostia Watershed Society
- Joe Ludes—Out Teach
- Karen Davison—FoodCorps

District Government

Office of the State Superintendent of Education
Charles Sumner School Museum and Archives
Department of Parks and Recreation
District of Columbia Public Schools
Department of General Services
DC Health

“We bring communities together in our garden. People of all different races, religions, & sexual orientations gather and have the experience of a lifetime. We make fabulous foods, talk about what’s going on socially and emotionally, and have tons of fun!”

~Eastern High School Student



Eastern High School courtesy of OSSE

ESTABLISHING A NEW SCHOOL GARDEN PROGRAM



Thurgood Marshall Academy students photo courtesy of OSSE

“The great garden of Anacostia is becoming a beacon for Anacostia residents. Lush and plentiful, it attracts the attention of anyone that walks by. Whether it’s the bushels of lavender or ripe pumpkins, you feel compelled to either stare in awe or purchase some for yourself. All of the produce grown and harvested in the garden is from students and community members within Thurgood Marshall Academy, a product of collaborative volunteer efforts.”

~Thurgood Marshall Academy Student

12 Steps for Establishing a New School Garden Program

- 1 Host an initial gathering or series of conversations
- 2 Submit the School Garden Registration Form
- 3 Attend a School Gardens 101 Training
- 4 Register for “Sprout it Out”
- 5 Create a Project Plan
- 6 Select a staffing model and identify staff roles and responsibilities
- 7 Cultivate partnerships
- 8 Establish an advisory committee
- 9 Develop a strategy for securing funds
- 10 Identify the garden location
- 11 Design and build the school garden
- 12 Celebrate the completion of the garden build

This section includes guidance on starting a new school garden program. The transformation of a section of the school grounds into a dynamic school garden is a process that requires planning and coordination among the school community, neighbors, local businesses, and community members. Depending on the scope of the project, this process may take months.

12 Steps

Recommended action steps for establishing a new school garden program are listed below. It may be necessary to adjust the order of the steps depending on the unique circumstances of the school or community.

1 Host an initial gathering or series of conversations:

Convene a core group of stakeholders including teachers and possibly students to determine the interest level for starting a garden program. Share examples of other District school garden programs that can serve to inspire. OSSE's [School Garden Photo Album](#) may also serve as inspiration. Below are some tips for convening teachers and students in the process of establishing a school garden.

- **Survey staff interests:** It is important to understand how staff and teachers might incorporate garden-based teaching into their current teaching practice. It may be useful to survey staff interests before creating a project plan. This survey should include the following elements:
 - **Include affirmative statements:** Allow staff and teachers to choose between affirmative statements that will allow a more meaningful response than just “yes” or “no.” For example: instead of asking: “Do you plan on incorporating the school garden into your teaching practice?,” ask: “How much do you agree with the following statement? *I am interested in incorporating the school garden/outdoor classroom into my teaching practice.*”
 - **Ask grounding questions** to collect baseline data to get a sense of where the staff and students are. For example, “Rate your current comfort level with incorporating garden-based teaching into your teaching practice.”
 - **Think of the survey as a tool to encourage buy-in** through carefully crafted and selected questions. For example, use the phrase “outdoor classroom” and ask if teachers or staff are interested in receiving training for using the space and what support they see themselves needing.



Mundo Verde PCS Photo courtesy of OSSE

- **Survey student interests:** It is a best practice to include students in as many decisions as possible, starting with the design process. One way to start the conversation is through a design activity. In this activity, students can discuss and identify essential or meaningful elements to include in the design of the garden, like pollinator plants, seating, signs, and artwork. Students can then draw or build models of their “dream” gardens. These drawings, with the list of elements that are important to the students, will be the inspiration for the themes and concepts of the final garden design. For more information, check out Cornell’s Garden-Based Learning Program [Guide on Hosting Garden Design Charrettes](#).

2 Submit the School Garden Registration Form:

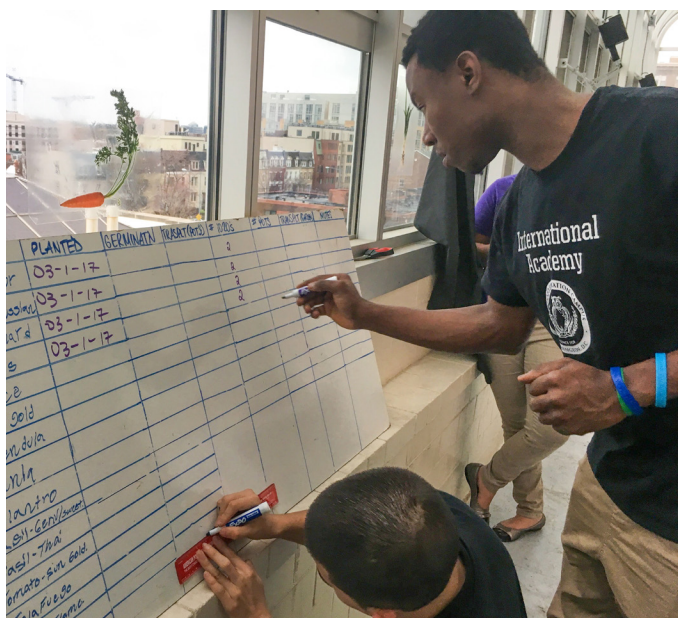
This will notify the OSSE School Gardens Program of the school's interest in starting a school garden program.

3 Attend a School Gardens 101 Training:

This training provides an overview of available resources and guidance on establishing a school garden program.

4 Register here for “Sprout it Out”:

OSSE's monthly school garden newsletter provides updated information on funding, training, resources, and events related to school gardens in the District.



Cardozo Planting Chart courtesy of City Blossoms

5 Create a Project Plan: It is recommended that all stakeholders agree on the purpose and goals of the new garden. The [Example Purposes of District School Garden Programs](#) document covers how garden-based organizations identify a purpose through defining problems and solutions. Additionally, logic models are great tools for defining success, establishing measurable goals and outcomes, and identifying audiences. It is important to develop an evaluation process to measure and share the impact of your program. This work can lay out a roadmap for school garden program success. Below are a few resources to help with creating a project plan:

- Consider creating a theory of change, or logic model, for your garden program. The [Kellogg Foundation Logic Model Development Guide](#) is a great guide to help start this process. Here are some examples of [School Garden Logic Models](#):
 - Watch the School Garden Support Organization Network webinar on [Monitoring and Evaluating Impact](#).
 - Assess the quality of your garden program by completing the OSSE [School Garden Assessment Tool](#).
 - Review the [GREEN Tool Research Brief](#), which is specifically designed to help schools have a well-integrated garden and has a focus on sustaining garden programs.

- Review the best practices document, [Evaluating and Sharing Program Impacts](#). For more examples of tools, review the shared folder of [Evaluation and Assessment Tools](#) that contains: teacher and student assessments, professional development assessments, and garden program and site evaluation tools.
- Embrace the power of student voices. Student quotes, stories, photos, and videos are excellent ways to share impact. Review the student essays submitted through the [OSSE Gilda Allen Best School Garden Award](#) for examples.
- Include the school leadership in the initial planning, which will help to align the garden program with existing school priorities (such as academic achievement, student satisfaction, and strengthening the school culture). School garden programs that are aligned with the school's priorities are more likely to succeed (Burt, 2016).
- Share the completed plan with the school's leadership and ask for input and guidance. When presenting the plan, consider including a timeline with milestones and cost. This is especially helpful in establishing larger school garden programs.
- Review the [Aligning School Garden Activities with School Goals](#) document, which provides examples of how garden activities can align with school goals.

6 Select a staffing model and identify staff roles and responsibilities: There are different models for staffing garden programs and each school should develop a model that fits into the school's culture. The program should have at least one person who is responsible for overseeing the tasks of a school garden program, as outlined in the [School Garden Program Framework](#). The [Sample School Garden Staff Job Descriptions](#) may be useful in creating job descriptions and defining roles. Many successful school garden programs have multiple staff that play unique roles. For example, one person (usually a teacher) works with multiple classroom teachers to support garden-based teaching, while an additional person (usually a community member or staff member of a community-based organization) oversees the maintenance of the garden.

Some examples of staffing models include:

- An outside organization provides support through teacher training, leading lessons in the garden, or running an after-school garden club.
- A part-time staff person works at multiple schools leading lessons in the garden and supporting teachers in using the garden on their own.
- A full-time staff person leads lessons for all grade levels in the garden, similar to a PE or art teacher.
- Volunteer(s) maintain the garden and school staff independently incorporate the garden into their core curriculum.

7 Cultivate partnerships: Fortunately, there are many organizations with knowledgeable staff that collaborate with schools on garden-based projects in the District. Review the [School Garden Partner List](#) to find garden-based partner organizations that align with the school's program activities and outcomes. It is recommended that the partnership is formalized in writing through a document such as a Memorandum of Understanding (MOU) that defines roles, responsibilities, expectations, shared outcomes, and a timeline.

Organizations that support garden-based teaching and learning are essential to the success of school garden programs. Schools rely on partners for expertise in administering essential aspects of school garden programs including curriculum, staffing, and garden design. Additionally, the District is home to multiple post-secondary education institutions. Review the [Engaging University Students in Local School Gardens Guidebook](#) for information on including local undergraduates in your school's garden programs. Below are some tips to maximize partnerships and facilitate engagement amongst undergraduate students.

- Present the school garden plan and include examples of other District school garden programs that can serve to inspire. Review OSSE's [School Garden Photo Album](#) for inspiration and downloadable images organized by design elements.

- **Invite Community Support:** Create easy opportunities and establish clear roles to encourage and help community members become involved and invested in the garden program. This is especially important during school breaks. Consider ways others can be champions, partners, or supporters by sharing their time, expertise, and resources. For example, enlist an enthusiastic family member to coordinate an open garden time for students and their families, or share a survey asking parents how they might want to get involved.

8 Establish an advisory committee: All District public and public charter schools are required to have a School Wellness Committee. Many schools leverage this required committee support for their school garden programs, and other schools establish separate school garden committees. Either way, research shows that a school garden committee is an important step toward the success of the school garden program (Hazzard et al., 2011). Ideally, this committee should consist of all stakeholders in the garden program including students, staff, parents, teachers, community members, school nutrition staff, and administrators. Find more information on wellness committees by reviewing [School Health Profiles](#).

9 Develop a strategy for securing funds: Funding has a significant influence on how well integrated a garden program is within a school (Burt et al., 2018). Developing a funding strategy can take several months to almost a full school year, depending on the cost of the project. Review the [District School Garden Funding](#) document for more information on funding sources and strategies to sustain funding.



Friendship Garden courtesy of OSSE

10 Identify the garden location: For many schools, this seems like a natural first step in the process of establishing a school garden program; however, it is recommended to wait until later in the process to decide on the garden's location. A school's garden can be successful at any size, and the garden can even be grown indoors using LED lights; therefore, space or lack of it should not prevent a garden program from taking place.

Once the decision has been made to start a school garden program and steps 1–9 have been realized, it is appropriate to then select the location for the garden. Starting with less than 200 square feet of growing space is recommended, while also identifying enough space for the garden to expand as needed. Larger gardens require significantly more maintenance and create unique classroom management challenges. Review [Design Guidelines for Outdoor Classrooms and School Gardens](#) for details on identifying the garden location. Start by asking stakeholders the following key questions when making decisions about the location of a school garden:

- Where can the garden be located?
- What are the site and planting considerations of the available locations?
- Are there plans to build (school expansion) on any of the sites?
- Where is the access to water?
- How many hours will each part of the garden receive direct sun/shade in the available sites?
- What is the proximity and accessibility of the available sites to the school?
- Are the potential sites open to the community during school breaks and weekends?



Brent Elementary School courtesy of OSSE

11 Design and build the school garden: The process of building a school garden is exciting but requires specific technical skills (such as carpentry, landscape design, and horticulture). Consider leveraging the expertise of partner organizations or community members to support with this step. The decisions made at the planning stages regarding design, location, size, and materials can make the difference between a garden space that is unwelcoming, expensive, and difficult to maintain, and one that is sustainable and student-friendly. Start the design and construction process by asking stakeholders the following key questions:

- How will the garden be built?
- Will it be installed by students, volunteers, or a professional group?
- How much time can be dedicated to regular maintenance?
- What is the garden's ideal lifespan?
- What is the budget for the garden's design, construction, and maintenance?

Garden spaces should be intentional, accessible, sustainable, specific to each school's culture, and reflect programming needs. For example, an elementary school, with younger children, may include shorter raised beds than a high school garden because younger students cannot reach as far as older students. This is also a great opportunity to engage new stakeholders to generate excitement about the program. Below are some tips for designing and building a school garden while also generating support:

- Document the progress: For example; take pictures of the garden space before breaking ground. This will serve as the “before” photo to compare with the “after” photo of the completed project. Continue to document the growth of the garden using photos.
- Refer to the [School Garden Safety Checklist](#) and the [Garden Care Directory](#). Test the existing soil for heavy metals including arsenic and lead before breaking ground, and once every three years or when new growing medium (soil, compost, mulch) is added from an untested source. Consult OSSE's [Soil Testing Resources](#) document to find facilities that can test soil and which can provide recommendations for soil remediation based on the test results.

- Create a drawing with dimensions that can be used throughout the design process. Measure the garden space including the boundaries of the garden and the location of any permanent elements such as large trees and sidewalks. These maps can be used as base maps to overlay student drawings as well as the final garden design. [Maps and Data from the DC Office of Planning](#) can assist with a dimensional drawing of the garden. The Food and Agricultural Organization of the United Nations also has a program called [Making Maps](#) that includes a guide to mapping your school garden with students, which is also a great example of how a school garden can be used for cross-curricula activities such as math, science, and nutrition.
- Review the [Design Guidelines for Outdoor Classrooms and School Gardens](#) document for guidance.
- Review Step #5 School Garden Safety in the Managing an Existing School Garden Programs section.
- It's often best to build the garden in phases, especially if the planned garden space exceeds 200 square feet. Here is an example of how a school garden can be designed in phases:
 - Phase 1: Purchase and stage all materials on-site, prepare items and materials.
 - Phase 2: Implement a garden workday with the school community and volunteer groups to build the garden.
 - Phase 3: Complete items that were not completed during the workday. This can be completed by the school garden staff, a class, or may require an additional workday.
 - Phase 4: Celebrate the completion of the garden space with all stakeholders. Communicate the planned impact of the garden and how others can be involved.

12 Celebrate the completion of the garden build:

This final step is often overlooked, but it's important to formally transition from the building of a school garden to the implementing of the garden program. A celebration can take many forms and should be viewed as an opportunity to set the precedent for subsequent celebrations that reinforce the school's culture. Be sure to include all stakeholders including students, parents, teachers, community members, and school staff.

Additional Guidance Documents for Starting a School Garden

- National Farm to School Network [Starting and Maintaining School Gardens](#)
- KidsGardening [Starting a School Garden Program](#)
- United States Department of Agriculture [Start a School Garden: Here's How](#)



Barnard Elementary School courtesy of Kid Power Inc.

“The Barnard garden is also special because it is a place to come get food. Our market on Friday sells nice yummy vegetables and fruits. My mom came and bought onions and I got a sticker! We would also come and take some food from the garden during recess. The strawberries look so juicy! We like to get the darkest red ones because they’re sweet. The little ones are too sour. One time my mom came in and took some okra.”

~Barnard Elementary School Student

MAINTAINING AN EXISTING SCHOOL GARDEN



City Blossoms event at Cleveland Elementary School courtesy of OSSE

“I found a tomato! I see carrots. ¡Es una zanahoria! I see a butterfly! It’s a leaf you can eat, I want to eat the leaf! I want to eat the chard! Who can find the peppers? Me gustan estos, ¡los como todos los días!”

~H.D. Cooke Student

Once the school garden is established, efforts turn to maintaining the school garden program. This section focuses on sustaining and growing the school garden program in the face of changes such as the turnover of key stakeholders, leadership, and even the physical space.

Elements to Sustain and Grow a School Garden Program



Below are the essential elements to sustain and grow a school garden program:

① Evaluation and Sharing Impact: How do you know that a school's garden program is successful? How do you know if you are getting closer to achieving your goal? How do you know when it is time to change approaches? These are important questions to consider, and asking these questions is a great step toward becoming more strategic in how you use your time, financial support, and resources. These questions are best answered during the establishment of a new school garden through the creation of a purpose, goals, outcomes, and measures of success using a logic model or other strategic planning tool. See Step number 5 “Create a Project Plan” under the Establishing a New School Garden Program document section. It is important to revisit these questions and strategic planning documents frequently throughout the program's life cycle.

② Sustained Funding: Securing funding year after year for a school garden program can be a challenge. One study identified that an overall lack of funding was the most common barrier for school garden programs (Burt, et al., 2018). Below are a few resources to help secure funds;

- The [District School Garden Funding Document](#) is full of information on raising funds for a school garden including a list of funding sources and tips on finding other funding sources.
- The School Garden Support Organization's Best Practices Document [Sustaining and Institutionalizing School Garden Programs](#).

3 Ongoing Community Engagement: The most successful school garden programs tend to be the ones that find ways to include both the school community and the community of people surrounding the schools (Burt, et al., 2018). Below are a few resources to help with community engagement:

- Identify potential and current needs for community engagement. Review the [Building Your School Garden Community](#) worksheet for organizing stakeholders.
- Establish a [School Garden Market](#), where students can sell or otherwise distribute produce they grow in the garden. A school garden market is a great way for students to connect with the surrounding community as well as the school community.
- Encourage the school community to participate in District-wide events such as [Growing Healthy Schools Month](#) and [Strawberries & Salad Greens Day](#).
- Establish the school garden as a composting site within the [Community Compost Network](#). Schools are eligible to become community compost sites through the DC Department of Parks and Recreation. This program is a great way to involve the community in your garden.
- Sign up to participate in the [Shared Roots Program](#), which connects community members with growing spaces, including school gardens.

Below are some additional tips on community engagement from District garden programs.

- Establish a media liaison who will photograph, write media releases, and promote the garden.
- Have signed media releases on hand for students.
- Establish, or use an existing communication system, that will inform parents and school staff about garden activities.
- Establish seasonal events to help keep the community engaged. These may include scripted student-led tours for the public, produce tastings, harvest dinners, seasonal festival, poetry readings, garden markets, or becoming a stop on a school garden bike tour.
- Open celebrations up to community volunteers.
- Invite community volunteers to workdays. This can be a wonderful way to get extra help and engage community members in your garden.



Eastern High School courtesy of City Blossoms

4 Maintenance: Caring for the physical aspects of a school garden including the basic design elements, necessary supplies, and equipment can be overwhelming, especially for new gardeners. Maintaining a school garden is commonly one of the biggest challenges for schools. The duration, frequency, and type of maintenance activity are determined by the garden design, time of year, and use. This is an area in which partners with experience in garden maintenance can support schools. Below are the essential elements that every school garden program should have to sustain and grow.

- The [School Garden Program Framework](#) is a helpful tool to assist with clarifying garden maintenance roles.
- Review the [Managing Unique Garden Elements](#) to learn more about compost bins, hydroponic systems, season extension structures (such as greenhouses), and garden critters.
- The OSSE [DC School Garden Planting Calendar](#) and the School Garden [Yearly Maintenance Schedule](#) can help forecast maintenance needs.
- Watch the School Garden Support Organization's [Volunteer Management and Community Support Webinar](#).
- Review the [School Garden Partner List](#) to identify partners that can help with garden maintenance.
- Review the [Winter Garden Tips](#) from the DC Department of Parks and Recreation.
- [Gardens for Learning: Creating and Sustaining your School Gardens](#) is a comprehensive guide with information on integrating the school garden program into the school culture.
- Learn more about how the school garden can be more integrated into the cafeteria by reviewing the [Garden to Cafeteria](#) document.

Below are some additional tips on garden maintenance from District garden programs.

- During the school year:
 - Establish a system for managing volunteers, use whatever systems work for you and be consistent.
 - Develop a process for onboarding volunteers that includes:
 - waivers and agreements,
 - tool use, and
 - accessibility.
 - Coordinate rodent control and maintenance of existing landscaping with facilities and custodial staff. Existing landscaping in and around the garden may include grass, trees, and shrubs that were planted prior to the garden's establishment.
 - Consider establishing after-school or extended day open garden time, or family night in the garden in which small maintenance tasks can be completed.
- During breaks:
 - Allow neighbors to use the school garden space as community garden plots in exchange for picking rights. Consider becoming a part of the [Shared Roots Program](#), which connects community members with underused garden spaces.
 - Plant crops that will not need harvesting or maintenance over breaks. Plan to harvest when students are in school (for example, plant spring and fall but not summer crops if no one will be using the garden during the summer months).

5 Garden Safety: School garden programs across the District provide students with hands-on education through growing, harvesting, and tasting produce grown in school gardens. These activities carry some risks to participants that should be mitigated by following safety protocols. Proper techniques, from ergonomic tool use to produce washing, should be taught and reinforced within the garden. Most school garden programs grow edibles and incorporate tasting into their activities. The benefits of eating from a school garden are great, but consuming food grown in urban areas can have a slight increase in risk due to soil contamination and therefore requires careful attention to safety. Below is guidance to help school garden programs reduce the risks associated with eating from the school garden.

- Review the [School Garden Safety Checklist](#), which was developed by OSSE in partnership with DC Health.
- If the garden soil is from an untested source, or new material has been added to the soil from an untested source such as compost or mulch, it is critical to test the soil for arsenic and lead. The [Soil Testing Resources](#) document provides a list of testing facilities and resources to support soil testing.
- Review the [Food Safety Tips for School Gardens](#) from the USDA, which provides additional guidance on growing, harvesting, and eating food from the school garden
- Identify the historical land use of your garden site by using [DC Zoning Maps](#). If your garden site was previously zoned for industrial use, be sure to test for heavy metals in the soil.
- If you plan to or are currently using shipping pallets as planting containers, please review the [Pallet Board Safety](#) document. Not all types of shipping pallets are safe for use in school gardens.



Capital City Garden courtesy of OSSE

PROVIDING HIGH-QUALITY GARDEN-BASED INSTRUCTION



Capital Hill Montessori @ Logan courtesy of OSSE

“Our school serves students with special abilities and needs ranging from ages 3 to 22 years old. All of the students at our school learn by using the garden...Not only do we use the garden to learn about plants and insects, we also use vegetables from the garden to cook weekly meals and learn about nutrition...The garden has a lot of space where people can walk around and look at the plants, vegetables, fruits, herbs, and scarecrows. Some of the students can relax and enjoy the garden and the beautiful scenery. Students also use the garden for our landscaping job site.”

~St Coletta Teacher

Using the school garden as a venue for instruction can be an extremely rewarding experience for the educator and a rich, hands-on, engaging experience for students. Teaching outside requires a specific set of skills, time, resources, and ongoing support to master. Effective garden-based teaching begins with the design and construction of the garden: a well designed and built garden will allow students to engage in hands-on learning. Including students in the design process will increase the likelihood that the garden will reflect the preferences and interests of the students, resulting in increased student ownership of the garden. Above all else, the school garden should be an inclusive space where students of all backgrounds, abilities, genders, and ages are welcome.

Students in the District use school gardens during the school day through hands-on garden-based learning. There are also significant benefits to creating programming and participation opportunities during out-of-school time, which can lead to increased opportunities for students to participate in independent play, maintenance, and relaxation in a natural setting.

Essential Elements for Garden-Based Teaching

Below are the essential elements for garden-based teaching;

1 Curricula: Garden-based curricula can facilitate meaningful experiences in the garden and ensure that these experiences are scaffolded, leading to student outcomes. For K–12 standards, the District has adopted [Next Generation Science Standards \(NGSS\)](#), [Common Core State Standards](#) in Mathematics and English Language Arts, and [Health Education Standards](#). The school garden is a living laboratory where educators can help students meet these standards through hands-on learning (Hirschi, 2012). Below are some resources to assist with identifying, creating, and implementing garden-based curricula.

- [Garden-based Curricula Recommendations](#) for garden educators. This is a curated list of garden-based curricula that can be used across subjects and grade bands.
- The [DC Garden and Food Education Materials Developed for Distance Learning during COVID-19](#) list contains school garden resources created by District educators to support schools with distance-learning.



Seaton courtesy of City Blossoms

- The [Garden-Based Learning Distance Teaching Resources](#) list was created by garden educators to support garden-based distance teaching.
- [Common Core and Next Generation Science Standards in the Garden](#) by Lifelab include multiple resources for connecting garden-based teaching with standards.
- [Big Green's Resource Database](#) includes garden-based curriculum, lessons, and activities from school garden programs across the country.
- Review the [Skills Commonly Used in the School Garden](#), which lists many of the skills commonly used in the school garden by subject.
- Use the [Curriculum Map](#) by the Kohal Center as a guide to align lesson plans to state education standards.
- Find books for kids that reinforce the concepts taught in the school garden using the [OSSE Healthy Schools Act Book List](#) (grades K–5) or [What's in our Library?](#), a resource compiled by City Blossoms (grades PreK–5).
- Create a system for collecting, storing, and sharing successful garden lessons.

2 Student Engagement: Garden-based teaching engages students in hands-on inquiry-based learning. To achieve this, consistent routines are important: the more frequently students are taken to the school garden, the easier it will become. Unplanned experiences often occur in the garden, some are teachable moments (a butterfly sighting can spark a conversation about life cycles), and other times they are distractions (other students on the playground or a sudden change in the weather). An educator that is well prepared with a planned lesson will be able to more easily take advantage of teachable moments and move through distractions. The resources listed below can be useful planning tools for teaching in the garden.

- [Best Practices for Classroom Culture](#) was designed to help educators build a strong outdoor classroom/school garden culture and set all students up for success.
- The Washington Youth Garden's [Gardening with Kids Group Management Techniques](#) guides creating garden rules with students, managing transitions, demonstrating activities and movements, and engaging students. Also, review this [Outdoor Classroom Management Webinar](#) by LifeLab.



DC Bilingual Public Charter School courtesy of OSSE

“Our garden is the best because it’s an ecosystem. My favorite thing is our pond! Our pond is also an ecosystem ...in there we have fish and algae...Sometimes we see the chickens. Both of them are girls and we feed the chickens and we get the eggs that the chickens have.”

~DC Bilingual Public Charter School, K-5

- The Washington Youth Garden’s [30 Simple Garden-Based Activities](#) and Education Outside’s [Back Pocket Activities](#), [Art Projects & Celebration](#), and [Icebreakers](#) provide ideas and strategies to help prepare for distractions, including some back-pocket activities that can assist with quickly and effectively adapting to changing situations by redirecting students or providing an extension to planned activities.
- Consult the [School Garden Distance Teaching Resource Roundup](#) list for activities and resources that can be used to support distance teaching.
- Review [Building Culturally Responsive and Inclusive Outdoor Classrooms](#) for guidance on how to make your school garden welcoming to students of all cultural backgrounds.
- The University of Georgia Extension Office has collected [Tips from Teachers](#) experienced in running school garden programs.
- [Teaching in Nature’s Classroom](#) outlines fifteen research-based guiding principles to help guide educators to cultivate students’ love for learning in nature.

③ Training and Professional Development:

Successful school garden programs support teachers to provide meaningful garden-based learning opportunities for students. Teaching in the school garden is quite different from teaching in the classroom, and some teachers may be uncomfortable with taking students outside to learn. This feeling can be overcome with training and professional development. It may be worthwhile to partner with an organization that provides professional development specifically for garden-based teaching. The [School Garden Partner List](#) can assist in finding a partner.

- For more information on training and professional development for teachers, check out the School Garden Support Organization’s best practices document, [Professional Development Models](#).
- Encourage teachers to sign-up and participate in training and conferences. The [School Garden Training and Conferences](#) list provides more information.

GLOSSARY

Farm to School: According to the [USDA Farm to School Census](#), the term “farm to school” represents “a suite of activities centered on connecting local farmers and food producers to schools, teaching children where their food comes from, and expanding market opportunities for agricultural producers of all kinds.”

Garden-Based Learning (GBL): Student learning that takes place through activities in which the school garden is the foundation of learning.

Garden-Based Teaching (GBT): Teaching that incorporates the school garden as a teaching tool. GBT can take place across the curriculum and as a part of a formal standards-based lesson, or informal setting.



Photo courtesy of City Blossoms

Outdoor Classroom: The gathering spot for students. Outdoor classrooms are often situated within or adjacent to the school garden to provide space for garden-based instruction.

School Garden: The physical space within the grounds of a school or learning center that is used for hands-on, plant-based education for students from pre-k through high school. No two school gardens are alike, they are rich and complex learning environments, which are most often characterized by a wide variety of plants; from vegetables and flowers to native plants and pollinators.

School Garden Program: The activities that take place in and around the school garden to create and utilize the space for its intended purpose. There are many stakeholders in a school garden program including educators, administrators, and community members. Students play a central role in determining the success of the program, as they not only care for the garden, they also use the garden as an outdoor learning laboratory, recreation area, and place for independent play and social interaction. Educators incorporate hands-on activities across all grades and subject areas. Community members and parents add support and a sense of place to the program by rooting the garden program in the school's and neighborhood's culture and history.

School Garden Educator: An individual who practices garden-based teaching with students for at least five or more lessons during one school year. A school garden educator may be a classroom teacher, a member of the school staff, a community member, or a community-based organization staff member.

“The tomatoes taste just so sour and sweet. The melons make your mouth water. The strawberries taste like candies that make you want more until you are so full you can’t eat anymore. The flowers are so bright that if you are in a bad mood just looking at them makes you happy!”

~Mary McLeod Bethune Public Charter School Student



Thurgood Marshall Academy courtesy of OSSE

LIST OF RESOURCES

Below is a list of resources that are discussed throughout the guide.

Introduction

- 1 Benefits of School Gardens
- 2 History of School Gardens in the United States and Washington, D.C.
- 3 OSSE School Gardens Program
- 4 OSSE Division of Health and Wellness
- 5 Office of the State Superintendent of Education (OSSE)
- 6 Whole School, Whole Community, Whole Child model
- 7 Healthy Schools Act Farm to School and School Gardens Reports
- 8 DC School Garden Program Short Video
- 9 Sign-up to receive Sprout it Out

Establishing a New School Garden

- 10 School Garden Photo Album
- 11 Guide on Hosting Garden Design Charrettes
- 12 School Garden Registration
- 13 School Garden 101 Training
- 14 Sign Up to Receive Sprout It Out
- 15 Example Purposes of District School Garden Programs
- 16 The Kellogg Foundation Logic Model Development Guide
- 17 School Garden Logic Models
- 18 Monitoring and Evaluating Impact
- 19 School Garden Assessment Tool
- 20 GREEN Tool Research Brief
- 21 Measuring and Sharing Impact
- 22 Evaluation and Assessment Tools
- 23 OSSE Gilda Allen Best School Garden Award
- 24 Aligning School Garden Activities with School Goals
- 25 School Garden Program Framework
- 26 School Garden Staffing Models and Sample Job Descriptions
- 27 School Garden Partner List
- 28 Engaging University Students in Local Schools Gardens Guidebook
- 29 School Garden Photo Album
- 30 School Health Profiles
- 31 District School Garden Funding
- 32 Design Guidelines for Outdoor Classrooms and School Gardens
- 33 School Garden Safety Checklist
- 34 Garden Care Directory
- 35 Soil Testing Resources
- 36 Maps and Data from the DC Office of Planning
- 37 Making Maps
- 38 Design Guidelines for Outdoor Classrooms and School Gardens
- 39 Starting and Maintaining School Gardens
- 40 Starting a School Garden Program
- 41 Start a School Garden: Here's How

Managing an Existing School Garden

- 42 District School Garden Funding
- 43 Relationship Building for Program Success
- 44 Building Your School Garden Community

- 45 School Garden Market
- 46 Growing Healthy Schools Month
- 47 Strawberries & Salad Greens Day
- 48 Community Compost Network
- 49 Shared Roots Program
- 50 School Garden Program Framework
- 51 Managing Unique Garden Elements
- 52 DC School Garden Planting Calendar
- 53 Yearly Maintenance Schedule
- 54 Volunteer Management and Community Support Webinar
- 55 School Garden Partner List
- 56 Winter Garden Tips
- 57 Gardens for Learning: Creating and Sustaining your School Gardens
- 58 Garden to Cafeteria
- 59 Shared Roots Program
- 60 School Garden Safety Checklist
- 61 Soil Testing Resources
- 62 Food Safety Tips for School Gardens
- 63 DC Zoning Maps
- 64 Pallet Board Safety

Providing High-Quality Garden-based Instruction

- 65 Next Generation Science Standards
- 66 Common Core State Standards
- 67 Health Education Standards
- 68 Garden-based Curricula Recommendations
- 69 DC Garden and Food Education Materials Developed for Distance Learning during COVID-19
- 70 Garden-Based Learning Distance Teaching Resource
- 71 Common Core and Next Generation Science Standards in the Garden
- 72 Big Green's Resource Database
- 73 Curriculum Map
- 74 OSSE Healthy Schools Act Booklist
- 75 What's in our Library?
- 76 Best Practices for Classroom Culture
- 77 Gardening with Kids Group Management Techniques
- 78 Outdoor Classroom Management Webinar
- 79 30 Simple Garden-Based Activities
- 80 Back Pocket Activities Art Projects & Celebration and Icebreakers
- 81 School Garden Distance Teaching Resource Roundup
- 82 Building Culturally Responsive and Inclusive Outdoor Classrooms
- 83 Tips from Teachers
- 84 Teaching in Nature's Classroom
- 85 School Garden Partner List
- 86 Professional Development Models
- 87 School Garden Training and Conferences

Glossary

- 88 USDA Farm to School Census

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