

GrowNYC

School Gardens Handbook



GROW^{NYC}



Introduction

GROWNYC SCHOOL GARDENS

GrowNYC School Gardens (formerly Grow to Learn) was established in 2011 with a mission to inspire, promote, and facilitate the creation of sustainable learning gardens at all Department of Education K-12 public and charter schools. Since inception, we have provided materials, mini grant funding, and technical assistance to make our mission a reality.

Gardens range from pots on a windowsill to outdoor raised beds, indoor grow towers, greenhouses, and more. Our goal is to empower school communities; to support them in accessing the resources and dedication needed to launch and sustain learning gardens.

Visit [GrowNYC.org](https://www.grownyc.org) for more information, to get in touch, and to register.

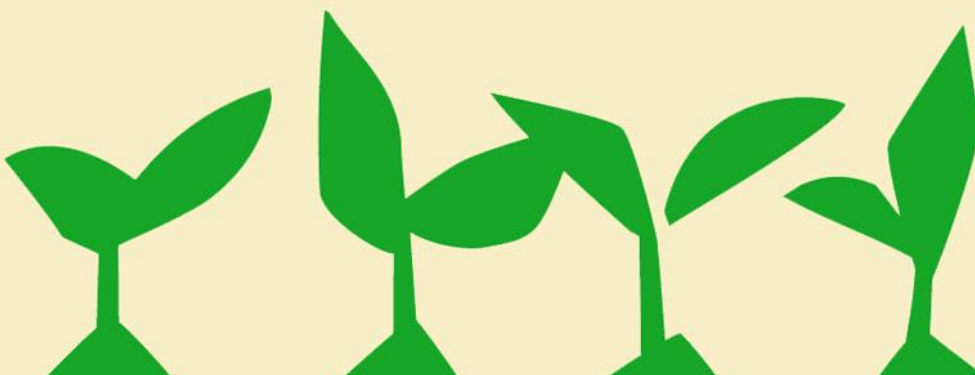
HOW TO USE THIS HANDBOOK

School gardens are as unique as New York City and the people who steward them. This comprehensive guide is a compilation of 10+ years of experience working with over 900+ schools in all five boroughs. We've distilled best practices, resources, technical considerations, and more into one place. It is meant to be a starting point on your new school gardening journey or expansion.

The school gardens landscape is constantly changing. We understand that your school, space, and community are one-of-a-kind places and a guide cannot replace the discussions and work needed to launch and sustain a thriving community space. Please use this resource to begin your planning and as ongoing reference as your school community continues on its school garden journey!

If you have questions or notice information in this handbook that should be updated, please email us at schoolgardens@grownyc.org.

This Handbook was written and compiled by our School Gardens team in 2022 and will be updated periodically.



Introduction

HISTORY OF SCHOOL GARDENS IN NYC

The first known school garden opened in 1902 in Hell's Kitchen. The Children's School Farm transformed land designated for a public park, but never developed, into 360 miniature garden plots tended by neighborhood children.

The site, located in what is now DeWitt Clinton Park, was housed on Tenth Avenue – better known as Death Avenue – named for the frequent collisions between people and the Hudson River Railroad, which transported goods from the docks and shipyards along the Hudson River. The Children's Farm School was surrounded by factories, warehouses, slaughterhouses, tenements, and crowded streets.

But the founder, Fannie Parsons, saw the opportunity for children to connect with nature. She taught them to grow vegetables and tend the communal areas in the garden, believing the true value of gardens were the values and skills children would learn, regardless of the professions they pursued later in life.

Fannie saw The Children's School Farm as an experiment, but it was later adapted by the Parks Department as permanent, and Fannie went on to start new farms in Thomas Jefferson Park, Corlears Hook Park, Seward Park, and Isham Park in Manhattan, and in McCarren Park, Betsy Head Park, and Highland Park in Brooklyn.

For a time before World War One, The Children's School Farm was a national model of what was possible in urban areas, and the federal government supported the creation of similar farms across the country.

Over a decade later, we still have neighborhoods in New York City that echo the injustices of those surrounding The Children's Farm in 1902. I am proud to say that there are 900+ school gardens in New York City today thanks to the work of teachers and parents who saw opportunities to connect children to the natural world in vacant lots or empty classrooms or windowsills, but our work is not done.

Fannie Parsons was right: School gardens grow so much more than food. They grow empathy, life skills, community. They grow compassion and justice and interconnectedness. Gardens empower communities.

The needs of a growing city are ever changing, but we will always need green space, fresh air, and stewards to create and preserve our one beautiful, shared environment.

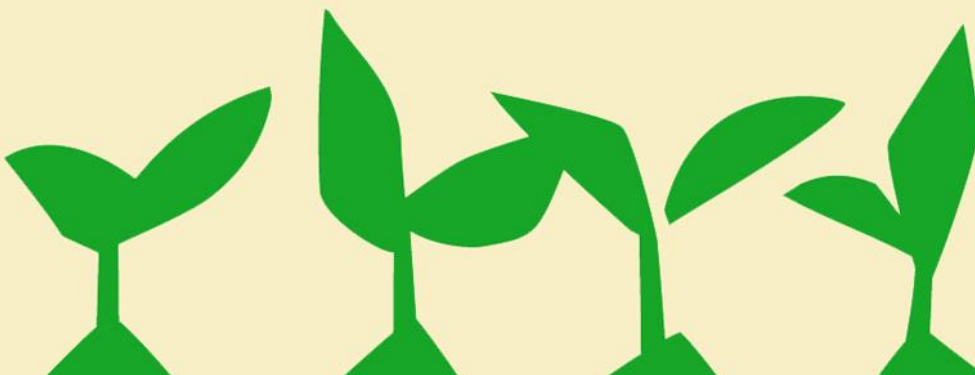


Table of Contents

<u>Introduction</u>	2
<hr/>	
<u>Getting Started</u>	7
Garden definitions	
<hr/>	
<u>Indoor Gardening</u>	8
Site Analysis (For Indoor Gardens)	
Windowsill container gardening	
Grow Lights and Seed Starting	
Grow Towers, Hydroponics, Aquaponics, and Aeroponics	
<hr/>	
<u>Outdoor Gardening</u>	11
Safe Soil Practices and Testing	
Site Analysis (For Outdoor Gardens)	
Outdoor Learning Spaces and Classrooms	
Food Producing Gardens	
Native Plants and Pollinator Gardens	
Meditation and Sensory Gardens	
Shade Gardens	
Rain Gardens	
Cut Flower Gardens	
<hr/>	
<u>Raised Beds and Containers</u>	17
Milk crates, buckets, pots, and upcycled containers	
Wooden beds	
Metal and Trex beds	
Sub-irrigated stock tank beds	
Vertical / hanging / wall / fence gardens	
<hr/>	
<u>Outdoor Structures</u>	22
Small, impermanent structures	
Large, permanent structures	
<hr/>	
<u>Rooftop Gardens</u>	23
Rules and Regulations	
Considerations	

<u>Watering Methods</u>	24
Hose, sprinkler, drip-irrigation and sub-irrigation	
Accessing hydrants	
Rainwater harvesting	
<hr/>	
<u>Pest and Disease Management</u>	27
Integrated Pest Management	
Compost and Fertilizers	
Rats	
<hr/>	
<u>Season Extension</u>	29
Row cover, high tunnel, low tunnel, cold frame, greenhouses	
<hr/>	
<u>Using the Harvest</u>	31
Personal Collection	
Tastings and Nutrition Education in class	
Use harvest in school cafeteria	
Donate harvest or create school food pantry	
Run a farmstand and sell harvest	
<hr/>	
<u>Composting Systems</u>	34
3 bin system	
Tumbler	
<hr/>	
<u>Livestock and Animals in the Garden</u>	36
Rules and Regulations	
<hr/>	
<u>Garden Budgeting and Fundraising</u>	37
Creating a budget	
General School Budget	
Applying for Grants	
Fundraising	
Corporate Sponsorships	
Resolution-A and Participatory Budget	
<hr/>	

<u>Building and Sustaining a Garden Committee</u>	39
Committee members	
Committee location	
Committee structure	
Mission statement, vision statement, and community agreements	
Responsibilities and tasks	
Committee Communication	
<hr/>	
<u>Hosting Volunteer Days</u>	43
Planning and Hosting a Volunteer Day	
Community Building Events	
<hr/>	
<u>Partner with a community garden or group</u>	44
Creating a plan and an agreement	
<hr/>	
<u>NYC DOE Office of Sustainability</u>	47
Resources and Support for NYC DOE public schools	
<hr/>	
<u>Special Education in the Garden</u>	47
District 75: Plant, Learn, Grow	
<hr/>	
<u>Curriculum Integration</u>	48
Teaching in the garden	
<hr/>	
<u>Appendices and Worksheets</u>	49
Appendix A: Environmental Education Organizations in NYC	
Appendix B: Curriculum Library	
Appendix C: Checklist and Worksheets for Getting Started	
Appendix D: School Garden Sample Budgets	
Appendix E: How-To Guide to Stock Tank Sub-Irrigated Planters	
Appendix F: Volunteer Day Checklist	
Appendix G: Agreement Templates for Partnering with a Community Garden or Group	
Appendix H: Acknowledgement	

Getting Started

GARDEN DEFINITIONS

Let's begin by defining key terms that will be useful when discussing school gardens.

Aquaponics: A system of aquaculture in which the waste produced by farmed fish or other aquatic animals supplies nutrients for plants grown hydroponically, which in turn purify the water.

Compost: Decayed organic material filled with nutrients used as a plant fertilizer.

Food Forest: A diverse planting of edible plants that attempts to mimic the ecosystems and patterns found in nature.

Fertilizer: A substance (such as manure or a chemical mixture) used to make soil more fertile.

Hydroponics: Growing plants without soil, by using mineral nutrient solutions in an aqueous solvent (water).

Invasive plant: Classification for a plant that is both non-native and able to establish on many sites, grow quickly, and spread to the point of disrupting plant communities or ecosystems.

Mulch: A thick layer of material placed over the soil and around plants, used to suppress weeds and lock moisture into the soil, while acting as a physical barrier to drying winds and direct sun. Some mulches also contain nutrients, acting as slow-release plant food. Examples include woodchips, straw, compost, and leaf mold.

Native plants: A plant is considered native if it has occurred naturally in a particular region, ecosystem, or habitat without human introduction. They have formed symbiotic relationships with native wildlife over thousands of years. They will thrive in the soils, moisture, and weather of your region.

Sensory Garden: Using plants and other materials (such as water, chimes, and sculptures) that engage and gently stimulate multiple senses such as sight, smell, touch, taste, and sound. Accessibility for persons with disabilities is often a main component. Sensory gardens offer tangible, visceral experiences that can evoke emotions and aid relaxation.

School Garden: Any space where students are actively interacting with plants and learning about growing! There is no singular definition of a school garden or learning garden—they come in many forms!

Indoor Gardening

There are many ways to garden indoors. Here are common reasons you may consider indoor gardening at your school:

- Lack of outdoor gardening space, or simply wanting to add more growing areas
- To explore scientifically with self-contained indoor gardening methods
- Having plants in the classroom boosts frequency of student interaction with growing
- Seed starting for many plants is often best started indoors in a controlled, warm environment
- To grow tropical plants or other things that can't naturally grow in your climate zone
- To practice year-round gardening

SITE ANALYSIS (FOR INDOOR GARDENS)

Site analysis or site assessment for a future garden is the process by which you study the site conditions of the space and in doing so, achieve an understanding of the space that will allow for a thoughtful design and placement of the garden's features. Make a map or a drawing of the space as you analyze the site.

Important site conditions to notice about the space and mark on a site drawing of the planned garden are:

Dimensions of the garden space

What is the physical dimension of the classroom space to host the garden?

Existing Features

Note all the permanent features on the site: existing windows, radiators, air conditioning, desks & tables, cabinets and bookcases, doors, electrical outlets and water source.

Access to the Garden

How is the garden room accessed?

Light Source

Will the indoor garden rely on light from a classroom window to grow or will it require extra lighting from grow lights?

Electrical Output

Can the garden room handle all the energy needs the interior garden will need?

Water Source

Is there a water source in the classroom where the garden will be located? Can it handle the output that the interior garden will need?

WINDOWSILL CONTAINER GARDENING

You can bring warm weather plants from outside to inside when cold weather hits, or you can grow many plants indoors exclusively without ever bringing them outside. As with any container planting, ensure there is water drainage in the container and use a high quality, well-draining potting mix.

Popular indoor plants are:

- Herbs
- Sprouts and microgreens
- Paperwhite daffodils
- Ginger and turmeric

Note: In many New York City classrooms, radiators are often located beneath windows. It is not recommended to place growing containers on radiators during the heating season.

GROW LIGHTS AND SEED STARTING

Seed starting generally has the aim to sprout seeds into seedlings, then transition the seedlings to outdoor growing. Many seeds benefit from being started inside a greenhouse or indoors. You can use grow lights above the seed starting trays and/or a heat mat under the seed starting tray, although if you have a sunny spot you don't need additional tech. To prepare the seedlings for outdoor conditions, you'll need to harden them off (acclimate them incrementally to the outdoors) or they can get shocked.

Materials needed:

- Seed starting trays and drip trays
- Seeds
- Coconut coir or seed starting soil mix
- Grow lights and timer (optional)

Benefits of seed starting:

- Get a jump on the growing season
- Cheaper to buy seeds than to buy transplants

Challenges of seed starting:

- Time and labor intensive
- Can be tricky
- Requires a sunny spot, or grow lights

For info about different types of grow lights, see the Additional Resources box at the end of this section. Full-spectrum, tube-shaped fluorescent bulbs are generally the most practical choice. The cheapest grow lights on the market are not likely to provide sufficient light for plant growth, so it's worth investing in a good quality grow light from a trusted vendor.

HYDROPONICS, GROW TOWERS, AQUAPONICS, AND AEROPONICS

Hydroponics: Hydroponics involves growing plants without soil, by using an alternative growing medium and nutrient-rich water. Hydroponic systems use less water than traditional soil-based growing because the water doesn't evaporate and can be recycled and reused. There are many different systems of hydroponic growing that can be purchased, or you can build your own system. You'll need to ensure filtered water at the correct pH, oxygen for the roots, an artificial medium for the roots to latch onto, and plant food. Since hydroponics is done indoors, grow lights are often included in the systems to provide extra light. While almost anything can grow hydroponically, compact crops like greens, herbs, tomatoes, strawberries, and peppers do better than vines or tall crops.

There are many methods of hydroponic growing. Deep Water Culture (DWC)—also commonly known as bubbler systems or bubbler buckets—is an approachable method because you can make it yourself and the materials are relatively lower-cost.

See the Additional Resources box at the end of this section for a guide on hydroponics in the classroom.

Grow Towers/Tower Gardens: A tower garden refers to growing plants in vertical columns. Tower gardens can use traditional soil growing, hydroponic growing, or aeroponic growing. Although traditional soil towers can be used outdoors, indoor tower gardens are a great option because they save space and allow you to grow a high yield of plants such as leafy greens, tomatoes, strawberries, flowers, peas, and herbs. Typically, you'd purchase a tower garden system that comes with all parts of the kit and an operating manual. For hydroponic and aeroponic tower gardens, they often come with built-in grow lights.

Aquaponics: Aquaponics is an agricultural practice that combines aquaculture (farming fish, crayfish, etc.) with hydroponics (growing food plants in a nutrient-rich water solution instead of soil) for the mutual benefit of both the fish and the plants; fish waste feeds the plants and the plants filter the water for the fish.

Aquaponics systems come in a variety of shapes and sizes. They can be as small as one plant on top of a fish tank, or they can be huge commercial growing operations. The basic process involves feeding the fish, introducing bacteria into the water system that will break down the ammonia-rich fish waste into nitrates, then passing the now nitrate-rich water through the grow bed, which the plant roots will take in and filter as it passes back down into the fish tank to start all over again. Modern aquaponics systems require electricity, technology, and consistent monitoring.

For public-facing examples of aquaponic farming in NYC, you can check out Oko Farms in Brooklyn or the aquaponics system at the GrowNYC Teaching Garden on Governors Island.

Aeroponics: Aeroponics is a technique in which the roots hang suspended in the air while nutrient solution is delivered to them in the form of a fine mist. They require electricity to run. Aeroponics systems are generally high tech and must be expertly maintained. The roots need to be misted

automatically on a frequent schedule so that they don't dry out and so they are constantly being fed. Aeroponics systems often employ grow lights since it's an indoor, intensive growing system.

ADDITIONAL RESOURCES

- [KidsGardening: Getting Ready to Grow Under Lights](#)
- [National Farm to School Network: Discovering Through Hydroponics: A Classroom Guide](#)

Outdoor Gardening

When beginning an outdoor garden, there are many types of gardening from which to choose. What is right for your school will depend on many factors including the physical space you're working with, the intentions for the garden, who will be stewarding the space, and what is doable financially.

The following explains how to assess and choose an outdoor garden area, lists garden types and the pros and cons to each, and provides sample plants for the NYC area. As you'll see, gardens are often many things - they can produce food, have native/pollinator plants, and thrive in various conditions.

SAFE SOIL PRACTICES AND TESTING

For school gardens in NYC, we require that schools grow produce/edible plants in clean soil in raised beds/containers due to potential contaminants of urban in-ground soil. Testing soil for contaminants such as lead, and heavy metals is also recommended for soil that students will be interacting with (whether that is in-ground soil or growing soil). Soil should be tested for contaminants periodically.

As stated in the GreenThumb Gardeners Handbook, "Growing food in urban soils can be a challenge, and it is important that all food grown in...gardens is done in the safest manner possible. Soil contamination comes from a variety of sources, including historic use of leaded gasoline, garbage dumps, old building materials that may contain peeling paint, air and water pollution, and other sources."

GreenThumb and GrowNYC endorse the following understanding of urban soils outlined in the U.S. Environmental Protection Agency (EPA) document "*Reusing Potentially Contaminated Landscapes: Growing Gardens in Urban Soils*". Minimize the likelihood of heavy metals entering your food by adhering to these recommendations:

- Grow any fruits and vegetables that are available for human consumption using best practices that minimize the likelihood of contact with potentially contaminated soil. This includes growing all fruits and vegetables in enclosed raised beds and placing barriers (like landscape fabric) between these areas and the surrounding soil.
- Keep all play areas, seating areas, pathways, and other areas with exposed soil covered in mulch (i.e., wood chips), grass, or another ground cover. This prevents dust migration and splash back on crops and protects against human exposure when gardening.
- Every fall or spring fill each raised bed back to the top with a couple inches of compost and spread a couple inches of new woodchips over the garden paths.

SOIL TESTING

Testing soil for contaminants such as lead, and heavy metals is also recommended for soil that students will be interacting with (whether that is in-ground soil or growing soil). There are two categories of testing:

- 1) General soil testing: tests the nutrient makeup of the soil (such as pH level, potassium, nitrogen, and phosphorous levels), but does not test for contamination. This type of testing can be done using a relatively low-cost home testing kit.
- 2) Heavy metal and contamination soil testing: tests for contamination/heavy metals. This testing must be done in a soil testing lab. Generally, you can bring a soil sample to a soil testing lab near you, or mail away to a lab.

For those in NYC, Brooklyn College Urban Soils Lab and Cornell Cooperative Extension are two low-cost options for contaminant soil testing.

ADDITIONAL RESOURCES

- [NYC Department of Health and Mental Hygiene “Soil and Gardening in NYC”](#)
- [Brooklyn Botanic Garden Soil Testing Resources](#)
- [Brooklyn College Soil Testing](#)
- EPA “[Reusing Potentially Contaminated Landscapes: Growing Gardens in Urban Soils](#)”

SITE ANALYSIS (FOR OUTDOOR GARDENS)

Site analysis or site assessment for a future garden is the process by which you study the site conditions of the space and in doing so, achieve an understanding of the space that will allow for a thoughtful design and placement of the garden’s features. Make a map or a drawing of the space as you analyze the site.

Important site conditions to notice about the space and mark on a site drawing of the planned garden are:

Dimensions of the garden space

- What is the physical dimension of the garden space?
- What is the area available for raised planting beds? What size beds are you planning for? How many beds or containers can fit into the area allotted? Plan for a minimum of 3 ft. of space between each bed to allow for mobility around each bed.
- Is there enough area for an outdoor classroom? Remember students will need a place to gather to hear the lesson before jumping into any garden activity.
- Is there enough area for a shed to be placed? Tools and other garden supplies will need a safe place for storage.
- Is there an available area to plan for a composting area, pollinator garden or other garden amenities to accompany raised planting beds?

Existing Features

As you draw the site or make a garden map, include all the permanent features on the site: existing sidewalks & pathways, gates or doors to the site, trees, shrubs, or other plantings, light or utility poles, paved areas versus grass or natural areas, benches, tables, etc.

Access to the Garden

- How do you access the garden? Is it through a set of doors to an interior courtyard, elevator or stairs to a rooftop space or through a gate on the school grounds? Is the entrance accessible to all students and staff?
- What is the width of the doors and/or gate?
- Can a wheelbarrow fit through the opening? Can a delivery truck?
 - This is crucial information as it will inform what type of deliveries of goods you can receive for the garden. For example, if you are expecting a bulk delivery of soil, can the truck access the garden to drop the bulk delivery within the confines of the garden or will the bulk delivery be dropped onto a sidewalk and need to be manually shoveled into the garden? If the garden is within a courtyard or a rooftop setting, can a wheelbarrow go from the front of the school to retrieve supplies and wheelbarrow to the courtyard or elevator, or will all supplies need to be hand carried through the school?

Sun & Shade

- Identify the 4 cardinal directions on the site drawing
- Where is the sunniest spot in the garden and how many hours a day does it receive sunlight? Note that many vegetables and fruits prefer mostly sunny locations.
- Where is the shadiest spot in the garden?
- Could this be a perfect spot for an outdoor classroom? For more information on Outdoor Classrooms, see the section on Outdoor Learning Spaces and Classrooms.

Soil Health

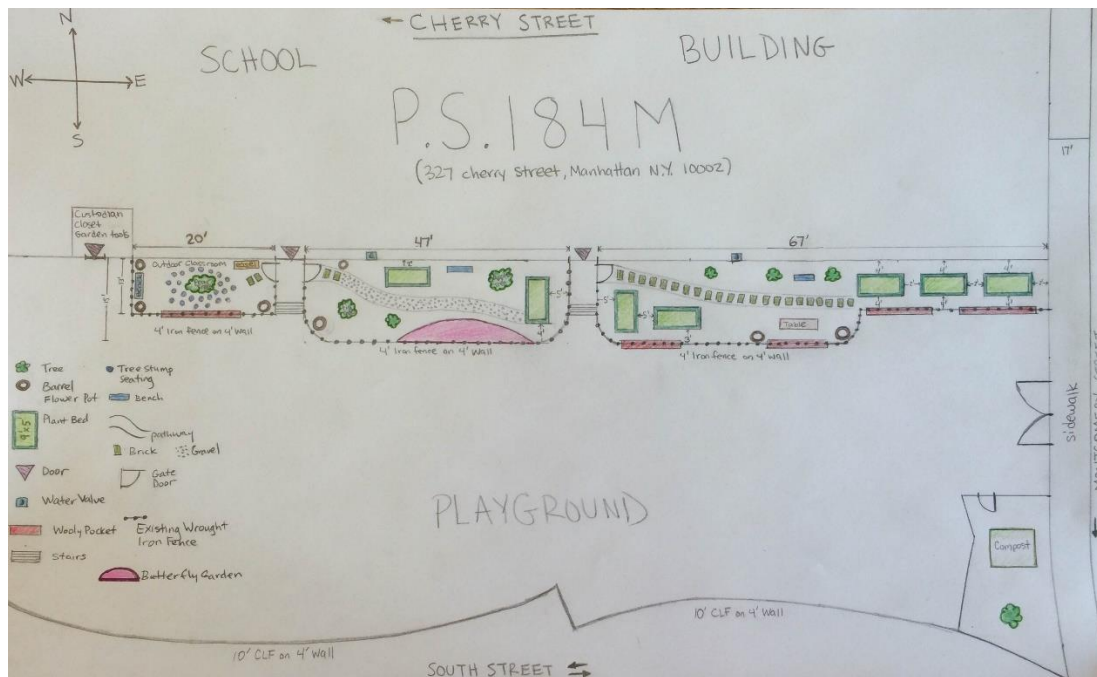
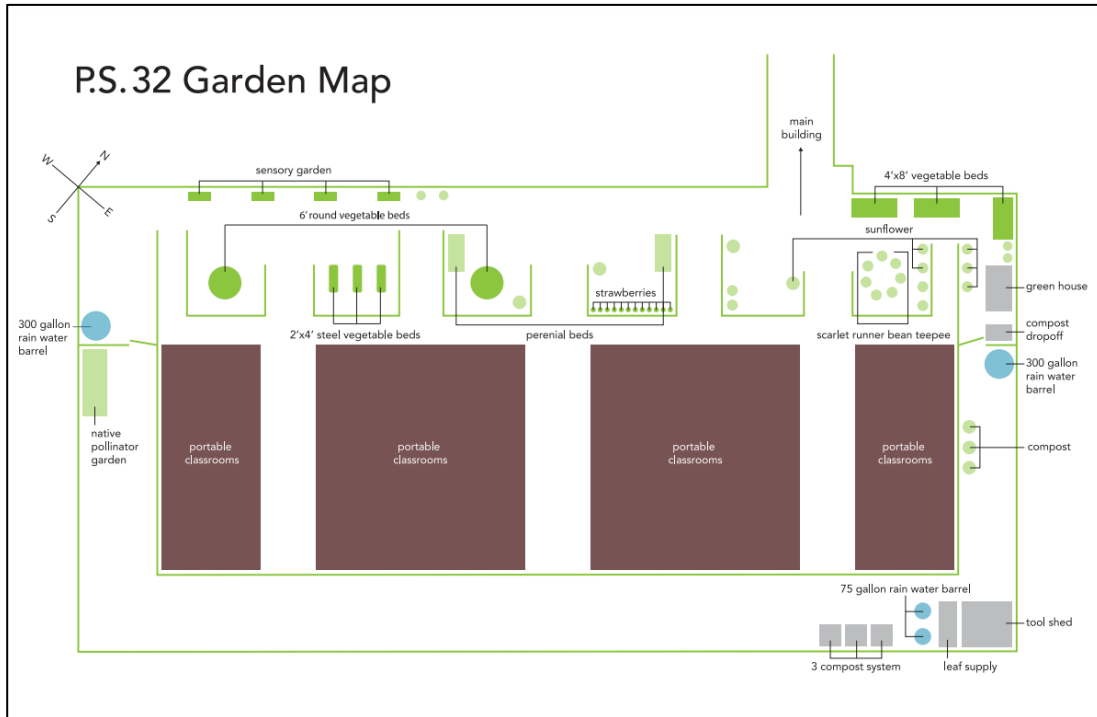
Determine the health of the existing soil onsite—is it nutrient rich, does it have the proper pH, does it require amendments such as fertilizer? You can test for nutrients and pH using a relatively low-cost home testing kit.

Water Source

- Is there a water source on the site?
- If the water source is a hose connection, how far is it from the planned planting beds?
- How many hoses will you need to reach from hose connection to your planting beds?
- If a hose connection does not exist, is there an opportunity to tap into a downspout(s) for harvesting rainwater? For more information on Rainwater Harvesting, see the section on Rainwater Harvesting
- If none of the above are available and the garden is located along a sidewalk, how close is the nearest hydrant? Schools registered with GrowNYC School Gardens are eligible to receive a seasonal hydrant permit to access water from a hydrant to fill a rainwater harvesting barrel. For more information, see the section on Watering Methods.

Performing an in-depth site assessment and making a map is a crucial undertaking so that the future garden is thoughtfully designed and planned in such a way that allows for maximum usability of students as well as optimum growth of the plants.

Below are two examples of detailed garden maps:



OUTDOOR LEARNING SPACES AND OUTDOOR CLASSROOMS

For in-depth information about outdoor learning spaces and outdoor classrooms, please see our [Outdoor Learning Toolkit](#).

FOOD PRODUCING GARDENS

Definition: Growing plants for eating

Pros: Food gardens are a way of engaging students in local food systems, nutrition education, and food cultures. Students are more likely to try new foods if they played a role in growing it. Interactive, participatory, and fun to taste foods.

Cons: Crops are prone to disease and pests and must be controlled. The busiest harvest season occurs over the summer when many schools are closed and requires ongoing maintenance - will there be someone to take care of the garden over the summer?

Example plants: Vegetables, fruits, fruit trees, herbs, edible flowers, etc.

More info: GreenThumb Growing Food Toolkit:

https://greenthumb.nycgovparks.org/news.html?news_id=480,%20https://greenthumb.nycgovparks.org/pdf/GreenThumb_Gardeners_Handbook_2021.pdf

HERITAGE/GLOBAL GARDENS (ETHNOBOTANY)

Definition: Plots that have traditional crops or plants from different cultures.

Pros: Celebrates the diversity and multiculturalism of students' backgrounds. Can be a smaller section of a larger garden. Can be food-producing or ornamental.

Cons: Plants may be suited for a different climate, so you must research growing needs. Plants may be non-native to the NYC region, so you must research and understand how they will interact with and impact the local ecosystem.

NATIVE PLANTS AND POLLINATOR GARDENS

Definition: Planted with primarily plants native to the area that support bees, butterflies, native insects, and birds that transfer pollen from flower to flower. Native plants are the best plant pollinators since they have evolved to adapt to the local growing conditions.

Pros: Natives usually require less water, no fertilizer and little pest control, they support biodiversity by creating habitats for native birds, bees, butterflies, and beneficial insects, they preserve natural heritage, and they help prevent erosion

Cons: Some people consider native plants to look messy and unruly, there is more limited selection, not as commercially available, can be prone to blights (check which plants are having blight before buying). Generally, native plantings require more care in their first year of planting.

Example plants: smooth rose, violet, NY aster, butterfly weed, columbine, etc.

More info:

- National Wildlife Federation: <https://www.nwf.org/Garden-for-Wildlife/about/native-plants>
- City of New York Parks & Recreation Native Plant Guide: https://naturalareasnyc.org/media/pages/in-print/research/8cf424230f-1601408873/nrg_publication_gardening_with_nyc_native_plants.pdf

FLOWER GARDENS

Definition: Planted exclusively with flowers, generally for cut flower purposes and/or purely for aesthetic landscaping. Often designed with plants that bloom at different times in the season to ensure consistent bloom.

Pros: Aesthetically pleasing, can be lower maintenance depending on type of flowers, some are perennial and come back year after year.

Cons: Get overrun with weeds easily, are often planted with non-native plants that do not benefit the local ecosystem as much as native plants would.

Example plants: Sunflowers, wildflowers, poppies, daffodils, lilies, etc.

MEDITATION AND SENSORY GARDENS

Definition: Sensory gardens are designed to engage all five senses - having plants that engage the sense of taste, smell, touch, sight, and sound.

Pros: They can be designed for relaxing and meditation or inclusive gardening, you can plant a sensory garden in any space - even in one pot. Sensory development, calming, encourages exploration and discovery skills

Cons: Could be more costly (buying multiple types of plants)

Example plants: Lamb's ear (touch), herbs or spices (smell, taste), money tree (sound), pansies (sight)

SHADE GARDENS

Definition: Garden made up of plants that thrive despite little/no direct sunlight

Pros: Utilizing shady spaces, less water intensive, better weed control, lower maintenance

Cons: Not all shade is created equal – you have to figure out if your shady spot can be a successful shade garden, more susceptible to mold/fungus because it takes longer to dry

Example plants: hostas, fringed bleeding heart, trout lily, golden ragwort, wake robin, virginia bluebells

More Info: Brooklyn Botanic Garden: https://www.bbg.org/gardening/article/garden_in_the_shade

RAIN GARDENS

Definition: Garden designed and planted in a depressed area in the landscape that collects rainwater runoff. Also called bioswales. They are designed to temporarily hold water, and soak it in within 48 hours. Needs soil with good drainage.

Pros: Helps local environment by reducing the amount of stormwater in our sewer systems, promotes biodiversity, filters chemicals and sediment from rainwater runoff.

Cons: Usually relatively small (could be a section of your school garden), need the right dimensions of sloped area and should avoid areas with utility lines, require some background knowledge to build properly.

Example plants: aster, summersweet, inkberry holly, great lobelia, other natives

More Info:

- GrowNYC Rain Garden Workshop: <https://www.grownycdistancelearning.org/post/rain-gardens>
- Brooklyn Botanic Garden: https://www.bbg.org/gardening/article/native_plants_for_new_york_city_rain_gardens

Raised Beds and Container Growing

Raised bed gardening involves growing plants in soil that is higher than ground level. Gardening in raised beds also keeps your edible plants from touching potentially contaminated soil. For school gardens in NYC, we require that schools grow produce/edible plants in clean soil in raised beds/containers due to potential contaminants of urban in-ground soil. Most common raised beds are 4 feet wide by 8 feet long and 6 to 12 inches deep, but the best part of container and raised bed gardening is that it can be customized to fit the school garden's particular space.

CONTAINER GROWING

Milk crates, buckets, pots, and upcycled containers:

Using small, medium, and large containers for gardens is wonderful for small spaces and indoor gardening. You can use milk crates, 5-gallon buckets, terra cotta or plastic pots, fabric planters, and upcycled containers or objects. Make sure the container has drainage holes so that water passes through with ease and doesn't waterlog your plant. You also want to ensure your upcycled container is food-safe if growing edible plants in it. Find the right sized container for what you are planting. The roots might become pot bound, forming a dense mass of tangled roots with no space for further growth if the container is too small. Also, the plant might not get enough nutrients from the small amount of soil. Measure the space you have and decide on how many and what you want to grow in containers.

Plants with shallow root systems, such as herbs and lettuces, require a container with at least 6 inches of soil depth. Plants with deep root systems, such as tomatoes and potatoes, require at least 10-12 inches of soil depth.

Pros:

- great for small spaces or for indoors
- variety of materials and sizes
- Portable
- Can be very cost-efficient

Cons:

- dries out faster if container is too small
- more fertilizer needed
- containers can get expensive
- plants outgrow containers

Examples of containers:

- Milk crates lined with landscape fabric or burlap to contain soil (can be stacked on top of other empty milkcrates to create height, which can increase accessibility)
- 5-gallon buckets (use a food-grade bucket if growing edibles)
- Fabric grow bags
- Plastic or terra cotta planter pots



Growing in milk crates at the Teaching Garden on Governors Island

WOODEN RAISED BEDS

Definition: A classic wooden bed is 4 cuts of lumber nailed or screwed together into a rectangle and lined with landscape fabric on the bottom to separate it from the ground soil. The most common dimensions are 8 feet long by 4 feet wide, with 10-12 inches of depth, although the size and shape can be easily customized to suit your needs. Use untreated lumber as treated lumber can contain toxic compounds that leach into the soil. To prevent wood rot, the untreated lumber can be brushed with linseed oil or other food-safe treatments before filling with soil. Traditionally, the beds are made of rot-resistant wood like cedar. Pine is a popular lower-cost choice.

Pros:

- clearly marks growing areas from walking areas
- attractive with options of decorating and embellishing
- customizable
- lots of growing area

Cons:

- wood is prone to rotting and only lasts 5-10 years
- requires more frequent watering than a sub-irrigated planter (see below)

More info: [GrowNYC Raised Bed Toolkit](#) for how to build different types of wooden raised beds.



Wooden raised beds at PS 187 in Manhattan

METAL AND TREX RAISED BEDS

Definition: There are many other materials that can be used for raised beds like galvanized steel, cement, or even food-safe plastic lumber. These follow the same structure as the wooden beds above but are made out of different materials. For metal beds, look for galvanized steel or something that won't rust too quickly. Note that they may last longer than wooden beds if they don't rust. Trex, also known as plastic lumber or composite lumber, is a more expensive material than metal or wood but will last forever.

SUB-IRRIGATED STOCK TANK BEDS

Definition: Sub-irrigated stock tank planters are a type of containerized raised bed. They are made of galvanized steel which makes them durable, long-lasting, and rot resistant. The sub-irrigation allows for less watering of plants during a given week. You can also use alternative containers such as sturdy plastic bins in place of metal stock tanks.

Pros:

- durable and long-lasting
- rot-resistant
- self-watering (especially helpful during the dry, hot summer when not many people can water the school garden)
- no water evaporation from topsoil
- keeps soil consistently damp
- allows roots to grow deep and keep the plant sturdy

Cons:

- people might think that they don't have to water for weeks since there is water in the reservoir, therefore neglecting the plants that are growing
- special mix of potting soil is required for aeration and prevention of soil compaction
- will need a supporting base (2x4 wood or a sturdy rolling cart) so the tank can be moved if necessary, especially if placed on asphalt. Check with your administrator on the school grounds policy.

More Info:

- [GrowNYC Sub-Irrigated Stock Tank Planter How-To Guide \(See Appendix E\)](#)
- [GrowNYC YouTube Video on How to Build a Sub-Irrigated Planter](#)



Sub-Irrigated stock tank planters at PS 139 in Brooklyn

TRADITIONAL ROWS OR MOUND GROWING

Definition: Traditional rows involve planting in straight lines on raised mounds of soil directly in the ground. This method of gardening came about as a result of using plows, in pre-industrial agriculture. Traditional row growing takes up a lot of space and is the least common method of growing in urban areas because there is not enough space and existing ground soil is not generally considered safe. If you have the space in your school, we recommend laying down thick landscape fabric to avoid growing in potentially contaminated ground soil, and placing clean soil on top to grow in.

Pros:

- “farm aesthetic” appeal
- allows for easy access to plants
- allows for a great number of crops to be planted
- allows for more light penetration
- allows for intensive crop production, similar to a farm
- drip irrigation can lay flat on the ground

Cons:

- requires clean, uncontaminated ground soil and ongoing soil testing
- requires a lot of space
- expensive to install
- Soil erodes quicker because it is not contained

VERTICAL GARDENING

HANGING PLANTS, TRELLISING, WALL AND FENCE GROWING

Definition: If you have more vertical space than surface area at your school, you can grow a vertical garden. These techniques are also great to incorporate to maximize your growing space. Trellising is the technique used for growing vining or branching plants vertically by using rope or netting as support. You can have planters on the ground and train the plants to grow up a wall, fence, stake, or you can use hanging planters that don't touch the ground, such as grow bags or wall-hanging planters.

Pros:

- makes harvesting easier because it is at arm-level
- maximizes growing space
- prevents rot, pest, & disease issues for plants that grow on the ground
- There are many options for stakes and trellises to fit your space

Cons:

- labor intensive as plants must be regularly pruned and tied up
- less fruits per plant

Examples of plants: pole beans and peas, cucumbers, melons and squashes, certain tomatoes and peppers, morning glories, herbs, etc.



Examples of vertical growing

ADDITIONAL RESOURCES

- [GrowNYC Wooden Raised Bed Building Guide](#)
- [GrowNYC Sub-Irrigated Stock Tank Planter How-To Guide](#)
- [GreenThumb Wheelchair Accessible Raised Bed Carpentry Plan](#)
- [GreenThumb Garden Accessibility Guide](#)
- [How to Build a Soda Bottle Sub-Irrigated Planter](#)
- [How to Build a 5-Gallon Bucket Sub-Irrigated Planter](#)

Outdoor Structures

Structures and infrastructure such as seating, storage sheds, shade structures, arbors, pavilions, and greenhouses can help school gardens have space for gatherings and relaxation, extend their gardening season, store supplies, and provide the ability to host classes outdoors.

As a universal practice, you should propose any and all ideas for garden structures to your administration as the first step. They will advise you of the specific protocol for your school. Once you have admin approval, you should also communicate the plan with custodial engineers and get their input.

SMALL, IMPERMANENT STRUCTURES

Generally, for small, impermanent structures in a school garden, approval from the school administration and custodial engineers is all you need in order to add the structures to the school site.

Examples:

- Small, lockable storage chest (also known as a job site box)
- Benches/Chairs/Seating
- Small, impermanent tool shed (not a walk-in structure, can be disassembled and moved)
- Small, impermanent greenhouse (can be disassembled and moved)
- Tables
- Pop-up canopy tent (must be weighed down properly when in use and put away after each use)
- Outdoor whiteboard/chalkboard
- Portable hand washing stations

LARGE AND/OR PERMANENT STRUCTURES

Larger and/or permanent structures present more liability issues, have a more involved construction or installation, cannot be as easily removed, and need to be certifiably safe for use. Your school admin will need to outline the specific protocol for such projects, and for NYC schools, this may involve the School Construction Authority and/or the Division of School Facilities. This process can take a considerably longer time, so plan a flexible and generous timeline. It's a good idea to have alternatives available for use in the interim so that gardening can still take place (for example, if you want to build a high quality, permanent wooden tool shed, consider securing a storage closet in the school to store tools in the meantime, so that students don't have to wait for the long project to be completed before getting out in the garden).

Examples:

- Walk-in tool shed
- Walk-in greenhouse/hoop house/high tunnel
- Pavilion
- Shade structures (including rainwater harvesting structures)
- Stage
- Rooftop gardens (more elaboration on this topic below)

Pro Tip: NYC schools should talk to their School Construction Authority (SCA) liaison to make sure there is no planned work that would disrupt garden plans. If there is planned work that will disrupt the garden space, ask the SCA to include restoration of the garden to its original condition to their scope

of work. This is essential in the planning phases as revisions to the scope of work often cannot be made once the project is progressing. Sometimes, construction on school grounds happens without advance warning, which is another consideration when building a permanent structure.

Rooftop Gardens

Many schools have questions about how to build a rooftop garden, whether the structure is a passive green roof (extensive), a raised bed garden with a classroom gathering space (intensive), or a greenhouse allowing for year-round access. There are many requirements for building these additions to the roof of the school and each solution will vary per building, so it is imperative to seek administration's involvement immediately. A project of this scope can take years of planning and fundraising in order to come to fruition.

REQUIREMENTS

The following information is a summary of what our team has found out from schools who have gone through the process of trying to get a rooftop garden (some successfully and others unsuccessfully)—these are not the official or comprehensive legal requirements. Please use the following info as a starting point to get an idea of the scope of the project.

In NYC, your school will need to work with the School Construction Authority (SCA) to conduct a Green Roof Feasibility Study (SCA may be able to offer a grant to conduct the study). This is the first step to help determine the potential for a rooftop structure on your school as well as will give some insight into possible cost considerations for the project.

Generally, in order to be eligible for a rooftop garden, the school must be a relatively newly constructed building, and must have the following requirements:

- An amended Certificate of Occupancy if the ultimate goal is to have the rooftop garden exist as a “working classroom” where students with gather for classes
- Elevator access to comply with American with Disabilities Act (ADA) policies and New York Local Law 58 which reinforces the ADA requirements, (sometimes it is possible to get a waiver)
- Compliant fire safety measures
- Sufficient load bearing capacity of the roof
- Tie-down protocols (to prevent any element from flying away due to wind)
- Insurance coverage
- Compatible roof building materials
- Adequate space to allow for no obstruction of the mechanicals of the building
- A water source
- Safe border/high walls or fencing around the perimeter

This list is not comprehensive and serves as a general introduction to the myriad of requirements the DOE requires for new rooftop infrastructure. Additionally, as of 2019, NYC introduced local laws 92 and 94 which require that the roofs of certain buildings be partially covered in green roof or solar power. It is important to determine if your school building falls into any of these local law considerations.

COSTS AND FUNDRAISING

Each school will be unique in what their rooftop project will need with respect to engineering and design so there will be great fluctuations in cost considerations between projects. In general, schools should expect to fundraise for the following costs for a rooftop project:

- Design
- Engineering
- Construction/Installation
- Future maintenance & stewardship of the space

If the project is given the “Green Light” by the SCA, the school itself will be responsible for fundraising for the project. Neither the SCA nor the DOE will fund this project outright and schools should expect to fundraise for a couple of years depending on the final scope of the project. Possible funding sources for school rooftop garden projects in NYC are:

- Borough President’s Major Capital Improvement Fund
- City Council (Reso-A)
- New York City Department of Environmental Protection
- Grants
- Private donations

There are many requirements for rooftop infrastructure, but there are schools in NYC who have successfully acquired rooftop gardens. We suggest being realistic about the challenges and cost and doing lots of research. It’s helpful to connect with a school with an existing rooftop garden so they can walk you through the steps and their experience. It’s difficult, but not necessarily impossible, and rooftop gardens are becoming more widespread each year!

For an example of a school green roof, check out the PS 6 Eric Dutt Eco Center in Manhattan.

Watering Methods

Water is an essential need for all plants to thrive and grow. The best time to water is early in the morning to avoid losing water to evaporation, especially during the summer. This also ensures the leaves have time to dry to prevent fungal infections from spreading. In general, newly planted seeds and seedlings will need more watering since the root systems have not reached far below the soil line. Proper watering ensures a bounty at the end of the growing season. Choosing the right watering method will allow your garden committee to stay on top of maintenance.

HOSE, SPRINKLER, DRIP-IRRIGATION AND SUB-IRRIGATION

Traditional hose: Using a hose is the most common way to water plants in the school garden. Focus on watering the base of the plant at the root zone instead of overhead to prevent powdery mildew on leaves.

Pros:

- controlled amount of watering
- less time than hand-watering

Cons:

- not suitable for uneven or sloped garden beds
- not as water-wise as drip or sub-irrigation

Sprinkler: Sprinklers are a watering system where rotary or spray nozzles are used for irrigation. This type of system is not recommended as most sprinklers water overhead, which encourages fungus and mildew and is not eco-friendly.

Pros:

- timed watering
- decreases manpower

Cons:

- leads to overwatering/run-off
- does not target root zone
- prone to evaporation
- can lead to powdery mildew on leaves

Drip Irrigation: This is a system of soaker hoses laying flat on the soil that have small holes throughout the length of the hose that delivers water directly to the soil at a slow rate. Drip irrigation systems are often sold as a kit.

Pros:

- increased water absorption and less water waste
- saves time and manpower

Cons:

- can be more expensive initially
- Requires flat growing area, or for water source to have sufficient water pressure, especially if pumping water upwards

Sub-irrigation/Self-watering: Sub-irrigation, also called self-watering, is the process of watering plants from below, instead of above. Sub-irrigated planters work when you pour water into a fill-tube, and it flows down into a reservoir at the bottom of the planter below the soil. Once the reservoir is full, the water is wicked up through the soil and seeps into plants' roots. This system helps to keep soil consistently moist, preventing evaporation from the topsoil, so you won't have to water as often once the roots are established.

Pros:

- Requires less frequent watering
- Very water-wise
- Prevents over watering because plants draw up only what they need

Cons:

- More expensive to buy self-watering planters
- More labor/time intensive to build your own

Self-watering oyas/ollas

Ollas are an ancient irrigation technique where low-fired, unglazed clay pots are used for self-watering of crops. The olla is buried with only the opening visible on top above the soil line for filling with water. Depending on the moisture level in the soil, water dissipates slowly through the porous walls of the clay pot. Ollas are often used as a supplement to another water method, such as

overwatering with a hose, to stretch out how often you need to water. Used as the sole method of watering, they likely will not provide enough water to the plants.

Pros:

- Requires less frequent watering
- Prevents excessive evaporation
- Prevents water run-off
- Promotes deep watering and dense root growth

Cons:

- Hard to tell when they're empty
- Take up a lot of space in the planter bed
- People sometimes forget that they still need to water the garden

HYDRANT ACCESS

If there is no water source near the school garden, water can be accessed from a nearby hydrant. A hydrant permit from your local NYC Department of Environmental Protection (DEP) is needed to access water from a nearby fire hydrant. GrowNYC School Gardens and GreenThumb can assist school gardens in good standing to request a hydrant permit on a case-by-case basis. The hydrant permit lasts for one growing season and there is a required training on how to use the hydrant properly and what tools to use.

RAINWATER HARVESTING

Rainwater harvesting is the collection and storage of rain, rather than allowing it to run off. Rainwater is collected from a roof-like surface and redirected to a rain barrel or tank using pipes. The collected rainwater can then be used to water the garden in an eco-friendly way.

Standard rain barrel kits include a 50 gallon rain barrel, the PVC piping to connect the barrel to a gutter, and spigot. As of 2022, they cost between \$90-\$180. NYC schools are sometimes able to source free rain barrel kits from a partnership giveaway hosted by Newtown Creek Alliance and Department of Environmental Protection (DEP), or through giveaway events hosted by their councilmember's office. It can be fruitful to request that your councilmember's office host a rain barrel giveaway to demonstrate demand.

Rain barrels must be attached to a gutter system. They should always have a closed top, to prevent mosquitos from breeding in the open, standing water. They must be raised up on at least a small platform, such as a few bricks or blocks of lumber, so that you can fit a watering can below the spigot and fill up. Most rain barrels are used to fill up watering cans—they won't generate enough water pressure for a hose unless you specifically design and place them strategically to create pressure. See the guide in the Additional Resources box for more in-depth instructions on how to build various rainwater collecting systems.



Rainwater harvesting system with rain barrels attached to gutter

ADDITIONAL RESOURCES

- [GrowNYC Rainwater Harvesting Resources](#)
- [KidsGardening: Wise Watering](#)
- [GreenThumb Gardeners' Handbook: Hydrant Access](#)
- [New York Restoration Project Gardeners' Guide: Watering](#)

Pest and Disease Management

As stated in the GreenThumb handbook: “Pests and plant diseases are inevitable when gardening. Planting flowers for beneficial insects, avoiding the use of synthetic pesticides, herbicides, and fertilizers, and giving each plant the space and attention it needs to thrive are just a few of the ways you can prevent and mitigate these issues when they arise.”

INTEGRATED PEST MANAGEMENT

Best practice is to avoid pesticides—organic, inorganic, or otherwise—in favor of using Integrated Pest Management (IPM). The exception for this is professionally managed and targeted rat baiting in problem areas (see Rat Mitigation section below). IPM best practices support preventing pest and disease issues as much as possible through the use of row cover, intercropping, and other methods, as well as the use of low-impact, organic materials such as neem oil, soap spray, and diatomaceous earth.

COMPOST AND FERTILIZERS

The use of compost and other organic soil amendments, such as fish fertilizer, is recommended over chemical based fertilizers. Many non-organic, chemical commercial fertilizers are harmful to humans, animals, and the beneficial organisms that live in soil.

RAT MITIGATION

Rats are an obstacle that many NYC gardens confront and overcome. They can be frustrating and difficult to manage, but there are many tactics you can use to prevent and mitigate rats in your urban garden.

- **Trash:** The most important thing is to ensure there is no trash within 200 ft of the garden. Trash always includes fats and proteins, which is what attracts and keeps rats around. Make sure trash is not left on the sidewalk nearby the garden. You may need to collaborate with the custodial staff and neighboring businesses if trash is consistently left near the garden area.
- **Collapse Burrows:** If you see rat burrows in your garden area, you should create a schedule with the garden committee to collapse the burrows every evening using a pole and filling in the burrow. You can also fill the burrow with special tunnel fill stones. The rats may continue to clear out the burrows or create new ones, so the goal is to tire them out and make the garden area seem less appealing, so they'll eventually move out.
- **Bed Design:** For wooden garden beds, you could try securing 1/4" stainless steel hardware cloth at the bottom of the garden bed before filling it with soil, to deter rat burrows and make it as difficult as possible to live there. Rats can fit through anything bigger than a ¼ inch hole. Sub-irrigated stock tank beds made of galvanized steel (see [Appendix E](#)) are the best garden bed design for rat control, because they are slippery to climb up the sides and have a solid metal base that rats can't burrow through.
- **Compost tips:** If you're in a dense urban area with rats, it's best to only allow raw plant material in your compost. Avoid food scraps cooked with oils and definitely avoid meats and fish. Rats are most attracted to fats and proteins. There are also "rat-proof" compost tumblers that are raised off the ground and usually circular and close securely. If you have a bin system for your compost, put it on a concrete landing so rats can't burrow from underneath.
- **Traps:** The last resort is getting a professional to place rat bait traps. These are highly toxic and should not be close to edible plants. Students as well as the general public need to be kept away from the traps.

ADDITIONAL RESOURCES

- [NYC Department of Health Resources for Rat Prevention and Control](#)
- [GrowNYC Rat Mitigation in Gardens Workshop](#)
- [GreenThumb Growing Food Toolkit: Pest and Disease Management](#)
- [EPA "Introduction to Integrated Pest Management"](#)
- [Cornell Cooperative Extension Organic Production and IPM Guides](#)
- [Cornell Cooperative Extension – Garden Based Learning: Troubleshooting](#)
- [Cornell CALS New York State Integrated Pest Management](#)

Season Extension

Broadly speaking, New York City's growing season occurs between the last frost date in Spring and the first frost date in the Fall. NYC is in USDA Climate Zone 7A-7B. Planting instructions will generally state when you should start planting in the ground in your climate zone. Some plants have a high frost tolerance and can survive cold weather, whereas others are very sensitive and can't survive cold weather. To maximize your growing season, you can strategize your crop plan (use cold-tolerant plants in the shoulder seasons) as well as utilize a variety of season extension methods.

ROW COVER, LOW TUNNEL, COLD FRAME, HIGH TUNNEL, GREENHOUSES

Row Cover (low-cost):

Row cover is any transparent or semi-transparent, flexible material, like fabric or plastic sheeting, used as a protective covering to shield plants. There are many different types of row cover and it can be used for different purposes: shade protection, pest protection, temperature protection, and wind protection. For cold weather protection, it's best to use fabric row cover because it can self-ventilate, allowing sun and rainwater to come through. If you use plastic row cover, you should make some ventilation holes and check on it every day.

You can prop up the fabric or plastic row cover around the top of the plants using stakes, sticks, or anything you have laying around.

You can also cover the surface of plant beds with bed sheets, burlap, drop cloths, or light blankets. This can prevent the soil from freezing overnight and protect the root systems in cold weather, to a certain extent.

Low Tunnels (low-cost):

Low tunnels are temporary structures that can protect crops using row cover and half-hoop stakes. They are basically a mini version of a high tunnel or greenhouse. They protect plants from wind, snow, sun and pests. They're approximately 2-4 feet tall and 2-6 feet wide (but can be customized to fit any bed size). The framing is made with plastic or metal pipe, or wire bent into half-hoops and the cover can be fabric (polyester or polypropylene) or plastic. You simply stick the hoops into your garden bed and cover with row cover, securing the row cover with garden staples.



Low tunnel with fabric row cover

Cold Frames (low to medium cost):

A cold frame is a simple structure that utilizes solar energy and insulation to create a microclimate within your garden. They are essentially a garden bed/planter box with a piece of transparent glass or plastic to trap light and heat inside the planting container. Sometimes the lid is hinged so that you can get in and out of the cold frame easily, and so you can prop it open for ventilation or during hot weather. To keep it simple, you can even just prop an old piece of glass on top of a planter container, no hinge needed. Thicker materials will provide more insulation. You should ensure at least a tiny bit of ventilation (it should never be airtight, as that would smother the plants). Upcycled windows are great for cold frame covers.



Easy cold frame using a window

High Tunnels/Hoop Houses/Greenhouses (medium to high cost):

High Tunnels, Hoop Houses, and Greenhouses are semi-permanent or permanent structures which can be used all season long. There are various distinctions between the terms, but they are also used interchangeably in some dialogues. Generally, high tunnels/hoop houses are not artificially heated and are made of a flexible fabric such as plastic. Greenhouses can be artificially heated or not, and are often made of glass.

High tunnels trap the sun's heat to create a microclimate. Unheated, unregulated high tunnels run approximately 20 degrees warmer than outside air temps. They are tall enough to work in while standing up. All of these structures need some sort of ventilation, such as rolling up the sides or keeping the door ajar, otherwise plants can get smothered.

How to Build a High Tunnel: You can purchase different kits. Most have plastic covers that are stretched over hoops, although some have fabric covers. Some kits come with pre-bent hoops, and others require you to bend them yourself which can be challenging. You need to stretch the plastic very tightly over the hoops. It's recommended to do this step on a hot day, while the plastic is at its most pliable (if you stretch it during cold weather, it will sag in hot weather), and you should have background knowledge and enough people to assist in the installation to do it properly.



Hoop house, also called a high tunnel

ADDITIONAL RESOURCES

- [GrowNYC Cold Weather Crops Workshop](#)
- [GrowNYC Spring Planting Calendar](#)
- [GrowNYC Fall Planting Calendar](#)
- [GrowNYC Crop Planning Template](#)
- [Cornell NYC Garden Planning Calendar](#)
- [US Botanic Garden Greenhouse Manual](#)
- [GrowNYC “Preparing Your Garden for Fall”](#)
- [GrowNYC “A Year in the Life of a School Garden”](#)

Using the Harvest

If your school garden includes edible crops, you will have to harvest them and decide what to do with the food you produce. To harvest means to gather your crops, by picking, cutting, and trimming them, to prepare for delicious consumption! The harvesting process differs depending on what you have planted.

PERSONAL COLLECTION

If your garden has open hours for personal harvest, you will want to post signage specifying how much each family can take. If individual families or children will be harvesting, make sure to post images of how to properly harvest each plant. One GrowNYC school garden demonstrated how much produce to take by having a bicycle basket with a sign to take only what would fit in the basket.

TASTINGS AND NUTRITION EDUCATION IN CLASS

This is a great, informal way to use produce, engage students, and encourage them to try new produce or try produce in a new way. One easy way to use produce from your school garden's harvest in class is with sample tastings. Food tasting activities allow youth to explore a wide variety of food, and youth are more likely to try and enjoy food that they had a hand in growing. There are many plants that can be sampled raw – such as peppers or tomatoes.

You may also choose to cook recipes with your class to incorporate well-rounded nutrition education. Nutrition education is possible with different age levels and in different classes. We work with schools that incorporate cooking in the classroom from kindergarten through high school, and in science, social studies, physical education classes, and more.

Certain crops and garden styles allow for easier incorporation of tasting and cooking in the classroom. For example, herbs, microgreens, and sprouts can act as interesting flavors to eat raw and can be easily grown in a windowsill. Simple dishes such as salads, salsas, pesto, hummus, and dips also require minimal cooking. There is a multitude of curricula and programs to support classroom nutrition education—see the Additional Resources box for some suggestions.

USE HARVEST IN SCHOOL CAFETERIA

If you're interested in offering the harvest for use in the school cafeteria, we suggest you discuss the idea with students, the school administration, and the School Food Service Manager (kitchen manager). If the students display little enthusiasm for the idea, you will get little support from either the school administration or the School Food Service Manager.

If your students are enthusiastic about the project, you can then approach the school administration and Service Manager. Before meeting both, we suggest you have the following information available:

- List of potential crops you plan to grow,
- Amount, in pounds, you anticipate growing
- Tentative growing and harvest schedule.

By having such information available, you can answer several questions ahead of time:

- Dedication to this project from you and your students
- The kitchen manager will have a food sense of how your crop availability will affect their projected food orders
- Will the kitchen have enough storage space?
- Will the kitchen staff have enough time to prep your donations?

Once you have had an initial conversation with the School Administration and Kitchen staff, we recommend having a more detailed one with the kitchen manager on the following topics:

- What produce items feature regularly on the lunch menu,
- What new items are possible to add?
- How often can the garden realistically supply items for the kitchen?

When schools grow produce for the kitchen, the salad bar is where they focus most of their attention. In addition, many side dishes can include garden produce: leafy greens, tomatoes, cucumbers, onions, etc. Herbs are also a good choice due to the variety of options available.

It's valuable to develop a good relationship with the school's kitchen manager and cook. Many have worked in your school kitchen for numerous years and have a good sense of the student's likes and dislikes. By listening to their advice, the students and the school's garden will benefit.

Note: All soil-grown produce used in the cafeteria must undergo soil testing (see soil testing section). If your school grows produce through hydroponics or aquaponics (water-based), the NYC Department of Education's Division of School Facilities conducts school water tests. We recommend you examine the most recent test conducted for your school to determine lead levels. For more information, please reach out to DOE Sustainability at <https://www.schools.nyc.gov/school-life/space-and-facilities/space-and-facilities-reports/water-safety>

The NYC Department of Education's Farm to School Program motivates students to try and, ultimately, enjoy more vegetables and fruits as part of their daily diet. If you have questions about this program, also known as Garden to Cafe, please reach out to: gedwards4@schools.nyc.gov

DONATE HARVEST

There are many options for where to donate excess produce in NYC. These include food pantries, community fridges, and various community-based organizations. A great first step would be to reach out to the local community organizations, religious institutions, and council people near your school to find out if they accept produce donations. This is also a great way to forge community connections and let your neighbors know about your garden! You can search a city-wide list of organizations that accept fresh produce.

When deciding to donate harvest, these are some topics to discuss:

- Transport: which party will be responsible for transporting the produce from the school to the donation site, and how will they do so (car, wagon, etc.)? How many volunteers are needed?
- Try to pick a consistent "harvest donation" day (such as every other Thursday), so that volunteers and recipients can plan around it
- Storage and refrigeration: will the school store any produce in the days or hours until the donation occurs?
 - Tip: greens such as lettuce can be kept fresh for hours or up to a day in wheelbarrows filled with water
- Ensure that the produce is culturally appropriate and of high quality. Be open to community feedback.
- Respect privacy and uphold dignity (Ex: do not take photos of folks accessing the food donation, do not share identities of recipients, consider a "no questions asked" policy in which anyone can access the donation without having to provide information).

Here are some NYC options of food donation organizations:

- View a list of organizations that accept donated produce at DonateNYC: <https://www1.nyc.gov/assets/donate/site/DonateFood/category/details/11>
- View a map of NYC community fridges: <https://nycfridge.com/>

- Search by address for a list of close food pantries: https://www.foodpantries.org/ci/ny-new_york

Some schools decide to operate a food fridge or pantry out of the school itself.

RUN A FARMSTAND AND SELL HARVEST

If your school garden consistently produces an ample amount of food, you can consider starting a farmstand/farm market at your school. GrowNYC created a free, 12-lesson Farmstand Business Curriculum, designed for high school youth that is accessible on our website:

www.grownycdistancelearning.org/farmstand-business-curriculum

ADDITIONAL RESOURCES

- [GrowNYC Harvesting How-To Videos](#)
- [Clemson Cooperative Extension: Harvesting for Common Vegetables](#)
- [Seed Savers Exchange Crop-by-Crop Growing Guides](#)
- [KidsGardening: Safe Harvesting](#)
- [Kids Gardening: Nutrition Education in the Garden](#)
- [KidsGardening: Starting a School Farmers Market](#)
- [DonateNYC: List Organizations That Accept Donated Produce](#)
- [GrowNYC Farmstand Business Curriculum](#)

Composting Systems

Composting is a great way to add organic matter to your school garden. The FBI (fungi, bacteria, and invertebrates/insects) decompose the organic matter in food scraps and garden waste into nutrient-rich soil fertilizer. Compost slowly releases the nutrients that plants take up as they are growing. It also improves the soil conditions, such as pH and nitrogen levels, in your garden beds without the use of commercially made fertilizers. Most importantly, composting helps to reduce waste in our landfills.

Composting requires a proportion of “greens” and “browns.” Fresh food scraps like leftover veggies and fruit, garden clippings, fresh flowers and weeds provide the “greens” that are rich in nitrogen. The “browns” are rich in carbon and provide food for the FBI. Dry leaves, shredded paper and cardboard, twigs, and straw are some “brown” matter that can be layered over the “greens”. Keep meat, cheese, oils, fats, and any animal products out of the compost. These will attract rodents and unhealthy pests. In order to be successful with composting, make sure you have the right amount of moisture, air, greens, and browns. You’ll also need to turn the compost manually every few days to once a week.

There are many types of composting systems available. Depending on the size of your school garden, use a system that works for and best fits the space. Below, we outline two popular compost systems: the 3-bin system and the tumbler system.

3-BIN SYSTEM

This system is made up of three wooden bins put together, each 3' wide with a system of wooden slats in the front. New material is added to the first bin in layers and turned every so often for aeration. When this bin fills up and decreases in size after about 3 months, it is transferred into the second bin to continue decomposing, and new material is added to the first bin again. Decomposition continues in the second bin until the organic matter has darkened. It is also turned until it's ready to be transferred into the third bin, usually after another 3 months. At this point the compost needs about another 3 months to cure before it is sifted and used in the garden beds. This process is repeated, rolling the material to the next bin as each one fills. If possible, build your 3 bin system on top of concrete to further deter rats.

Pros:

- multi-chambered
- can handle large amounts of compost
- good airflow

Cons:

- takes some amount of space if you only have a small school garden
- deteriorates over time



3-bin compost systems

TUMBLER

The tumbler system is a smaller scale system than the 3-bin one. As the name implies, you have to manually tumble this compost container to help turn the layers of compost. This helps aerate the compost and aids in the breakdown of the organic matter. Just like the 3-bin system, you want to maintain the proper ratio of browns and greens. Usually made of plastic, and sometimes metal, this tumbler should be placed in a spot that receives plenty of sun. The heat is absorbed and helps with the decomposition of the compost. The bin is tumbled every 2-3 days until the compost is finished. In warm weather, your compost should be ready within a few weeks instead of months. There are also rat-resistant tumblers made of metal and stand off the ground.

Pros:

- fits in a small space
- convenient; compost doesn't have to be transferred to different bins
- quick turnaround
- off the ground, closes securely and rounded design which makes it rodent resistant

Cons:

- not meant for large quantities of compost
- small door opening
- doesn't work well if the ratio of browns to greens is off
- Can only have one "batch" of compost going at a time



Compost tumblers

ADDITIONAL RESOURCES

- [GreenThumb Growing Food Toolkit: Composting](#)
- [NYC Compost: Outdoor Composting Guide \(English\)](#)
- [NYC Compost: Outdoor Composting Guide \(Spanish\) / Guía de compostaje en espacios exteriores](#)

Livestock and Animals in the Garden

It is up to the discretion of school administration whether or not to allow animals in the school garden. It is the gardeners' responsibility to maintain animals safely and in accordance with city, state, and federal law.

For in-depth laws and regulations for NYC, please read the "Animals in the Garden" section of the GreenThumb Gardener's Handbook:

https://greenthumb.nycgovparks.org/pdf/GreenThumb_Gardeners_Handbook_2021.pdf

The GreenThumb Handbook covers information about dogs, cats, birds/fowl (such as chickens and ducks), rabbits, turtles, fish, and bees.

A note on beekeeping: Beekeeping with European honeybees (*Apis mellifera*) has become a popular activity in all five boroughs. In light of recent research showing the possible detrimental impacts of the European honeybee (*Apis mellifera*) on native bee populations, it may no longer be advisable to introduce new honeybee hives in NYC.

Instead, we recommend creating native habitat that can support all types of bees. There are over 200 species of native bees in NYC, and New Yorkers can play an active role in protecting the city's ecosystems and conserving wild bee populations. Many wild bee species have demonstrated an ability to forage in park-adjointing neighborhood gardens. NYC Parks recommends planting native plants to attract native bees for pollinator services. Many native plants can produce abundant pollen and nectar for wildlife, provide nesting or structural material for native insects, as well as benefit our ecosystem.

ADDITIONAL RESOURCES

- [“Animals in the Garden” section of the GreenThumb Gardener’s Handbook](#)
- [NYC Department of Health and Mental Hygiene: Bees](#)

Garden Budgeting and Fundraising

School gardens require funding. While start-up costs range in scale alongside the ambitiousness of an individual project, you will inevitably need supplies, and hence, funding. The following sample budgets for different types of gardens are a good starting point to anticipate your funding needs.

Helpful Tip: When possible, funding that can be placed in school PTA or PTO accounts is often easier to spend as it is not subject to DOE vendors or requirements. Schools with PTA or PTO funding have greater flexibility and ability to purchase funds from vendors of their choosing.

CREATING A BUDGET

We suggest making a spreadsheet to create a garden budget. You can view sample garden budgets in [Appendix D](#) of this Handbook. The sample budgets can give you an idea of what types of materials you'll need. Most schools and PTAs have tax-exempt forms so you won't have to factor tax costs into your purchase. You should factor in delivery costs if needed.

GENERAL SCHOOL BUDGET AND DOE VENDORS

If your principal and school community are willing, you can use your general school budget to purchase materials and supplies for the garden. You may be limited to purchasing from DOE approved vendors in this case. Our guide to DOE Vendors and ShopDOE items may be a helpful place to start.

- [List of DOE Vendors](#)

Please note that DOE vendors and ShopDOE items can change from year to year. The document above is a living list, meaning we update it periodically. If you discover additional DOE approved vendors not listed, or any out-of-date information on our list, please email us at schoolgardens@grownyc.org so we can update the list.

Even purchasing from approved DOE vendors may still require a “three-bid process” for NYC DOE schools, if the items are over a particular price. As an alternative, NYC schools also have access to items available through ShopDOE that you can purchase directly.

APPLYING FOR GRANTS

There is a wealth of grants available to school gardeners. The GrowNYC School Gardens team has created a living document listing available grants to schools (listed below). New to writing grants? Check out our workshop recording below. Once you write a grant, you can use save and reuse many of those responses in other grants. Save your written answers in a shared document so that others from your garden committee can access them for future grant applications.

More resources:

- You can watch our virtual workshop on grant writing for schools: <https://www.grownycdistancelearning.org/post/grant-writing-for-schools>
- We periodically update this compiled list of [School Garden Grants for Outdoor Learning](#)
- KidsGardening lists out school garden grant opportunities: <https://kidsgardening.org/grant-opportunities5/>

FUNDRAISERS

Fundraisers are an excellent way to raise funds for your school garden, and the monies raised can be used for any general garden items (unlike grants, which may have restrictions).

Plant sales (seasonal: fall, winter, or spring), hosting a school movie night, selling garden related merchandise (t-shirts, buttons) as well as holding a bake sale during garden events can all generate funding for the garden. A school's Green Team and/or student Garden Club can have a plant sale of produce directly harvested from the garden.

Online crowdfunding campaigns, especially ones that match funds raised, are a good course of action.

The simplest fundraising activity is to place a donation jar in a visible place when the garden is open. You may just catch some unexpected dollars that way!

CORPORATE SPONSORSHIPS

A corporate sponsorship is a financial donation to a nonprofit by a business to further the nonprofit's mission. The donation can support activities, special events, or programming, and a formal acknowledgement is usually provided afterwards. This can include, for example, naming a garden after said entity, a shout out on social media or in the school's newsletter, an agreement to distribute branded materials to students and parents, etc.

Many businesses have responsibility programs. This can include reimbursing employees for volunteer hours, arranging large-scale corporate volunteer days or ongoing events, providing materials and supplies to local schools or nonprofits, and more.

Asking your community if their employers' have similar programs is a great place to start. You can also work with neighboring nonprofits, like GrowNYC, who often receive requests from corporate groups to work with schools.

Corporate volunteer days can include things like garden builds or cleanups, planting days, tree-pit stewardship, and more. For NYC schools, if a corporate group is interested in working with your school and you'd like guidance, please feel free to contact us.

RESOLUTION-A AND PARTICIPATORY BUDGETING

In NYC, Resolution A (Reso-A) projects are capital improvement or enhancement projects for schools funded by New York City Council Members or Borough Presidents. Schools apply for these funds and if awarded, the School Construction Authority completes the work. Reso-A funds are reserved for large-scale, permanent, and often multi-year projects, requiring a minimum of \$50,000 in funding. In the past, schools have utilized Reso-A funding to create greenhouses, rooftop gardens, indoor hydroponics labs, and more.

More information on the Reso A process and terms can be found here:

http://www.manhattanbp.nyc.gov/wp-content/uploads/2020/12/RESO_A_PPT_Manhattan-111720.pdf

If your school participates in a school-led Participatory Budgeting (PB) program, including a garden project in the yearly PB round of voting is an avenue for generating larger amounts of funding.

ADDITIONAL RESOURCES

- [GrowNYC Grant Writing for Schools Workshop](#)
- [GrowNYC "A Year in the Life of a School Garden"](#)
- [GrowNYC List of School Garden Grants for Outdoor Learning](#)
- [KidsGardening: List of Garden Grant Opportunities](#)

Building and Sustaining a Garden Committee

One successful element to a school garden program is the creation of an active Garden Committee that can sustain itself over time. This garden committee will be responsible for supporting the garden educational program within the school as well as the garden's physical space. The main tasks of the garden committee will be to oversee the creation of/sustaining of the garden, fundraising for the garden, leading events throughout the year, and assisting in physical stewardship of the garden through the seasons on an as-needed basis. A school garden cannot exist without the efforts of a working garden committee full of dedicated volunteers to help steward the space through the years.

To gain an understanding of what is involved in running a garden committee month-by-month throughout the year, check out our in-depth guide "[A Year in the Life of a School Garden](#)".

COMMITTEE MEMBERS

A successful Garden Committee will be composed of several different types of adults from the school community. It's a good idea to have diverse stakeholders, as they each can play a unique and important role in helping the garden:

- **Principal and/or an Assistant Principal and the school's Head Custodian:** It's important to keep the folks who are decision makers for the school involved and aware of the garden's activities. Their buy-in from the beginning is essential to the success of the garden. Please note that custodians, per their contract, are not obligated to perform any work to support the school garden. It's crucial to keep them informed about the garden and its going-ons, but do not assume they will be the caretakers of the space, especially when school is not in session.
- **Sustainability Coordinator & Wellness Council Members:** The Sustainability Coordinator and the Wellness Council Member will be tapped into Department of Education grants and resources applicable to garden projects.
- **Teachers:** Any educator involved with the garden education program is crucial to have on the committee. They will ultimately know the garden up close and personal, and can keep an eye on the needs for the physical garden itself. They can also integrate lessons into the garden and establish the garden as a vital teaching tool that serves an educational purpose.
- **Parents/Caregivers and Volunteers from the school community:** Parents/caregivers are a great resource. They have a myriad of backgrounds and skill sets that can all be utilized for a successful garden program. They can provide physical labor for building and maintaining the garden, as well as their professional skills for aiding in all aspects of stewarding a school garden (i.e. gardening, writing & editing, graphic design, photography, event coordinating, carpentry, marketing, fundraising, etc.). They also may have differing schedules from those on school staff, and be more willing to devote time during off-school hours and school breaks.

You can find a worksheet for forming a garden committee in [Appendix C](#) of this Handbook.

COMMITTEE LOCATION

The Garden Committee can be a school run committee that invites parents to participate in volunteer events in the garden, but it can also be housed within an existing Parents Association (PA) should one exist. There are benefits to each option and it will be up to the educators and volunteers involved with the Garden Committee to decide the best arena to operate the committee.

School-Run Committee

As a school-run committee, the school is responsible for all the planning (curriculum integration, physical improvements, stewardship & maintenance, and events) for the garden as well as for the fundraising for the garden program. The school sets the mission for the garden program and creates the avenues in which to accomplish the mission. The school also undertakes all the fundraising responsibilities for the garden program and must follow all DOE purchasing requirements for procuring supplies for the garden and must be spent down by the end of the fiscal year. The school can decide when and how to invite parent and family participation for garden events.

Parents Association Committee

As a committee housed in the PA, there is an opportunity to share garden responsibilities between the school and the committee. The school can still retain the primary responsibility for curriculum integration of the garden into the school day, while allowing for parent volunteers to help plan and implement physical improvements, stewardship, events and fundraising tasks. If the PA is designated as a 501(c)3, then funding procured by the committee of a PA does not need to follow

DOE purchasing requirements and there exists flexibility to roll over into the next fiscal year any remaining garden funds. Garnering parent involvement for the garden program can lead to more ownership of the garden and a pool of supporters to help maintain it during school breaks.

COMMITTEE STRUCTURE

It will be necessary for the committee to decide upon its structure in order to conduct the business of the garden. Clearly defined roles and processes for decision making will allow for a smoother committee operating experience.

Titles:

- Who will guide the committee, what is their title, and how will they be chosen?
- Is the position a Chair/Co-chair or President/Vice-President arrangement? Other?

Choosing committee leader:

- Interval vote of the garden committee
- Appointed by the PA president (if applicable)
- Self-chosen if no others are interested in the position

Sub-committees: The committee has a choice to make sub-committees to handle the various aspects of running a garden program

- fundraising, composting, events, maintenance

Decision Making: How will decisions be made within the group?

- Hierarchy mandate: Garden Committee leader makes the decisions
- Majority Rules: A vote is taken with the majority votes winning the day
- Consensus Agreement: A decision is reached after group discussions

MISSION STATEMENT, VISION STATEMENT, AND COMMUNITY AGREEMENTS

Mission and vision statements are a great unifying element that defines the purpose and dream of the committee coming together. It is recommended that these two statements are crafted at the onset of a committee's creation but can always be revisited as the garden and committee itself evolves and new volunteers are recruited through the years. We suggest soliciting and incorporating student opinions as well!

Mission Statement

- Defines the purpose of the Garden Committee & the school garden itself
- Defines who the Garden Committee is working to support
- Outlines the path to achieving the Vision

Here is a mission statement example from the EcoTeam at IS 68 in Brooklyn: "To provide students and staff with a hands-on tool for learning, engage students in discussions about environmental sustainability and food growth, inspire our school community to learn more about the origin of our food and what is healthy, and share our harvest with our school and neighborhood community."

Vision Statement

- Defines the overarchingly 'dream' or 'goal' the Garden Committee is working towards in supporting the school garden
- Outlines the hopes that the Garden Committee wishes to accomplish in their vision
- Communicates the values the Garden Committee holds

Community Agreements

Community agreements or norms are a shared list of agreements that the Garden Committee members have crafted and agree to abide by. These agreements help create a safe space for all involved and are the basis for providing mutual understanding and expectations for behavior in the group. Community Agreements are not mandatory, but they do aid in the smooth running of the garden committee while bringing together a diverse set of personalities. Some examples of Community Agreements are:

- Be open, curious, respectful
- Honor intentions and acknowledge impact
- One Mic: practice active listening
- Respond, not Retaliate

COMMITTEE RESPONSIBILITIES & TASKS

There are a variety of tasks that a Garden Committee will be responsible for. The committee can be as robust and involved as the group wants to make it or more laid back. It is your choice, but the more active the committee is, the more visible and vibrant the school garden will be for the students and community alike. The main areas of focus for a Garden Committee will be:

- Fundraise
- Plan events
- Build out or upgrade physical garden space (build beds, rainwater harvesting system or compost bin, plant a pollinator garden)
- Steward the garden through the seasons (summer maintenance & watering)
- Assist in the planting plan per season if the garden education team needs
- Monthly meetings

To gain an understanding of what is involved in running a garden committee month-by-month throughout the year, check out our in-depth guide "[A Year in the Life of a School Garden](#)".

COMMITTEE COMMUNICATION

Figuring out the best way to share written communication with each other as a committee is essential to your success. There may not be only one avenue in which members share information; usually several methods may be employed as people favor different forms and tools to communicate. Be open to meeting people where they are and what they are comfortable with. Also, be open to utilizing multiple languages or providing translation if you are working with a diverse group of volunteers on your committee. Regardless of which method you choose to utilize, make sure folks are getting the information they need to feel welcomed, involved, and aware of the needs of the garden.

Here are a few of the possible options for committees to share written communication with each other: Email, text, Remind app, WhatsApp, Konstella app, Slack channel, Facebook, Listserv, Google group.

If all else fails, sometimes a good old fashioned phone call to a committee member might just be the best way to wrap them fully into the garden committee.

ADDITIONAL RESOURCES

- [A Year in the Life of a School Garden \(GrowNYC\)](#)
- [Kids Gardening: Forming a Garden Committee](#)
- [Eartheasy- How to Start a School Garden: Your Complete Guide](#)

Hosting Volunteer Days

Hosting a School Garden Volunteer Day is a great way to both build community and get a lot of physical work done in a single day. You can choose between a one-off volunteer day to complete a specific project or a series of regularly scheduled volunteer days that people can drop into. You can invite students, families, school staff, and community members (get approval from school administration and follow protocol). You can even ask a local business if they'd want to sponsor your volunteer day—they could provide garden materials, extra volunteers, or even coffee and bagels.

PLANNING AND HOSTING A VOLUNTEER DAY

In the weeks leading up to the build day, you can get the word out by using physical flyers, virtual flyers, asking the school to make announcements, telling the Parent Coordinator and Sustainability Coordinator at the school, emailing the Parent's Association, posting to the school's or garden's social media, and having open hours in the garden to invite people in and speak with them.

Below are some ideas for what you can get done during a one-off volunteer day:

- Building out the garden space (building beds, filling with soil and compost, building structures)
- Building out the outdoor classroom for the garden (tree stumps, benches, tables, shade structures)
- Clean-up of a large area (removing overgrowth, picking up trash, etc.)
- Preparing the garden area for planting (weeding, spreading new compost on top of beds, repairing beds or structures)
- Planting Day!
- Harvest Days
- Preparing the garden area for winter
- A communal beautification or art project (mural, sign-making)

Plan ahead for volunteer days. See [Appendix F](#) of this Handbook for a checklist of what you may want to ensure before your volunteer day.

COMMUNITY BUILDING EVENTS

Now that you have mastered hosting volunteer days and the garden is up and running, don't forget to host general, community building events in the school garden space so everyone can enjoy. A school garden can be an ideal location to bring the school and larger community together.

Examples of community building events: planting & harvesting events, spring & winter solstice party, Earth Day activities, plant sales, cooking or other garden craft making activities, garden art project making days. The list is endless and open to the imagination of the school garden team.

The Garden Committee will need to focus and plan accordingly (budgeting, flyers, materials gathering) to host a community building event, but these types of events can go quite far in building long term support for the garden.

Partner with a Community Garden or Group

If your school does not have adequate space for an outdoor or indoor garden, or the process of starting one is overwhelming, there may be other options for you. Some schools partner with nearby community gardens, which can be part of [NYC's GreenThumb Community Garden network](#) or independent. Community gardens have existing garden beds, tools, perhaps a compost system or rainwater collection system, and a meeting space for students to gather for a lesson.

Partnering with a community garden can be a wonderful opportunity to learn from folks who have been gardening for a long time, or to facilitate intergenerational learning, to foster community ties, and utilize community wide priorities specific to your neighborhood.

Community gardens are a shared space. Sometimes they are willing to provide beds for a school to use exclusively, or they might offer to host one-off events like daffodil planting days. Relationships between schools and community gardens take time and require trust.

PROS AND CONS

A school should consider the Pros and Cons to working with a Community Garden before pursuing this as a solution to your garden program's needs.

PARTNERING WITH A COMMUNITY GARDEN	
Pros	Cons
Garden is already built & stocked with tools	Community garden may not have available garden beds for the school's program
Outdoor gathering space for group lessons	Schools must run their program in agreed upon hours & not interfere with Community Garden events
Cost saving measure for the school	School has no ownership of garden beds, tools
School can lead their own program	GreenThumb &/or other organizations have oversight of the garden & school's programming must fit within accepted practices established by the Community Garden.
Community gardeners <i>may be</i> able to offer skilled knowledge	Schools should not assume that the community gardeners will automatically offer their skills or time to care for plots stewarded by the school during school breaks.

CREATING AN AGREEMENT DOCUMENT

Schools must identify and connect with Community Garden leaders before making any garden education plans within the space. Schools should not assume they can utilize a community garden, nor should they assume that community gardeners will be available to lead programming for them.

Community gardeners are volunteers, and the school should approach the relationship as a partnership, not a professional skill sharing agreement.

If the community garden is part of GreenThumb, you can find the garden's contact information by visiting the [GreenThumb "Find Your Community Garden" website](#). If the garden has a website, it will be listed here along with the owner of the garden itself. The site identifies the garden's GreenThumb Outreach Coordinator and their email. Outreach Coordinators can provide contact information for the garden.

If the community garden is an independent garden (not affiliated with GreenThumb), you can visit the garden during open hours or inquire about working together. If you are encountering issues identifying the primary contacts, a GrowNYC School Gardens Coordinator can assist with this task.

A school representative will be responsible for coordinating the conversations with the community garden and to clearly outline garden usage plans, the schedule for visits, and participating teachers/students. The community garden may or may not be able to accommodate your initial requests. Flexibility to modify goals is essential to make a partnership work. Each community garden is unique in their membership, rules of governance, and garden design. The school will need to be flexible in order to seamlessly fit in.

The GrowNYC School Garden Coordinator and the GreenThumb Outreach Coordinator can assist in facilitating these conversations using the Agreement Template ([see Appendix G](#)) that schools and community gardens can utilize to work through the logistics of the partnership.

The GreenThumb and School Garden Agreement Template ([Appendix G, Template 2](#)), once complete, will need to be signed by both entities as well as the GreenThumb Outreach Coordinator and a GrowNYC School Gardens Coordinator before implementing plans. All entities must adhere to the agreement.

If you are partnering with an independent community garden or community organization/group, you can use the General community group and School Garden Agreement Template ([Appendix G, Template 1](#)) as a guide and revise as needed.

REGISTERING A SCHOOL AS A GREENTHUMB COMMUNITY GARDEN

Public and charter schools may wonder if their school garden can qualify as a "Community Garden" within the NYC Parks GreenThumb program. The GreenThumb (GT) program supports the city's community gardens in all five boroughs through workshops, resource sharing, and tool and supply giveaways. Per their [2021 GreenThumb Gardener's Handbook](#), a community garden is defined as "Publicly accessible open space that is stewarded collectively by a group of volunteers. These spaces may use shared or individual plots and may grow botanical plants, fruits, and/or vegetables. Community gardens and the gardeners who steward them contribute to the environmental

sustainability, public health, and community resilience of their neighborhoods and cities.” While many in a school community may feel their school garden is a “community garden,” there are distinctions in their operations and intersection with the public.

It is possible that a school garden on DOE property can participate in the GreenThumb program. Being a GreenThumb community garden will allow the garden to be fully eligible for deliveries of soil, wood chips, and for supply and plant distributions. It is recommended that interested garden committees read the requirements on [How to Start a Community Garden](#) prior to beginning this journey so everyone involved understands the process and requirements.

In order for a school garden to qualify as a GreenThumb Community Garden, the school administration and garden committee must satisfy the following criteria:

- Schools must complete the [Intake Form for Starting a New GreenThumb Community Garden](#)
- Complete all registration requirements required by GreenThumb, including entering into a signed [Memorandum of Understanding \(MOU\)](#) with GreenThumb.
- The garden must be publicly accessible from the sidewalk or the street. Gardens in inner courtyards or in the back of the building with no street access do not qualify.
- The garden must be open to the public for 20 or more hours each week during April 1 - October 31. Five or more of these hours should be on weekends.
- No restriction on public and youth inter-mingling during public hours.
- The garden must host 2 or more free public events throughout the season
- The garden committee or representative must attend 1 or more GreenThumb event a year
- The garden committee’s membership is open to the public to join
- Garden plots and/or planting beds are available to the public to steward each season. Plots and/or planting beds cannot be solely for the use of the school.
- The garden must post a sign provided by GT explaining that it is registered with GT
- The garden must post a sign on the external fence indicating name of group, contact info, how to join

If your school is ready to pursue becoming designated as a GreenThumb Community Garden after reading through all the requirements, you can find your GreenThumb Outreach Coordinator to begin the conversations: [NY Park GreenThumb Outreach Coordinators Directory](#)

Should the school garden require a garden build or other projects that require labor from GreenThumb personnel, without becoming a GreenThumb garden, an inter-agency agreement will need to be drafted and signed by the school, DOE and NYC Parks in order for GreenThumb personnel to participate in these activities on non-parks land. These inter-agency agreements can take years to be realized. Thus, schools may wish to pursue becoming a GreenThumb garden in lieu of obtaining an inter-agency agreement.

ADDITIONAL RESOURCES

- [GreenThumb Community Garden Website](#)

NYC DOE Office of Sustainability

The [DOE Office of Sustainability](#), located within the Division of School Facilities, drives transformative change in all NYC schools through resources and programs that increase efficiency of facilities, address environmental impacts, and aim to provide all stakeholders with opportunities for action. They support schools citywide in partnership with GrowNYC School Gardens. They also offer an annual Sustainability Project Grant each Fall—schools may apply for funding to sustain or create a new indoor or outdoor garden space. They work closely with teachers, Sustainability Coordinators, and Custodian Engineers and lead citywide sustainability trainings for all DOE employees on topics such as climate change, green infrastructure, green teams, and more!

To learn more about the Office of Sustainability and their program, please visit their [Resource Portal](#) and [Sustainability Trainings](#).

Special Education in the Garden

School gardens can be an inclusive space where students of all physical abilities are welcomed and encouraged to learn in an engaging and accessible garden. The garden can provide a multi-sensory experience that allows for exploration and discovery by each student while increasing their academic and gross motor skills. Design decisions, tool adaptability and lesson planning will need to be carefully considered at the beginning of your design process to plan effectively to create a space that addresses and incorporates the needs of your students.

UNIVERSAL DESIGN CONCEPTS

Utilizing [Universal Design](#) concepts, as outlined by the American Landscape Architecture Society in their [Guide to Universal Design](#), will aid in creating a garden design that results in an accessible space for students and others using the garden. These design concepts focus on pathway design, raised bed styles, flexible seating, material selection, planting palette, wayfinding & signage as well as the recommendation to include secluded nooks to de-escalate sensory overstimulation. Bringing each of these areas to the forefront of your design ensures that the final garden design speaks to a variety of needs and considerations in the space and allows for students with a range of abilities to enjoy the garden.

There are a range of adaptive tools that allow for students of all abilities to practice gardening techniques. Adaptive tools are tools that have specific modifications to help make it possible for people with physical limitations to garden. Adaptive tools can either be purchased or you can create your own and modify non-adaptive tools that will work for the needs of your particular students.

Garden activities and lesson plans can be adapted to reach all learners in the garden and it is recommended to include education materials that highlight visual, auditory, and tactile senses. Each student will learn and respond differently to the activity as well as to the supplies or tools for the lesson. Therefore, each activity must be able to reach the variety of learners in the class. Lesson plans can be adapted following [Universal Design for Learning](#) (UDL) techniques which provides a framework for creating meaningful and engaging learning opportunities.

By taking a thoughtful approach and designing and planning for students of all abilities, a school garden can be a welcoming and empowering place of learning for everyone. The [GreenThumb Garden Accessibility Guide](#) is another resource to learn about accessibility in the garden.

DISTRICT 75: PLANT, LEARN, GROW

For District 75 schools in NYC, the D75 program Plant, Learn, Grow provides year-round support for building and sustaining edible school gardens. D75 Plant Learn Grow assists District 75 teachers and schools in learning about and creating programming for sustainability, urban gardening, nutrition, and the “plant-to-plate” philosophy and lifestyle. The program also facilitates year-long garden partnerships between District 75 classes and NYC’s Botanical Gardens.

D75 Plant Learn Grow works closely with partner organizations in NYC to connect educators with grant opportunities, resources, and support, including ongoing professional development offerings.

To connect and join the program, visit the program’s website at: www.plantlearngrow.wordpress.com

ADDITIONAL RESOURCES

- [Universal Design for Learning](#)
- [American Society of Landscape Architects: Universal Design in Gardens](#)
- [GreenThumb Garden Accessibility Guide](#)

Curriculum Integration

A common question educators have when first beginning a gardening program is “How do I use the garden in my teaching?” There are many ways to incorporate a garden into the curriculum.

First, decide which grades and which class subjects will be taught in the garden.

- Will the garden be utilized for a small subset of grades, or will the entire school participate in some way?
- What aspects of garden care will each grade be tasked with? Or, is the garden a backdrop to a specific teaching (and no stewarding involved)?

Some schools find it natural to utilize the garden space within science, math, language, writing, history, art, nutrition, and/or vocational classes. Providing separate stand-alone garden classes can also exist as an elective. Some schools choose to hire out garden education teams that come to the school to teach specific garden enrichment classes rather than have the in-school teaching staff take on the role. After-school clubs are an additional option for using the garden space as a teaching resource.

There is a wealth of free garden curriculum—see Appendix B for a curriculum library. For a resource specific to NYC educators, GrowNYC School Gardens aligned the Scope & Sequence for two subjects— Science and Social Studies—and highlighted lessons that can be tied to specific garden themed lessons:

[Scope and Sequence in the Garden: Science](#)

[Scope and Sequence in the Garden: Social Studies](#)

Appendices and Worksheets

[Appendix A: Environmental Education Organizations in NYC](#)

[Appendix B: Curriculum Library](#)

[Appendix C: Checklist and Worksheets for Getting Started](#)

[Appendix D: School Garden Sample Budgets](#)

[Appendix E: How-To Guide to Stock Tank Sub-Irrigated Planters](#)

[Appendix F: Volunteer Day Checklist](#)

[Appendix G: Agreement Templates for Partnering with a Community Garden or Group](#)

[Appendix H: Acknowledgement](#)

Appendix A: Environmental Education Organizations in NYC

- Battery Urban Farm: <https://www.thebattery.org/destinations/urban-farm/>
- Beazer's Garden Workshops: <https://beazersgardenworkshops.com/about-us/>
- Brotherhood Sister Sol: <https://brotherhood-sistersol.org/>
- Brooklyn Botanic Garden Project Green Reach: https://www.bbg.org/learn/teachers_and_schools
- City Bees and Peas: <https://www.citybeesandpeas.com/>
- City Growers: <https://citygrowers.org/virtual-learning/>
- City Parks Foundation-Seeds to Trees Program: <https://cityparksfoundation.org/seeds-to-trees/>
- Edible Schoolyard NYC: <https://www.edibleschoolyardnyc.org/>
- Genovesi Environmental Study Center: <https://www.schools.nyc.gov/learning/student-journey/experiential-learning/genovesi-environmental-study-center>
- Gowanus Canal Conservancy <https://gowanuscanalconservancy.org/schools/>
- Green City Force: <https://greencityforce.org/>
- GreenThumb Youth Leadership Council: https://greenthumb.nycgovparks.org/youth_gardener.html
- Harlem Grown: <https://www.harlemgrown.org/>
- The Horticultural Society of New York: <https://www.thehort.org/programs/in-school-education/education-about/>
- iDig2Learn: <https://www.idig2learn.org/>
- Nature Based NY: <https://naturebasedny.com/>
- New York Botanical Garden Bronx Green-Up: <https://www.nybg.org/gardens/bronx-green-up/>
- NY Sun Works: <https://nysunworks.org/>
- Sprout by Design: <https://www.sproutbydesign.com/>
- Teens for Food Justice: <https://www.teensforfoodjustice.org/>
- Trees NY: <https://treesny.org/>

Appendix B: Curriculum Library

[New York Agriculture in the Classroom \(K-12\)](#)

New York Agriculture in the Classroom has an online, searchable, and standards- based curriculum matrix for K-12 teachers, using national education standards in science, social studies, and nutrition education to enhance your school garden.

[Edible Schoolyard \(PK - 12\)](#)

Edible Schoolyard empowers students with knowledge and values to make food choices that are healthy for them, their communities, and the environment through their pre-k through high school curriculum. Lessons are fully integrated into academic subjects, support content standards, Common Core, and Next Generation Science Standards and they're designed to achieve edible education learning goals and life skills like communication, personal & community stewardship, flexibility, and perseverance.

[GrowNYC's Zero Waste Schools Program \(3-12\)](#)

Looking to tie in recycling education and initiatives surrounding your school garden? Check out these resources for deepening students understanding of why it is important to reduce our waste and decrease the amount of materials sent to landfills. Looking closely at the social, economic and environmental reasons to reduce waste provides students with the motivation to recycle. Lessons are available for upper elementary through high school students.

[GrowNYC Food Justice Curriculum \(High School\)](#)

This 8-lesson curriculum was designed to empower and enlighten people about Food Justice. Food Justice efforts are a rallying cry from the people directly affected by inequitable food policies and practices. Our GrowNYC team designed this curriculum with NYC high schoolers in mind, although it can be adapted for all ages and places. Each lesson introduces a different aspect of Food Justice, with key vocabulary, videos, discussion questions and a post-activity.

[GrowNYC Farmstand Business Curriculum \(High School\)](#)

The Farmstand Business curriculum empowers school communities to take a meaningful look at our food system, to evaluate the growing capacity at their individual schools, and examines the model GrowNYC has used for over 50 years to support food access in New York City. It allows your school to reach beyond the perimeter of your school garden and onto plates in your communities, while allowing your students to learn real-world business skills.

[Life Lab \(K-5\)](#)

Life Lab, is a Santa Cruz based nonprofit organization, that cultivates children's love of learning, healthy food, and nature through garden-based education. Through workshops and consultations, they provide tens of thousands of educators across the country with the

inspiration and information necessary to engage young people in gardens and on farms. They have a list of garden-based lessons and activities that are standards aligned. Access the Life Lab website [here](#).

[Spanish Language Garden Resources from Life Lab / Recursos jardinerias en español de Life Lab \(K-5\)](#)

Life Lab, is a Santa Cruz based nonprofit organization, that cultivates children's love of learning, healthy food, and nature through garden-based education. Through workshops and consultations, they provide tens of thousands of educators across the country with the inspiration and information necessary to engage young people in gardens and on farms. They have a list of garden-based lessons and activities that are standards aligned.

[National Wildlife Federation \(PK-12\)](#)

The National Wildlife Federation provides educators with easy-to-implement, trusted curriculum and activities that help inspire the next generation of environmental stewards. Curriculum options are available for Pre-K-12 students and include [Lesson Plans and Webinars](#), [Monarch Mission](#), [Access Nature](#), [Schoolyard Habitats How To Guides](#), [Schoolyard Habitat Audits](#), [Planting for Pollinators](#), and much more.

[Gowanus Canal Conservancy \(5 - 8\)](#)

Teachers can download free STEM Gowanus curriculum for grades 5-8, including pre, post and field lessons, background text, maps and handouts integrated for use in Science, ELA, and Social Studies and aligned with Common Core and Next Generation Science Standards. There are six curriculum units to choose from including: The History & Geography of the Gowanus Canal, Exploring the Gowanus Watershed & Sewershed, Water & Soil Quality Testing, Flora & Fauna of the Gowanus Canal, and Capstone Project Using the Design Process. All use the design process for project-based learning. Filling out a [pre-survey](#) grants you the link to download the above units. For questions, contact education@gowanuscandalconservancy.org

[KidsGardening Lesson Plans and Garden Activities \(K-12\)](#)

KidsGardening has been creating and publishing resources to help teachers, volunteers and parents plan successful youth gardens and implement effective youth garden programs.

[Spanish Language Lessons from KidsGardening: Siembra con niños \(K-12\)](#)

KidsGardening has been creating and publishing resources to help teachers, volunteers and parents plan successful youth gardens and implement effective youth garden programs. They provide select lesson plans and activities in Spanish.

[WholeKids Foundation Curriculum \(PreK- 5\)](#)

Whole Kids Foundation and American Heart Association created these 35 lessons plans to

connect classrooms to the garden. The activities engage students in a fun and educational exploration of fruits, vegetables and healthy eating. The lessons are cross-curricular and can be found [here](#).

[Bee Lesson Plans from The Bee Conservancy \(PreK - 12\)](#)

The Bee Conservancy has compiled lesson plans for PreK-12th grade on topics of honeybees around the globe and in New York City, native bees, and pollinator gardens. There are many hands-on activities, whether or not your school garden has a beehive.

[Bronx Green-Up Grow More Vegetables Curriculum \(Adult\)](#)

Created for adult learners but adaptable for all ages, this curriculum includes 5 lessons outlining organic growing techniques. Lessons are free for download at the above link.

[NYBG](#)

The New York Botanic Garden (NYBG) is a beloved gardening and greening institution in NYC. Their teacher resource page has curriculum, gardening calendars, garden case studies, and a bibliography of garden related books for students. You can access the full teacher resource center at the NYBG [here](#). Lesson plans are searchable by topic area or grade level and are aligned with the New York City Science Scope and Sequence, as well as New York State Standards." Explore NYBG lesson plans [here](#).

[The Battery Conservancy \(K-8\)](#)

The Battery Conservancy's educational experiences take advantage of The Battery's rich history and biodiverse landscapes. These include a vegetable farm, a food forest of native plants, New York Harbor waterfront, toxin-free lawns, and the largest perennial gardens in North America that are free and open to the public every day of the year. Programs are available for all ages. Education programs for K-12 students align with Core Curriculum State Standards and Next Generation Science Standards.

[Border Crossers \(K-12\)](#)

Gardens are important educational tools, but they can also be safe and neutral spaces to have important and honest conversations about race and racism. Gardens can be spaces that celebrate the multiculturalism of our student bodies by planting diverse crops from all around the world - veggies and herbs that are important to so many of our NYC communities. [Border Crossers](#) created this Black History Month Resource Guide for Educators and Families featuring readings and curricula for classrooms and gardens during Black History Month and beyond.

[In Defense of Food \(6-8\)](#)

Michael Pollan, author of *The Omnivore's Dilemma* and other books about navigating our food system, has a documentary film based on his book: *In Defense of Food*. Teachers College of Columbia University created a middle-school curriculum for educators for the film. You can access video clips, resource guides, register for the full curriculum, and screening toolkits at [PBS - In Defense of Food. Pollan's website](#) offers a wealth of other classroom resources including a young readers version of *The Omnivore's Dilemma*.

[PS 84M's Root Camp \(5\)](#)

PS 84M developed a 10-class nutrition/cooking curriculum - Root Camp - for 5th graders aimed at giving kids basic nutrition and cooking knowledge as they move from elementary to middle school and have access to more food choices.

[Nourish Curriculum \(K - 12\)](#)

Nourish is an educational initiative designed to open meaningful conversations about food and sustainability in schools. Nourish combines PBS television, curriculum, web content, short films, and teacher/youth seminars to celebrate food and community. Download the free curriculum by [registering online](#). Access short films from their [website](#).

[USDA's Dig In Curriculum \(6-8\)](#)

The USDA's Food & Nutrition Services Team has developed a middle school garden-to-classroom curriculum. "Dig In" explores a world of possibilities in the garden and on your plate using ten inquiry-based lessons that engage 5th and 6th graders in growing, harvesting, tasting, and learning about fruits and vegetables. You can access the 10-lesson series through the [USDA website](#).

[USDA Agriculture in the Classroom \(K-12\)](#)

The USDA website is a wealth of farm to school information. Their teacher portal has a curriculum section that is searchable by grade level and Health, Social Studies, or Science content standards. It also provides companion resources for free lesson plans. Access the USDA Teacher Center [here](#).

Appendix C: Checklist and Worksheets for Getting Started

A Step-by-Step Guide to Get Your School Garden Growing

This is a checklist of tasks that will help you to create a sustainable school garden project in NYC. Each major task is accompanied by a worksheet within this guide.

To make this guide work for you, we recommend assigning a point person for each task. Write that person's name into the "Person Responsible" column of the guide and give her/him the accompanying worksheet. If you need support along the way, please visit our website www.grownyc.org or contact us at schoolgardens@grownyc.org. (212) 788-7900.

STEP 1: BUILD COMMUNITY SUPPORT

Task	Person Responsible
<input type="checkbox"/> Recruit school garden committee members (see Worksheet 3 below). In order to register your garden with GrowNYC School Gardens, your committee should include: <ul style="list-style-type: none"> <input type="checkbox"/> Principal <input type="checkbox"/> Assistant Principal <input type="checkbox"/> Custodian Engineer <input type="checkbox"/> 2 teachers (minimum) <input type="checkbox"/> 2 other school community members (minimum) 	
<input type="checkbox"/> Join the NYC Youth and School Gardens Google Group ; sign up for the GrowNYC Education newsletter ; and follow us on Facebook, Instagram, and Twitter	
<input type="checkbox"/> Plan a site visit to a school garden and/or community garden near you. (Worksheet 1)	
<input type="checkbox"/> Learn about greening organizations right here in NYC and what resources they might have for your school garden. Report back to your garden committee. Here are a few great ones: <ul style="list-style-type: none"> <input type="checkbox"/> GreenThumb <input type="checkbox"/> New York, Queens, and Brooklyn Botanic(al) Gardens <input type="checkbox"/> GrowNYC Youth Development <input type="checkbox"/> New York City Compost Project <input type="checkbox"/> Edible Schoolyard NYC 	
<input type="checkbox"/> Schedule a school garden committee meeting. Start planning a season in advance! If you want to garden in the spring, schedule a meeting in the fall. If you want to garden in the fall, schedule a meeting in the spring.	

STEP 2: CREATE A SHARED VISION

Task	Person Responsible
<input type="checkbox"/> Meet with your school garden committee and talk about goals and future plans for your garden. (Worksheets 2 and 3 below)	
<input type="checkbox"/> Draft a letter of support for the garden and have your principal or administration sign it. Use this as an opportunity to put your goals in writing! (here's a template for the letter of support)	
<input type="checkbox"/> Find a school garden curriculum that fits your school's garden goals. Learn about: <ul style="list-style-type: none"> <input type="checkbox"/> NY Agriculture in the Classroom (all grades) <input type="checkbox"/> Nourish (middle school) <input type="checkbox"/> Edible Schoolyard NYC (elementary and middle school) <input type="checkbox"/> Inquiry based learning (all grades!) 	

STEP 3: PLAN AND DESIGN YOUR GARDEN

Task – Select Garden Type and Site	Person Responsible
<input type="checkbox"/> Locate the sunny areas at your school. Remember, edible plants need about 8 hours of sunlight each day in order to produce fruit and at least 4 to produce substantial leaf growth.	
<input type="checkbox"/> Locate all available water sources. As a last resort, consider hydrant access. Contact our team about getting a hydrant permit.	
<input type="checkbox"/> Learn about different types of gardens and the benefits of each: <ul style="list-style-type: none"> <input type="checkbox"/> Raised beds (can be built on concrete, pavement, or grass) <input type="checkbox"/> Sub-irrigated planters <input type="checkbox"/> Hydroponics and/or aquaponics <input type="checkbox"/> Living walls <input type="checkbox"/> Greenhouse <input type="checkbox"/> Rooftop 	

Task— Create a Garden Map	Person Responsible
<input type="checkbox"/> Draw a school garden map, indicating current or planned location of: <ul style="list-style-type: none"> <input type="checkbox"/> Cardinal directions <input type="checkbox"/> Water source <input type="checkbox"/> Dimensions of beds and garden space <input type="checkbox"/> Surrounding buildings, fences, streets, trees, shrubs, and other objects <input type="checkbox"/> Entrances and exits 	

Task— Test your Soil (if you'll be working with ground soil at all)	Person Responsible
<input type="checkbox"/> Cornell, Brooklyn College, and UMass Amherst will all test soil for a small fee. Collect samples and mail them in to test for heavy metals, soil pH, and standard nutrients.	

Task— Make a school garden supply list	Person Responsible
<input type="checkbox"/> Take an inventory of all garden equipment already at the school.	
<input type="checkbox"/> Make a list of needed tools and materials. (Worksheet 4)	
<input type="checkbox"/> Find a place where you will be able to store garden equipment after you have purchased it. Consider building a shed with a rainwater harvesting system.	

Task—Make a timeline (Worksheet 5)	Person Responsible
<input type="checkbox"/> Schedule regular garden committee meetings. (Worksheet 6)	
<input type="checkbox"/> Set date for workday to build beds, move soil, etc.	
<input type="checkbox"/> Set date for ribbon cutting ceremony, if you plan to have one.	
<input type="checkbox"/> Tell students, faculty, and staff about the garden and get their input. Invite them to the workday.	
<input type="checkbox"/> Create a planting schedule with what to plant when.	
<input type="checkbox"/> Research school garden professional development opportunities in your community and schedule your teachers and garden committee members to attend. Learn about professional development at: <ul style="list-style-type: none"> <input type="checkbox"/> GrowNYC Education events calendar <input type="checkbox"/> Edible Schoolyard <input type="checkbox"/> Agriculture in the Classroom <input type="checkbox"/> Bronx, Brooklyn and Queens Botanic(al) Gardens <input type="checkbox"/> The Horticultural Society of New York <input type="checkbox"/> Green Thumb <input type="checkbox"/> Just Food <input type="checkbox"/> Farm School NYC 	
<input type="checkbox"/> Create and fill a class-use and maintenance schedule. (Worksheet 7)	
<input type="checkbox"/> Decide on a summer maintenance plan. Note: Planting a cover crop for the summer when you're not there counts as a great plan!	

STEP 4: REGISTER YOUR SCHOOL GARDEN

Task	Person Responsible
<ul style="list-style-type: none"> <input type="checkbox"/> Collect the first and last names, email addresses, and phone numbers of garden committee members. 	
<ul style="list-style-type: none"> <input type="checkbox"/> Go to grownyc.org/school-gardens and click “Register”. That will take you to a full listing of DOE public and charter schools. Find your school and click the “Select” button. That will take you to our registration page. You will first fill out your log in and contact info. <input type="checkbox"/> Email schoolgardens@grownyc.org if you don’t know the login info or can’t find your school. 	
<ul style="list-style-type: none"> <input type="checkbox"/> Go to the “Register” page and log in. <input type="checkbox"/> Add in contact information for the rest of your garden committee by clicking “Add New Participant” <ul style="list-style-type: none"> <input type="checkbox"/> Each garden contact can use his/her email address with your password to log in to the registration <input type="checkbox"/> You can always edit the contacts in your committee by clicking the “Edit” button next to each name. 	
<ul style="list-style-type: none"> <input type="checkbox"/> Click “Enter a New Registration” to start your registration form <input type="checkbox"/> Fill out the relevant information for your school garden. <ul style="list-style-type: none"> <input type="checkbox"/> Remember to click “Save Registration” after each section to save your work. (Note: clicking “Save Registration” does not mean your registration has been completed). <input type="checkbox"/> You can always edit your registration form by clicking the “Edit” button next to your registration. 	
<ul style="list-style-type: none"> <input type="checkbox"/> Upload these documents into your registration <ul style="list-style-type: none"> <input type="checkbox"/> Signed Letter of Support from your school Administration (such as Principal or Assistant Principal) on school letterhead (here's a template for the letter of support) <input type="checkbox"/> Garden Map (if you have one) 	
<ul style="list-style-type: none"> <input type="checkbox"/> When your registration is complete, click the box that says “Garden Registration is Completed” 	
<ul style="list-style-type: none"> <input type="checkbox"/> Schools must log into their registration page once a year to re-register. <ul style="list-style-type: none"> <input type="checkbox"/> Click the “Add New Registration” button. <input type="checkbox"/> A new registration form will generate with most of your garden information pre-filled. Check that the information provided is still correct, add in any new changes and click “Garden Registration is Completed” 	
<ul style="list-style-type: none"> <input type="checkbox"/> Email any questions to schoolgardens@grownyc.org. 	

STEP 5: SECURE MATERIALS AND RESOURCES FOR YOUR GARDEN

Task	Person Responsible
<input type="checkbox"/> Find community partners and organizations that can donate resources (show them your materials list and see how they can help). (Worksheet 8)	
<input type="checkbox"/> Create a budget. (See Appendix D for sample budgets) Consider the following categories for your budget: <ul style="list-style-type: none"> <input type="checkbox"/> Materials for beds <input type="checkbox"/> Fencing <input type="checkbox"/> Planting containers <input type="checkbox"/> Soil and fertilizer <input type="checkbox"/> Mulch/Woodchips <input type="checkbox"/> Gardening tools <ul style="list-style-type: none"> <input type="checkbox"/> For students <input type="checkbox"/> For teachers <input type="checkbox"/> Watering/Irrigation <input type="checkbox"/> Seeds/plants/seedlings <input type="checkbox"/> Education curriculum and resources <input type="checkbox"/> Professional development for teachers <input type="checkbox"/> Materials for outdoor classroom (tables, chairs, clip boards, etc.) 	
<input type="checkbox"/> Make a fundraising plan. (Worksheet 9)	
<input type="checkbox"/> Place order for soil, seeds, and/or starter plants. Make sure to check the Grow to Learn calendar for seed and seedling giveaways. You may be able to get these materials for free!	
<input type="checkbox"/> Place order for garden tools and supplies.	

NEXT STEPS: ONCE YOUR GARDEN IS UP AND GROWING...

Task	Person Responsible
<input type="checkbox"/> Make a garden sign and plant labels to teach the community about your garden.	
<input type="checkbox"/> Create a list of garden rules that reflect your garden goals and school culture.	
<input type="checkbox"/> Host ribbon cutting ceremony. Invite your community and, if you're up for it, the press.	

WORKSHEET 1: Visit school gardens and/or community gardens near you.

Instructions and Notes: Make a list of school and community gardens near you. Then visit some of those gardens to get inspiration for your own garden project. Find community gardens by searching on GreenThumb: <https://greenthumb.nycgovparks.org/gardensearch.php>

You can also contact us at schoolgardens@grownyc.org and we can look for other schools with gardens near you!

Garden	Address	Contact	Phone/Email

Visit a garden, take notes, make sketches, and take pictures (if allowed):

Garden Name _____

Address _____

Contact Person _____

Telephone Number _____

Email Address _____

Appointment Date and Time _____

Helpful tips from garden visit:

1. _____

2. _____

3. _____

WORKSHEET 2: Develop a school garden committee

Recruit garden committee members and define their roles. In order to be eligible for GrowNYC resources and apply for a Mini-Grant, your school garden committee must include the seven starred committee members as listed below. For your co-coordinators, consider school sustainability coordinators, wellness council members, school librarians, community gardeners, farmers, custodians, cafeteria staff, parents, and students.

POSITION	NAME	ROLE IN THE GARDEN	PHONE NUMBER	E-MAIL
*Principal				
*Asst. Principal				
*Custodial Engineer				
*Teacher 1				
*Teacher 2				
*Coordinator 1				
*Coordinator 2				
Additional member (optional)				
Additional member (optional)				
Additional member (optional)				

Important considerations:

- Who will be the committee leader?
- Where will meetings take place?
- How often will meetings be held?
- How will communication happen between meetings? Email? Google Group? Private Facebook page?

Need help defining school garden committee roles? Check out these links for ideas and suggestions:

[Kids Gardening- Forming a Garden Committee](#)

[Eartheasy- How to Start a School Garden: Your Complete Guide](#)

WORKSHEET 3: Create school garden vision.

Instructions and Notes: Answer the following questions with your school garden committee. This worksheet can be used as an agenda for your first school garden committee meeting.

What are our school garden goals? Why do we want to have a garden at our school?	
Where might we want to place our garden? Brainstorm all possible locations, indoor and outdoor.	Notes:
Which classes/grades will work in the garden? Which subjects will we teach in the garden? Check all that apply and write in the name of a teacher who teaches that subject and might want to get involved. Subjects: <ul style="list-style-type: none">▪ Math▪ Science▪ History▪ ESL▪ Art▪ Nutrition▪ English Language Arts▪ Foreign Language▪ Physical Education▪ Social Studies	Notes:

Grades: _____	
You can use your garden to teach one or all of these subjects.	
<p>What is the educational theme of our garden? Check all that apply. Feel free to add in your own ideas. Common Garden themes:</p> <ul style="list-style-type: none">▪ Edible▪ Alphabet▪ Herb▪ Heirloom▪ Flower▪ Nutrition and Health▪ Rain Garden▪ Pizza▪ Butterfly▪ Sensory <p>Mix and match themes.</p>	<p>Notes:</p>
How will we involve the community? Special Events? Volunteer Opportunities?	
<p>If the garden is doing well, do we want to expand? How? Feel free to add in your own ideas.</p> <ul style="list-style-type: none">▪ Composting system▪ Lunchroom composting▪ Outdoor classroom▪ Garden club▪ Summer garden program▪ Chickens▪ Garden to School Café▪ After school programming▪ Rainwater harvesting <p>Visit other gardens for more ideas.</p>	<p>Notes:</p>

WORKSHEET 4: Draft a principal’s letter of support for the garden and have your principal sign it.

Instructions and Notes: You will need a signed letter of support from your principal or assistant principal on official school letterhead in order to register with GrowNYC School Gardens. Here is a sample template which you can feel free to use as-is or modify:

[INSERT OFFICIAL SCHOOL
LETTERHEAD]

[Date]

GrowNYC
100 Gold Street, Suite 3300
New York, NY 10038

Dear GrowNYC,

I proudly write this letter in support and approval of the school garden/outdoor learning project here at [insert school].

[OPTIONAL narrative:

- Our school goal is to form a shared garden space that will serve as a partnership with our community
- We would like to partner with organizations for outdoor learning and urban farming
- students will have a hands-on approach to nature and the environment that they live in
- will problem solve and develop strategies to improve their community and to protect the climate
- learn to respect the environment and improve their health through growing vegetables and plants
- the students will take care of the garden and the outdoor space

Our garden will serve as an important communal space for student well-being and as an educational space to explore topics such as agriculture, food access, nutrition, science, climate, sustainability, art and other curricular goals.

I am excited to be a part of this network, and a part of the larger movement for school gardens in New York City and abroad.]

Sincerely,

[Principal Signature]

[Principal Name]

WORKSHEET 5: Create a garden materials list.

Instructions and Notes: Here is a list of common garden needs. Check off everything that you want to have (immediately or in the future). When you create your budget, write in all of your immediate needs and then add in the other items as your budget allows. Later you can approach local hardware stores and nurseries for donations.

SCHOOL GARDEN WISHLIST	
<input type="checkbox"/> Growing media <input type="checkbox"/> Soil <input type="checkbox"/> Compost	<input type="checkbox"/> Mulch (often used in walkways)
<input type="checkbox"/> Materials for beds <input type="checkbox"/> Lumber <input type="checkbox"/> Screws/Nails <input type="checkbox"/> Landscape fabric/weed barrier	<input type="checkbox"/> Containers <input type="checkbox"/> Stock tanks <input type="checkbox"/> Cedar planters <input type="checkbox"/> ½ Wine barrels <input type="checkbox"/> Buckets
<input type="checkbox"/> Adult Tools <input type="checkbox"/> Garden rake <input type="checkbox"/> Spading fork <input type="checkbox"/> Cultivator <input type="checkbox"/> Hand trowel <input type="checkbox"/> Hoe <input type="checkbox"/> Pruners <input type="checkbox"/> Spade shovel <input type="checkbox"/> Wheelbarrow	<input type="checkbox"/> Kids' Tools <input type="checkbox"/> Kids' gloves <input type="checkbox"/> Kids' shovels <input type="checkbox"/> Kids' hoes <input type="checkbox"/> Kids' steel rakes <input type="checkbox"/> Kids' leaf rakes <input type="checkbox"/> Kids' hand trowels
<input type="checkbox"/> Seeds and Plants <input type="checkbox"/> Seed packets <input type="checkbox"/> Fruit Trees <input type="checkbox"/> Herbs <input type="checkbox"/> Perennials <input type="checkbox"/> Plant starts <input type="checkbox"/> Bulbs <input type="checkbox"/> Cover crops (for the winter)	<input type="checkbox"/> Water <input type="checkbox"/> Rain barrel <input type="checkbox"/> Hose <input type="checkbox"/> Hose caddy <input type="checkbox"/> Spray nozzle <input type="checkbox"/> Water wand <input type="checkbox"/> Watering cans
<input type="checkbox"/> Supports (for tomato and other plants) <input type="checkbox"/> Fencing <input type="checkbox"/> Soil test kit	<input type="checkbox"/> Instructional materials <input type="checkbox"/> butterfly nets <input type="checkbox"/> magnifying glasses <input type="checkbox"/> insect collection boxes and jars

WORKSHEET 6: Make a timeline for your garden committee and schedule monthly meetings. Figure out who will do what when!

Instructions and Notes: Use this timeline as a model to start a spring garden. Fill in dates and names in the grey spaces, as seen in the example below. To gain an understanding of what is involved in running a garden committee month-by-month throughout the year, check out our in-depth guide "[A Year in the Life of a School Garden](#)".

EXAMPLE TIMELINE

SEPTEMBER				
Task	Objective	Date and Time	Persons participating	Person Responsible
Hold September planning meeting	Make yearly timeline and plan.		Full Committee	
Schedule additional professional development if necessary.	Teach teachers about basic gardening design and maintenance.		Teachers involved in garden program	

EXAMPLE MEETING AGENDA

Date:

Time:

Location or Online:

Agenda

1. **Review notes from last meeting**
2. **Old business**—Updates from individual committee members
3. Important news from GrowNYC Education Newsletter and NYC Youth and School Gardens Google Group--have one committee member sign up and report each month.
4. **New business**—see "[A Year in the Life of a School Garden](#)" for recommended agenda items by month

WORKSHEET 7: Create and fill a class-use and maintenance schedule. These schedules can be updated weekly or as needed.

Instructions and Notes: Fill in the chart below, indicating which classes and/or volunteers will work in the garden.

Class Use

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Period 1							
Period 2							
Period 3							
Period 4							
Period 5							
Period 6							
Period 7							

Maintenance/Watering Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Person Responsible							

WORKSHEET 8: Find community partners and organizations who can donate resources.

Instructions and Notes: Visit local organizations. Share your material list and see how they can help.

Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:
Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:
Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:
Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:
Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:
Business Name: Address: Contact: Telephone Number: Email: Contribution:	Notes:

Worksheet 9: Make a fundraising plan.

Instructions and Notes: Meet with your committee to fill out this worksheet. Have this meeting after you have completed your budget and received garden donations. Make sure to decide who will write each grant or spearhead each fundraising project.

How much money do we need to raise?	Notes:
How do we plan to fund the school garden?	Notes:
Are we going to apply for a grant? If so, for how much will we ask? What items will we request? Who will write the grant?	Notes:
Will we apply for other grants? Who will research grant opportunities? Who will write the grants?	Notes:
Create list of open grants with requirements and due dates.	Notes:
If we need more funds, what sort of fundraisers will we organize? Who will organize them? Check all that apply. Feel free to add your own ideas. <input type="checkbox"/> Plant sale (Christmas, Mother's day, etc.) <input type="checkbox"/> Fall pumpkin sale <input type="checkbox"/> Walk-a-thon, Read-a-thon	Notes:

Appendix D: School Garden Sample Budgets

GARDEN TOOL BUDGET				
Material	Purpose	Price per item	Quantity Needed	Total Cost
100 ft Hose	Watering	\$55		
Hose nozzle	Watering	\$10		
Aluminum Cart Hose Reel	Watering	\$109		
Student Watering Cans	Watering	\$12		
Gloves for students	Garden care	\$3		
Gloves for adults	Garden care	\$7		
Gardening Hand Tool Kit (trowel, cultivator, weeder, transplanter)	Garden care	\$12		
Shovels	Garden care	\$30		
Garden Rake	Garden care	\$30		
Hand Pruner	Garden care	\$11		
Shears	Garden care	\$20		
Barrel Containers for Herb Planting	Edible Plants	\$15		
Sales Tax: SCHOOLS CAN USE TAX EXEMPT FORM				
Delivery cost				
Total Funding Needed:				\$0

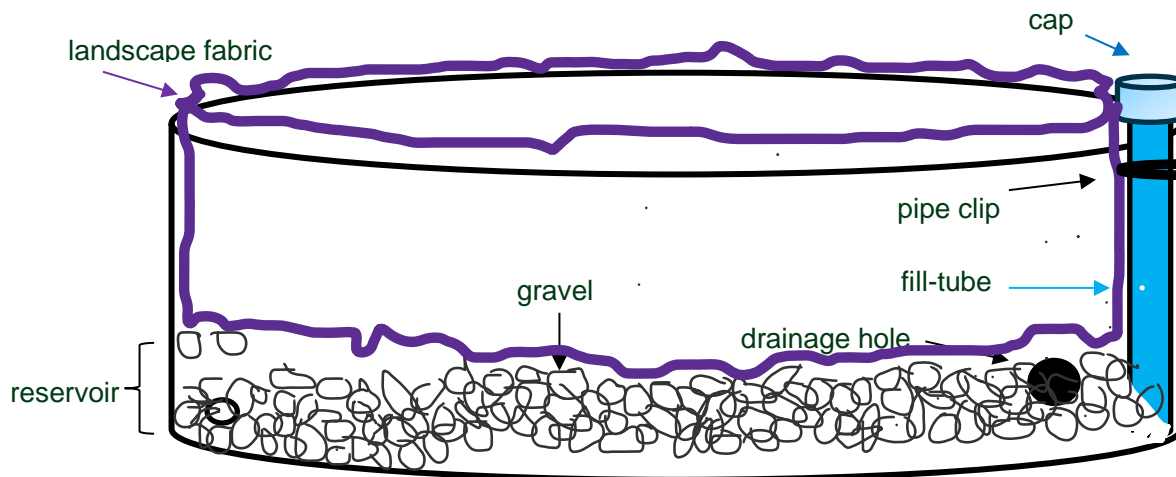
MILK CRATE GARDEN				
Material	Purpose	Price per item	Quantity Needed	Cost
1 Milk crate for growing	Growing container	\$11		
1 empty Milk crate	To raise the growing container	\$11		
Organic Potting Soil (35 quarts)	Growing medium	\$10		
Compost (5 lb bag)	Enrich soil	\$7		
Landscape fabric milk crate liners (to save money, buy a roll of landscape fabric and make your own lining)	To contain soil	\$12		
Plant Start		\$4		
Total Funding Needed:				\$0

STOCK TANK GARDEN BUDGET				
Material	Purpose	Price per item	Quantity	Total Cost
Galvanized Steel Stock Tank (2'x2'x6')	Garden bed container (165 gallons)	\$169	1 tank	\$169
Organic potting soil	To fill one stock tank bed (20 cubic ft)	\$10 per 2 cubic ft bag	10 bags	\$120
Compost (20 lb bag)	Enrich soil	\$12	2 bags	\$24
Gravel	3 inches of gravel at the bottom of the tank for drainage/subirrigation	\$5 per 60-lb bag	11 bags	\$55
Landscape fabric	Barrier between soil and gravel	\$13 per roll	1 roll	13
PVC pipe (2" diameter, cut to length)	Water fill tub	\$19.91 per 10 ft. pipe	1 per cut to fit	19.91
Tray of plant starts (4-8 plants)	Starter plants	\$15 per tray of plants	1 tray	15
Sales Tax: SCHOOLS CAN USE TAX EXEMPT FORM				
Delivery cost				
Total Funding Needed:				\$416

2 WOODEN RAISED BEDS AND OUTDOOR LEARNING SPACE		
Material	Purpose	Cost
6 pieces of 2" x 10" x 8' untreated lumber (pine)	To build 2 raised beds (8'x4' each)	\$200
60 cubic ft of garden soil	To fill 2 raised beds	\$216
5 Benches	Seating for outdoor learning	\$500
2 10x10 tents	For outdoor classroom	\$338
200 lbs of Tent weights	Weigh down tents	\$100
Delivery cost		\$150
Total Funding Needed:		\$1,504

Appendix E: How-To Guide to Stock Tank Sub-Irrigated Planters

Watch our [instructional video](#) on the GrowNYC Youtube channel.



WHAT IS SUB-IRRIGATION?

Sub-irrigation is the process of watering plants from below, instead of above. The sub-irrigated planter works when you pour water into the fill-tube, and it flows down into a reservoir below the soil. Once the chamber is full, the water wicks up through the soil and seeps into plants' roots. This system helps to keep soil consistently moist, preventing evaporation from the topsoil, so you won't have to water as often. This also allows the plant's roots to grow deep and keeps the plant sturdy.

MATERIALS

- galvanized steel stock tank (sizes vary but 6'L x' 2'W x 2'H recommended)
- 2 ½ feet long, 1 inch diameter rigid PVC pipe and cap for fill-tube
- 1 or 2 pipe clips + screws
- course size gravel, enough to fill the tank about 3 inches deep
- landscape fabric, long enough to cover the gravel and line the sides of the tank
- soil to fill the tank

TOOLS

- drills + drill bits
- measuring tape
- scissors

BUILDING THE PLANTER

Step 1: Drill a drainage hole at least a ½ inch in diameter about 2 inches from the bottom of the tank.

Step 2: Cut one end of the PVC pipe at a diagonal so that the pipe doesn't sit flat against the bottom of the tank.

Step 3: Attach the PVC pipe against the side of the inside of the tank using the pipe clips and screws



Step 4:

Cover the drainage hole with a small piece of landscape fabric then fill the tank with gravel about 3 inches high.



Step 5:

Cover the gravel with landscape fabric to keep the soil separate from the gravel. Use enough landscape fabric to line the inside of the tank as well as covering the gravel and fill-tube.



Step 6:

Fill the tank with soil.



Step 7:

Plant, water, and watch your plants grow!

IMPORTANT THINGS TO NOTE:

- The landscape fabric prevents soil from clogging up the spaces between the gravel.
- Dense soil will not work well in this system. To keep soil lightweight and well-aerated, use a mixture of compost, vermiculite, peat, and sand.
- The drainage hole helps you figure out how much water to pour into the fill tube. When water flows out of the drainage hole, the reservoir is full.

*This guide was adapted from growpittsburgh.org.

Appendix F: Volunteer Day Checklist

VOLUNTEER DAY CHECKLIST

- Obtain approval from the school administration and follow school protocol (this may involve a permit or permission slips)
- Confirm a bathroom will be available
- Communicate the plan with the custodial engineers
- Make a realistic agenda and timeline for what can be accomplished during the day
- Have an RSVP system. Keep track of how many people will attend and their contact info
- Inventory your tools and supplies
- Make a shopping list of materials needed before the volunteer day
- Assign group leaders, if splitting up into multiple projects around the garden space
- Ensure there are enough garden gloves for everyone's safety
- Advise volunteers to wear sturdy, close-toed shoes
- Advise volunteers to wear long sleeve shirts and long pants, if necessary
- Plan where the trash and yard waste from the day will be collected (Pro tip: Yard waste is less heavy after drying out for a few days)
- Provide snacks and water
- Send reminders
- Take photos to share afterward with the rest of the school

MATERIALS POSSIBLY NEEDED FOR VOLUNTEER DAY

- garden gloves
- garbage bags
- tarps
- loppers and clippers
- wheelbarrows
- shovels
- trowels
- rakes
- buckets
- soap
- bug spray and sunscreen
- first aid kits
- rags
- cooler with water for volunteers

If using power tools, make sure you have the correct accessories:

- Extension cords
- extra batteries with charge
- correct size and style of screws/drill bits.

Appendix G: Agreement Templates for Partnering with a Community Garden or Community Group

These templates serve as guidelines for schools and community groups sharing a garden space. Template 1 is for schools and any type of community group (such as neighborhood associations, volunteer groups, non-GreenThumb community gardens) sharing a garden space.

Template 2 is specifically for partnerships between GreenThumb registered community gardens and schools.

TEMPLATE 1: FACILITATION AND AGREEMENT GUIDE FOR SCHOOLS & COMMUNITY GROUPS

School Name: _____

Community Group Name: _____

Shared Garden Mission

(Insert mission statement of the garden)

Both groups recognize and agree with the mission of the shared Garden.

Decision-Making

Choose one

_____ If the Garden is on DOE Property, the garden must follow DOE guidelines and school rules.

_____ If the Garden is not on school property, the school and community group will create by-laws and rules to follow.

Communication between School and Community Group

Appoint a yearly School Liaison:

Name: _____

Contact Info: _____

Start and End Date: _____

Appoint a yearly Community Group Liaison:

Name: _____

Contact Info: _____

Start and End Date: _____

These two liaisons shall represent the two parties and be responsible and available for communication for any garden-related matters.

School Use

Describe the plan for school use of the garden (days of the week, hours, areas of the garden and garden beds to be used).

Community Use

Describe the plan for community use of the garden (days of the week, hours, areas of the garden and garden beds to be used).

Special Events

Describe the protocol and permission process for hosting special events in the garden.

Garden Security and Access

Describe the plan for the security of the garden (key/lock protocol).

Garden Maintenance

Insert agreement about who will be responsible for maintaining the garden. Insert schedule.

Finances

Insert agreement about who will be responsible for funding the garden and/or how the costs will be shared.

Conflicts and Disputes

In the event that a Conflict and/or Dispute arises between the School and the Garden and the Liaisons cannot reach a successful resolution, both parties agree to a larger meeting between the School Administrator, School Liaison, Community Group President(or other applicable name), and Community Group Liaison.

Agreement Length of Time

This agreement between the School and the Garden will be good for the following length of time:

Beginning Date: _____

End Date: _____

At the end of the agreement time period, the two parties will need to agree to renew the partnership for future programming plans. This agreement will not automatically be renewed but will need to be revisited and resigned prior to each school year.

Formal Agreement

By signing this form, you agree to adhere to these conditions for a successful partnership between the School and the Community Group.

School Parties

School Administrator

Name: _____

Address: _____

Email: _____

Phone number: _____

Date Signed: _____

School Garden Liaison

Name: _____

Address: _____

Email: _____

Phone number: _____

Date Signed: _____

Community Group Parties

Community Group Leader

Name: _____

Address: _____

Email: _____

Phone number: _____

Date Signed: _____

Community Group Liaison

Name: _____

Address: _____

Email: _____

Phone number: _____

Date Signed: _____

TEMPLATE 2: FACILITATION AND AGREEMENT GUIDE FOR SCHOOLS & GREENTHUMB COMMUNITY GARDENS

This document serves as guidelines for partnership use by a School in a NYC Parks GreenThumb registered Community Garden in good standing. The intent is to provide a roadmap for a successful partnership between the School and the Garden. All parties must agree to the contents stated below and sign the agreement at the end of the document. Gardens on Parks property must follow the rules of NYC Parks and should consult with and share the GreenThumb Gardeners' Handbook with both garden members and school liaisons.

School Name: _____

Community Garden Name: _____

Garden Mission

(Insert mission statement of the garden)

The School recognizes and agrees with the mission of the Garden.

School Mission for Garden Program

(Insert School mission for garden Program)

The Garden recognizes and agrees with the mission of the School.

Garden Membership

The School will be recognized as a full member of the Garden.

Circle one: Yes / No

If Yes, the School is afforded all Membership Rights & Responsibilities (including but not limited to Payment of Dues) and must adhere to all By-laws, Rules & Regulations and/or Rules of Conduct for the Garden (see attachments for each of these).

If No, the School is afforded the right to utilize the garden for specific school programming needs as agreed to by the Garden, must adhere to all Rules and regulations and/or Rules of Conduct, but is exempt from adhering to the following sections of the By-laws and Rules of Membership.

List out the exemptions

Garden By-laws, Rules and Regulations, Rules of Conduct

Attach each of these documents:



The School also agrees that each staff member and student participating in the School's garden program will sign a copy of the Garden's Rules of Conduct prior to any visits to the garden. The School must collect these signed documents and share with the Garden Liaison prior to the start of the program.

Decision-Making

Choose one

_____ If the School is a Member of the Garden, the School may participate in larger Garden decision-making votes as described in the By-laws.

_____ If the School is not a Member of the Garden, The School may not participate in larger Garden decision-making votes as described in the By-laws.

Garden—School Communication

School Liaison (appointed by the School Administrator) responsibilities include, but are not limited to:

- Coordinating with the School administrators and garden programming teachers on issues that impact both the School and the Garden;
- Coordinating with the School administrators and garden programming teachers seasonally on the program schedule and content of lessons for student visits to the garden;
- Communicating with the Garden Liaison to plan for the seasonal schedule of school visits;
- Coordinating with the Garden for soliciting grants, other funds, and supplies to benefit both the School and the Garden.
- Developing a schedule for maintenance of the School's plots during the days when the school is not in session;
- Attend the Garden's annual meeting and attend (2) General meetings from March through November. (optional)
- Informing the Garden Liaison about the School's concerns or issues.

Garden Liaison (appointed by the Garden Steering Committee) responsibilities include, but are not limited to:

- Coordinating with the School Liaison on issues that impact both the School and the garden;
- Communicating with the School Liaison to plan for the seasonal schedule of school visits;
- Coordinating with the School Liaison for soliciting grants, other funds, and supplies to benefit both the School and the Garden.
- Coordinating with the School Liaison for maintenance of the School's plots during the days when the school is not in session should the School not be able to maintain their plots;
- Informing the School Liaison about the Garden's concerns or issues.

School's Programming Requests

The School's Garden Program wishes to utilize the Garden in the following manner:

The School can attach a separate document that lays out the framework for their Garden Program that highlights the following: days and time for requested regular use, requested number of plots for student use, anticipated tool usage, age of students, number of adults

supervising, and special events hosted by the School Garden Program (e.g. Autumn bulb planting). This document supports the basic summary below of requested needs of the Garden.

Days Requested in the Garden: _____

Time of Day Requested to be in the Garden: _____

Number of Plots Requested: _____

Number of Students in Overall Garden Program: _____

Number of Students Visiting the Garden per Class Period: _____

Number of Adults per Class Period: _____

Special Events

School Garden Events:

Choose one:

_____ The School agrees to coordinate with the Garden Liaison _____ months in advance of a planned Special Event to be hosted by the School. These permissible events for the School are: _____

(list out all that may apply. Attach separate sheet of paper if need be. Examples include seasonal bulb plantings, seasonal harvest celebrations)

_____ The School is Not Allowed to hold Special Events in the Garden.

Community Garden Special Events:

Choose one:

_____ The School is invited to participate in any Garden hosted special events.

_____ The School is asked to help promote/advertise for the event.

School Supervision

Choose one:

_____ The School must follow Garden's stated rules for supervision.

_____ All individuals under the age of 18 years will be supervised at all times by a member of the School staff. The school will provide a minimum of _____ (insert number) adults for supervision of students during each visit to the Garden.

_____ All individuals under the age of 16 years will be supervised at all times by a member of the School staff. The School will provide a minimum of _____ (insert number) adults for supervision of students during each visit to the Garden. Individuals between ages 16-18 are allowed to visit the garden un-attended during school hours to conduct school garden programming activities.

Garden Agrees to School's Programming Requests

The Garden agrees to let the School utilize the Garden for their programmatic needs and agrees to the following:

The School can use _____ number of garden plots. These plots are located

(describe their location). Attach a garden map if necessary, that highlights the School Garden plots.

The School can use the Garden during the following Days and Times:

- Day(s): _____
- Time(s): _____

Please choose one:

- _____ The Garden will be open only to the School during the above stated times. No Garden members will be allowed to visit their plots during this time.
- _____ The Garden will be open to the School during the above stated times and a Garden Member will be present on-site during the School's programming hours.

A garden key or lock code will be provided to the School. The name of the person from the School with the key is:

Name: _____

Phone number: _____

The key holder agrees to all Rules and Regulations per the Garden Bylaws of how to use the key.

The Garden will allow the School full use of the Garden's tools with full understanding the School will respect the tools, use them in their intended manner, clean the tools, return all tools to the storage shed and make arrangements for repair or replacement should the School damage or lose a tool during the course of School programming.

Requirement of the School to maintain use of the Garden

School Liaison and Garden Liaison meet at the beginning and end of each growing season (September, November, March/April, June) to discuss the School's participation, plan the schedule, & resolve any issues;

Please select one:

- _____ The School agrees to follow the Garden's Bylaws with regards to requirements for maintaining membership (see attached Bylaws)
- _____ The School agrees to maintain (planting, weeding, harvesting, etc) their allotted plots as laid out by the Bylaws, but given the School's status as a non-member they are exempt from the following Bylaw requirements: (list out any specific exemptions)

Special Considerations

School Garden Animals

Please select one:

- _____ The School May keep an Animal inside the Garden.
 - Provide specific instructions on type of animals allowed, housing needs of animals, care and feeding requirements and designate School has primary guardian. Include rules on should the School not keep up proper care and housing, the Garden assumes role as guardian and has the right to keep or give up the Animal(s).
- _____ The School May Not keep an Animal inside the Garden
- _____ If the Garden has animals on-site, the School May interact and help with the care and feeding of these animals.

- Provide specific instructions on allowable activities the School may help with for the Animals
- ☐ ____ If the Garden has animals on-site, the School May Not interact and help with the care of the feeding of these animals.

Add more Special Considerations as needed

Finances

The School must provide their own funding for their programmatic needs and as such, any monies held by the Garden are not available to be utilized by the School. Should the School pursue grant or fundraising opportunities to support the School’s program or gardening needs, the School agrees to communicate in advance with the Garden Liaison. The Garden reserves the right to approve or not approve of the intended grant project or fundraiser if especially it relates to making changes to the design of the garden, infrastructure improvements or special events intending to be held in the garden. Should the School receive a grant award, all parties agree the monies awarded will be held by the School and they are the party responsible for spending down the funds in accordance with grant award stipulations.

Conflicts and Disputes

- In the event that a Conflict and/or Dispute arises between the School and the Garden and the Liaisons cannot reach a successful resolution, both parties agree to a larger meeting between the School Administrator, School Liaison, Garden President (or other applicable name), and Garden Liaison.
- Should a resolution still not be reached, School and Garden parties agree to work with GreenThumb and GrowNYC School Gardens to reach resolution of the conflict.

Agreement Length of Time

This agreement between the School and the Garden will be good for the following length of time:

Beginning Date: _____

End Date: _____

At the end of the agreement time period, the two parties will need to agree to renew the partnership for future programming plans. This agreement will not automatically be renewed but will need to be revisited and resigned prior to each school year.

Formal Agreement

By signing this form, you agree to adhere to these conditions for a successful partnership between the School and the Garden.

School Parties

School Administrator

Name: _____

Address: _____

Email: _____

Phone number: _____

Date Signed: _____



School Liaison

Name: _____
Address: _____
Email: _____
Phone number: _____
Date Signed: _____

Community Garden Parties

Community Garden President

Name: _____
Address: _____
Email: _____
Phone number: _____
Date Signed: _____

Garden Liaison

Name: _____
Address: _____
Email: _____
Phone number: _____
Date Signed: _____

Community Garden & School Support Organizations

GreenThumb Outreach Coordinator

Name: _____
Address: _____
Email: _____
Phone number: _____
Date Signed: _____

GrowNYC School Garden Coordinator

Name: _____
Address: _____
Email: _____
Phone number: _____
Date Signed: _____

Appendix H: Acknowledgement

This Handbook was created by the 2022 GrowNYC School Gardens Team! Authors include Laura Casaregola, Jinky Nogales, Colleen Graves, Sophia Leon, Kristin Fields, and Chantel Kemp.

We would also like to credit previous Grow to Learn team members whose resources influenced this handbook, and GreenThumb for graciously allowing us to draw from their GreenThumb Gardeners Handbook.

Lastly, we of course want to acknowledge and uplift all the amazing school gardeners out there: past, present, and future! Anyone who has been involved with a school garden knows the dedication and heart that goes into each space—we admire and are honored to be part of the efforts made each day to bring the transformative power of gardening to your schools.

If you have any questions, please reach out to schoolgardens@grownyc.org or visit grownyc.org

Happy growing!

 For additional resources,
visit grownyc.org