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How to Start a School Garden: Your Complete Guide

From striking your garden committee to hosting a school-wide ‘dig day’, learn how to start a school garden for education, eating, and fun.

With more and more gardens popping up across the continent, many parents and teachers are asking themselves what all the fuss is about. Are school gardens becoming an essential fixture in the schoolyard just like jungle gyms and swing sets? And if so, why? It's no secret that gardens provide many over and above the fresh produce. There are some excellent reasons why more and more schools are taking the plunge.

Benefits of School Gardens

1. School gardens help children learn.

Gardening is the study of life. The simple act of caring for living soil and plants gives children a foundation for understanding the principles of birth, growth, maturity, death, competition, cooperation and many other lessons that transfer to human lives. In a school garden, children experience these lessons 'hands on' through a learning method that is rich and inclusive to varied learning abilities. The results teachers see every day are now supported by science: school gardens can help our children learn better, both academically and emotionally. For more information, read **School Gardens: Can They Make Our Children Smarter?**

2. Gardening together strengthens ties between school and community.

School gardening programs offer opportunities for community members to get involved, reducing the social isolation of seniors with skills to share and connecting children to older generations. They also help connect schools to local businesses and groups when they request sponsorship or volunteer assistance.

3. Getting their hands dirty helps connect children with nature.

Children who garden get a close-up look at natural processes and the living organisms that thrive in these environments. By learning to care for a living, breathing ecosystem, children develop an understanding of nature's importance in their lives and the lives of other beings. This fosters a culture of environmental stewardship.

4. Gardening strengthens children's immune systems.

There's more and more evidence that **getting dirty exposes us to a variety of microbes** that can fortify our health and balance our immune systems against our overly sterilized world. This is **particularly true for children** who benefit from reduced allergies and asthma when exposed early in life to dirt and the outdoors. The vitamin D they absorb when gardening doesn't hurt, either!

5. Working in a school garden helps children stay active, reducing obesity.

Teachers across the country agree: when children garden, they move their bodies more than when passively listening in a classroom. Jumping, bending, lifting, and stretching all take place during a typical gardening session.

6. Gardening moderates moods and eases anxiety.

There's some evidence that exposure to the beneficial microbes in soil can help regulate the neurotransmitters affecting our brain's emotional state. A **whole practice** involving exposing yourself to green spaces to lift the mood has even emerged globally, with convincing results. But gardens are more than just another green space: they're hands-on, outdoor

classrooms that teach children **self-regulation and mindfulness**—both of which have been shown to decrease anxiety and depression.

7. Children who garden at school develop empathy and practice risk.

Teachers who garden with their students notice increased empathy towards other students and the organisms living in their school patch. That's because tending to a 'bug hotel' or watching birds and earthworms thrive in the garden helps children understand the interdependency of nature. A garden also provides the perfect place for children to learn about boundaries and responsibility by practicing new activities in a safe space. Using a paring knife, trying out a hammer, or balancing on the edge of a **raised bed** are all ways for children to test their edges and learn new skills in a supportive environment.

8. Teaching and food gardens improve children's diets.

Academics and journalists agree: children who garden eat more fresh vegetables. This extends beyond what they nibble on during classroom gardening time. Apparently just having a garden at school **increases their intake of vegetables at home**. And that's good news for parents, teachers, and kids.

Whatever your reasons for wanting to start a school garden, the benefits are many. So how can you help a garden come to your school?

Where to Start

Getting your garden from idea to harvest is a journey with many steps. Luckily many others have travelled this road before. The following list includes five key steps recommended by teachers and parents with experience operating successful gardens.

1. Form a Garden Committee

While it might only take a single motivated educator to start a school garden, forming a committee early in the process will give your garden longevity and help prevent burnout for any one member.

A garden committee makes decisions about how a school's garden will look, what it will be used for, and how it will operate. The committee may start as primarily a planning body that later morphs into an operational committee, or it may simply offer direction for a garden coordinator. Whatever model you choose, the committee should ideally consist of 5-10 members representing the following areas:

- Your school's administration
- Teaching staff
- Students
- Parents
- Community volunteers

If your school garden will support your school cafeteria or another nearby food program, it's a good idea to include a representative from your school's food service department as well. The more diversity you can achieve, the better representation you will have and the better the end results.

Aim to find committee members with a passion for the project, along with a broad range of skills. Duties might include:

Developmental stage

- Fundraising
- Communications
- Liaising with community
- Coordinating design and build
- Coordinating supplies

Operational stage

- Fundraising
- Event planning
- Scheduling
- Maintenance
- Planting and weeding

You can structure your garden committee like a regular board with a chairperson to organize meetings and communicate details, or opt for something more informal. Either way, be sure your school's administration is involved and informed. Getting parents involved from the beginning also helps families take more ownership down the road.

Parents and children help out at Fletcher Elementary School's "Dig Day." *Photo: Healthy Planet US.*

2. Determine Goals for Your Garden

Once you have your committee in place, determining goals for your garden is an important next step. Schools build gardens for different reasons. Here are some common goals and objectives.

To provide outdoor, hands-on learning.

The classic teaching garden helps teachers provide their students with real-life learning. The hands-on environment compliments lessons about plant and insect life cycles, along with experiential activities like building a bug hotel. Art, math, English, and social studies: all these lessons can find a home in the teaching garden.

To cultivate food for school programs

Some schools use school gardens to augment their school lunch or food services programs. Fresh greens, tomatoes, cucumbers, and more can all end up in the kitchen or in the school cafeteria salad bar.

To send fresh fruits and vegetables home with students.

In **some locations**, children don't have access to fresh produce or lack the resources at home to afford them. Schools gardens can provide the chance to experience vine-ripened goodness while meeting the goals of the curriculum.

To reduce school-generated food waste.

Adding a composting system to a school garden helps teach children about the decomposition process and eliminating food waste. Many schools even encourage teachers and students to bring compostables from home to really get the process going.

To provide a therapeutic space for children and young adults.

Gardens are **peaceful, healing spaces** where many can find rest and respite from the world around them. Many therapeutic programs feature gardens for their healing abilities.

Identifying the primary and secondary goals for your garden will help you determine what size and style of garden you need. Once you have a sense of your garden's direction, consider the following questions to further hone your vision:

1. Who will use the garden?

Which grade levels will spend time in the garden? How will they use the space? Some schools assign one bed for each class to tend, while others share the beds over multiple classrooms.

2. How often will students use the garden?

Biological processes are always taking place in the garden—not just during planting and harvest time. Aim to have children visit the garden weekly during your gardening season and less frequently when things are dormant. Even when things appear to be sleeping, there are still lessons to learn. Regular visits will help children develop a connection with the space.

3. Who will be responsible for scheduling?

Someone on your garden's committee, usually a teacher, will need to oversee the timing of class-

room visits. Too many children in the garden at once can take pleasure out of the experience.

4. Who else is needed to accomplish your goals?

If your plan is to provide the school cafeteria with fresh vegetables for part of the year, you'll need to plan your activities around local seed and harvest times. Consult local experts through your neighbourhood nursery or extension office to get information right for your climate and soil conditions.

3. Find Your Site

Now that you know the main purposes for your garden, review available sites and determine which one is right for your needs. Along the way, consider the following questions.

How much space do you need to meet your goals?

How many beds do you plan to install to produce food for your school's needs? What is the best way to divide that space into beds? What other items (compost bin, tool shed, potting tables or benches, **trellises**, etc.) do you need? The answers to these questions will help you design the configuration of your beds and how much space you need to contain them.

Is there enough sun?

Direct exposure to sunlight is one of the most important needs your garden will have. While salad greens need about 4 hours of sunlight each day, your site will ideally have 7-8 hours of sunlight to accommodate the broadest range of fruits and vegetables. If you're unsure how much light your site gets, use a sunlight **calculator** to be sure.

Where is your water access?

Your site should ideally be no more than one hose length away from the nearest faucet or standpipe. If you plan to install in-ground irrigation, the distance away from your water source will affect the pressure needed to get water to your site.

What type of beds will you use?

While a traditional in-ground garden is the simplest to install, it requires that good quality soil be available onsite. You can order additional soil or well-seasoned **compost** to augment what's there, but there should be something to start with. Benefits of in-ground gardens include flexibility, good moisture retention, and the ability to add **cold frames** or hoop houses as needed to extend the growing season.

Raised beds are commonly used in school gardens because **they make weed control easy and are accessible for all ages and abilities**. They also come in a **variety of heights, widths, and lengths**. In most cases, use beds 3 or 4 feet wide so that children can reach the center of the bed without standing on the soil.

Raised garden boxes generally have no bottoms and sit directly on the soil. This is the ideal set-up. However, if you must **install your beds on concrete**, consider purchasing beds with integrated bases and increasing the height of your garden to at least 18 inches. Taller beds will give you more versatility in terms of what plants you can grow. Any garden beds which have bottoms fitted to them must be designed to ensure good drainage.

Many schools also use horse troughs, either alone or in conjunction with other raised beds.

Can you go vertical?

Schools wanting to get the most out of their space often add vertical elements. This includes **trellises** on raised garden beds, wall pockets of varying sizes hanging on fences or walls, and **stacked garden towers** in a central, accessible location. Just be sure to place vertical elements so they don't shade any beds behind them (e.g. place them south of shorter beds if you're located in the northern hemisphere).

What type of soil is on site?

Starting with **healthy, living soil** gives your garden the nutrients it needs to thrive. And while you can add fertilizer before planting, healthy soil is more than just nutrients. The **best soil structure** is fluffy, lightly textured, and full of organic matter that's continually breaking down. It provides enough air pockets for roots to infiltrate and water to travel. If there is dirt available on site, **conduct a soil test** to find out what nutrients you can add. Performing a **simple squeeze test** will help you further evaluate your soil's tilth and organic matter content.

If, like most soils, yours needs help, the best sources of organic nutrients are finished compost and well-rotted manure (at least two years old). Both of these can augment whatever soil is available on site for a winning combination of nutrients plus organic matter.

Is the site secure?

In most locations, gardens must be fenced to keep out **animal pests** and little feet looking for short cuts at recess. Factor your need for a fence into your initial site considerations. Is there a location close to an existing fence that could help reduce your expenses for full perimeter fencing?

School gardens that include pollinator favorites attract beneficial insects.

Even if you don't have much foot traffic or pests in the vicinity, consider securing your garden with a fence to deter human mischief. Locating your garden in a well-lit area with neighbors nearby is another way to discourage nighttime visitors.

4. Plan and Design Your Site

Working with a garden or landscape designer is often beyond the reach of schools sticking to a bare bones budget, yet it can also be a way to save costs in the long term.

To begin, talk with other schools in your district that already have successful gardens and ask who helped them with their design. If your garden will be small—just a few beds—the main question you'll need to answer is where to locate those beds and how to place them (see above). For larger gardens, there are other important considerations.

Consider the elements on the next page as you begin the design process. Which ones would complement your garden? Which ones would support your teaching goals? Bring the checklist on the next page to your first garden design meeting.

Gardening Checklist

Which elements will your garden include?

- ☐ **Teaching/gathering area:** small clearings with benches
- ☐ **Potting benches or tables:** For sowing and potting up plants, **making paper pots using a press**, or **seed saving activities.**
- ☐ **Fruit and vegetable beds:** Raised or in-ground beds, horse trough beds, container gardens.
- ☐ **Annual and perennial flower beds:** Butterfly and pollinator garden beds.
- ☐ **Trees and shrubs:** **Fruit trees**, shrubs, and brambles.
- ☐ **Irrigation:** **Soaker hoses**, drip irrigation, overhead sprinklers.
- ☐ **Greenhouse:** To extend the growing season and/or as a seed starting area.
- ☐ **Storage shed:** For storing tools, containers, seeds.
- ☐ **Composting area:** Compost bins, **tumblers**, **worm bins**, etc.
- ☐ **Sink:** Washing station for cleaning up hands and harvest.
- ☐ **Special features:** Bug hotel, **bee condos**, **pond**, **bird houses**, **bat houses**, theme beds, etc.

Sample Designs

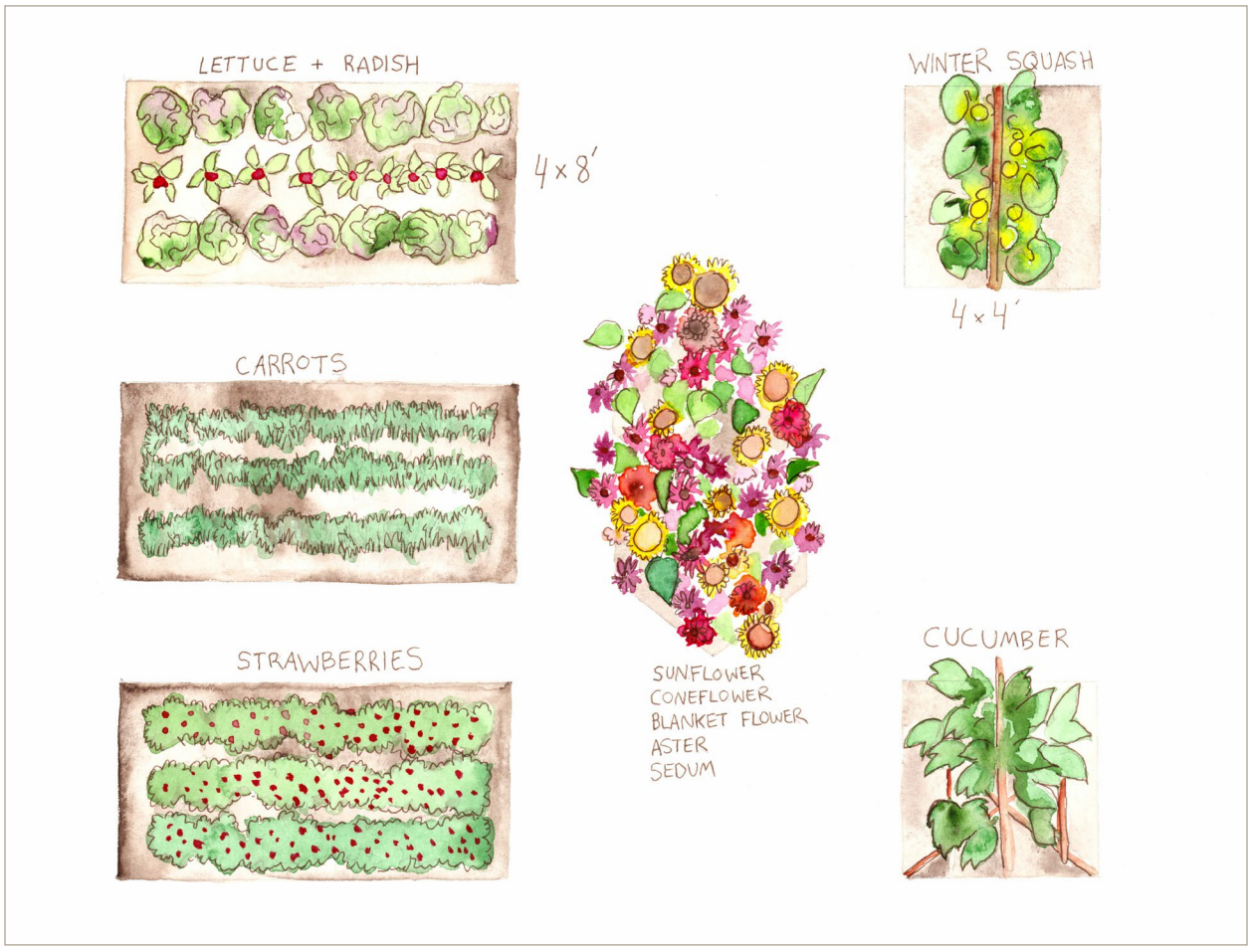
Once you have an idea of the elements you want in your garden, you can start to cost out what's possible for your space. Here are three garden designs showing sample crops that can be harvested during the school year in the Southern United States. To adjust for your area, talk to your local extension agent.

Starter Teaching Garden

If your primary goal is providing a hands-on learning opportunity, a basic teaching garden can consist of a few simple beds targeting crops that produce during the school year. This low-cost design features raised beds planted with vegetables, along with a small **pollinator garden** or **insectary** that can double as a cut flower garden. Including flowering plants in your design increases the learning opportunities for your garden as a whole.

Materials:

- ☐ 4' x 8' raised garden beds (4)
- ☐ 4' x 4' raised garden beds (2)
- ☐ Raised bed climbing trellis (2)
- ☐ Mixed vegetable and flower seeds
  - ○ Beets
  - ○ Broccoli
  - ○ **Carrots**
  - ○ Chard
  - ○ Cucumber
  - ○ Lettuce
  - ○ Radishes
  - ○ Winter squash
  - ○ Sunflower
  - ○ Nasturtiums
  - ○ Shrubs/perennials:
  - ○ Strawberries
  - ○ Basil
  - ○ Rosemary
  - ○ Chives
  - ○ Coneflower
  - ○ Blanket flower
  - ○ Asters/sedum



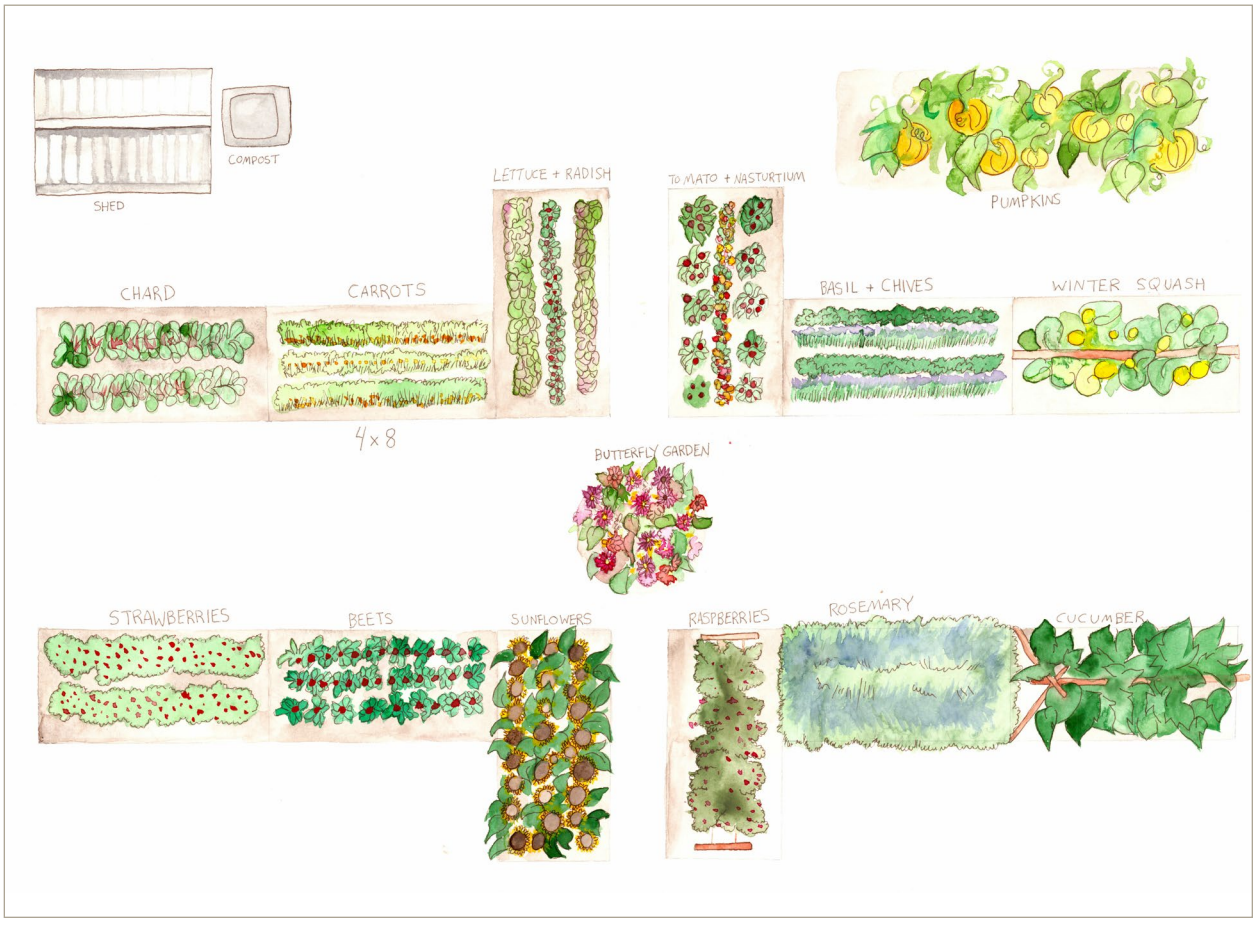
Starter Teaching Garden:
A basic teaching garden includes a mix of fruits, vegetables, and flowers.

School Food Garden

For a larger school whose goals include in-season food production for a cafeteria or food service program, the following design includes a variety of vegetables, flowers, and fruit:

Materials:

- ☐ 4 x 8’ raised beds (12)
- ☐ 3.5’ x 4.5’ **hexagonal raised bed** (1)
- ☐ 1 compost bin
- ☐ 1 tool shed
- ☐ 1 in-ground pumpkin patch
- ☐ Mixed vegetables, flowers, and shrubs as noted previously, plus:
  - ○ Raspberries
  - ○ Tomatoes



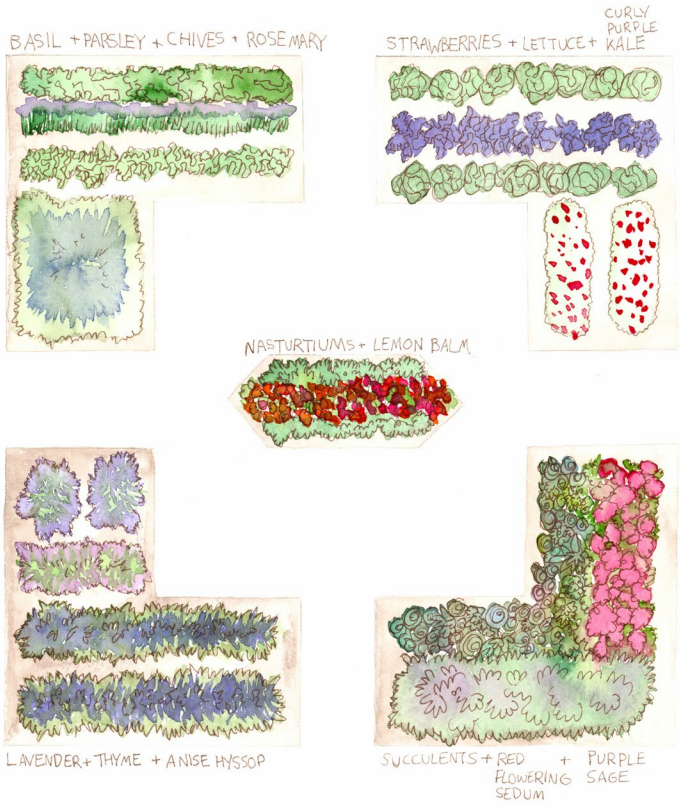
A larger food garden includes space for vining squash, fruiting shrubs, and tomatoes.

Primary Sensory Garden

Thematic gardens are a great way to connect children with nature using an unconventional angle. This sensory garden targets children in the primary grades by engaging their senses of touch, smell, sight, and taste. The specific selection of plants in a variety of textures encourages handling, and in some cases, eating.

Materials:

- ☐ 3’ x 6’ **L-shaped raised beds**
- ☐ 3.5’ x 4.5’ **hexagonal bed**
- ☐ Seedlings:
  - ○ *Taste*: Basil, parsley, chives, rosemary, lettuce, strawberries
  - ○ *Smell*: Lavender, thyme, **anise hyssop**, lemon balm
  - ○ *Sight:* Nasturtiums, speckled lettuces, purple curly kale
  - ○ *Touch*: Succulents, red flowering sedum, purple sage



An elementary sensory garden offers plants that encourage hands-on exploring.

5. Consider Materials

With your new design in hand, consider what materials students and educators will need to make the most of your garden. This includes thinking about both the building and operational phases.

Recycled Plastic or Wood?

If your garden will contain **raised garden beds**, what will those be made from? Although treated wood lasts longer where wood is concerned, it is usually coated in chemicals that can leach into the soil and get taken up by plants. **Recycled plastic beds** are made of solid HDPE plastic which is safe for gardening, will not rot or degrade, and is very durable. These beds are heavy and expensive. However, they are worth the cost since they are so long lasting. **Cedar beds** are beautiful and rot resistant when compared to other woods, and **some even come with a natural, silica-based treatment** that is safe and non-toxic. For those that don't, the application of **Eco-wood treatment** (also safe and non-toxic treatment) will improve longevity when applied to the inside of the beds. Other less expensive species of wood can be used, of course, which might not last as long as cedar. Ask your local lumberyard about options they recommend.

Read More: Cedar vs. Recycled Plastic vs. Composite Raised Garden Beds

Soil

As noted above, soil is best amended by compost and organic, well-aged manure. But what if there's no soil on hand to fill your beds? Purchasing good garden soil requires research. Often "topsoil" may appear healthy, but on closer inspection it consists of low quality dirt and sand. Talk to local suppliers about their sources, specifying that you want to grow vegetables. Many municipalities now offer compost for sale from local landfills or industrial composting facilities. Avoid anything that isn't processed under high heat, because it may contain weed seeds.

Read More: Raised Beds: Preparing Your Garden Beds for Spring

Read More: 3 Useful Soil Mixes for Planters and Raised Beds

Fertilizers

Chemical fertilizers may give plants a quick fix, but they have been shown to deplete soil over the long term. Instead, feed your plants and your soil at the same time with an **all-purpose organic fertilizer**. You will need half a pound for each 10 square feet of soil. Perennial plants and shrubs will have other, more specialized requirements. You can also **grow a cover crop** chosen for your climactic area to add nutrients to the soil. Talk to your local nursery or seed supplier for more information.

Read More: Up, Down, All Around: A Simple Way to Understand Fertilizers

Irrigation

As noted above, different irrigation systems are available to suit different garden designs. While **drip irrigation** is ideal for some set-ups, it can also be expensive and require some ongoing maintenance. Using **soaker hoses** or **hand watering** are viable options, depending on the size and configuration of your beds. You can also set up **rainwater catchment systems** using **rain barrels** to store water during the rainy season.

Read More: Drip Irrigation vs. Soaker Hoses: Which is Better for Your Garden?

Read More: Tips for Installing a Rainwater Collection System

Tools

Since most gardens are designed for one class to visit at a time, the number of tools will usually reflect the average class size at your school. The following list of materials was adapted from the Healthy Planet Foundation's basic supply list for a schoolyard garden.

- ☐ Watering can (3)
- ☐ Hand trowels (25-30)
- ☐ Round shovel (2)
- ☐ Flat shovel (2)
- ☐ Garden hoe (2)
- ☐ Digging fork (2)
- ☐ **Drinking water safe hose** (1)
- ☐ Garden twine (1 200ft roll)
- ☐ Gardening gloves (25-30)
- ☐ Plant labels (50)
- ☐ 1 wheelbarrow
- ☐ 1 spray nozzle

Fencing

As noted above, school gardens benefit from a secure fence. Wire mesh fencing with wooden or metal posts is usually more cost effective than wooden slat or picket fencing. Choose your preferred material, and then calculate the length needed by measuring around the perimeter. Be sure to add clearance for paths around all sides of each bed. Paths greater than three feet will accommodate a wheelbarrow (allowing you to turn and dump its contents).

Exuberance is a common sight in schoolyard gardens. *Photo: Healthy Planet US.*

6. Funding Sources

Long before you begin to compile your materials, you'll need to think about how to raised money for your garden. In most cases, schools apply for grants for start-up costs then manage their gardens through a combination of community donations and volunteer labor.

As you design your garden and build your list of supplies, consider what local sources might be available. Is there a local garden center that will give you a discount on supplies? Can families assist with installation to reduce or eliminate labor costs? Local service groups may also be eager to help through labor or monetary donations.

The following organizations offer funding resources and information for school gardens. Explore those in your catchment area, and then call for more information.

United States

- **American Heart Association:** The American Heart Association has a "Teaching Gardens" program for grades one through five. Eligible schools receive materials for planting day, including garden beds, soil, seedlings and plants, along with cooking demonstrations, lesson plans, and a Teaching Garden Toolkit.
- **Annie's Grants for Gardens:** At least 75 students must be actively involved in garden projects receiving grants. Applications open in spring and fall of each year.
- **Healthy Planet:** Healthy Planet US has a goal to see a garden in every American school. While they aren't currently funding new gardens, they offer a variety of excellent resources for schools looking to add or expand edible gardens.
- **Big Green:** Big green offers support for low income schools to start or expand a teaching garden. A list of eligible districts is available on their website.
- **Budding Botanist:** Each grant recipient will receive a package of tools and educational materials valued at $500 along with a check for $2,500 to spend on the materials needed to install a new or expand an existing school garden.
- **Food Corps:** Food Corps delivers garden education programs in high-need schools. They help connect children with healthier foods in schools so they can reach their full potential.
- **Grow to Learn:** Providing funding for New York school gardens, Grow to Learn also offers free materials and technical help for schools and educators starting or expanding their teaching gardens.
- **KidsGardening:** KidsGardening is a leading resource for garden-based educators across the country. They maintain an **extensive list of funding programs for school gardens.**
- **Slow Food USA:** Slow Food USA maintains a list of grants available to schools interested in building or expanding their garden. The site also includes excellent educational and start-up resources.
- **Whole Kids Foundation:** The Garden Grant program provides a $2000 grant to support a new or existing edible school garden.

Canada

- **The Classroom Gardener:** Serving the Lower Mainland, BC, The Classroom Gardener supports teachers and students with a cross-curricular, on-site school garden learning experience.
- **Evergreen Foundation:** Evergreen has compiled an **extensive list** of gardening grant projects in Canada.
- **Nutrients for Life:** Serving specific provinces across Canada, the Learning Garden program offers grants and resources for startup school gardens.
- **Whole Kids Foundation:** Created in partnership with FoodCorps, the garden grant program provides $2000 for new or existing edible garden projects.

Crowdfunding

Some schools choose to raise funds through their local community, and because some of the funders listed above require matching funds for their grants, crowdfunding is one way to streamline the work of processing these donations. The following platforms currently offer low-cost options for digital fundraising.

- **Gofundme.com:** This crowdfunding platform currently doesn't charge a platform fee. It helps individuals easily set up accounts to handle donations direct from contributors.
- **Indiegogo.com:** Indiegogo offers a crowdfunding platform to individuals and groups seeking donations, and to start-up businesses and individuals seeking investment in unique ideas.

Case Studies: 3 School Gardens

Teaching Garden With Benefits

O'Farrell Charter School, San Diego

For the past two years, children at the O'Farrell Charter School have planted, tended, and harvested fruits and vegetables in their school garden as part of their hands-on science learning. The garden currently includes 10 raised beds and four trees (avocado and tangerine), along with a compost bin. With a primary goal of teaching children, the garden also provides fresh produce for families after the lessons are all done. That's important, because O'Farrell is an urban school, and some families don't have access to fresh, affordable fruits and vegetables.

The garden was the brainchild of an educator who received a donation from one of her parents and decided to put it towards a communal growing space. Healthy Planet Foundation provided the balance of funds, and parents and students volunteered their time to dig and assemble the garden during a weekend "Dig Day". For their participation, students received community service hours.

Today students perform most of the tasks to keep their garden running, while custodial staff maintain the irrigation lines. The school has already purchased four more trees (lime and avocado) to add to their garden, and they have plans to increase production by planting and harvesting more frequently.

Says principal Anne Mathews, "We have butterfly releases that we do in the garden, we

look at worms and the life cycle of insects—that's all done in the garden. A lot of science activities that we do now are outside…and those are things that we couldn't do before. It introduces a sense of realism to the students because they can touch and look."

Productive Food Garden and Greenhouse

Windermere High School, Vancouver

With a goal of providing food for the school cafeteria and for a local residence housing low income families, educators and students at Windermere High School started small.

After more than three years, the garden has expanded to include 13 raised beds, a 16' x 20' greenhouse (partially heated by solar energy), and an industrialized composting system that can process everything from vegetables to bones.

Garden activities are closely linked with the curriculum thanks to support from the nearby university whose students help integrate its operations with provincial learning outcomes. Other partnerships in the community and with local organizations extend these opportunities. The garden's mason bee condos offer students lessons in insect and life cycle science, while a new **aquaponics system** capturing nutrient production from fish will tie in with science and social studies curriculum.

The garden's coordinator thanks the local community and the garden's many partners for making the project so successful, noting in a **published success story** that, "Working in the garden has provided an avenue for the cross-grade interaction of students at our school.

School gardens connect children to nature and the community. *Photo: Healthy Planet US.*

A strong sense of community has developed as is evidenced by the large number of students participating throughout the summer."

Elementary Garden to Table Program

Traverse Heights Elementary School, Traverse City

Through a partnership with Michigan State University Extension, parents, students, and teachers at Traverse Heights have created a garden where students learn about agriculture and healthy eating in a hands-on way. The school garden has been in place for seven years and currently features 17 raised beds, an outdoor hoop house, and an indoor greenhouse.

In addition to learning about food systems and nutrition, the children at Traverse Heights enjoy lessons in science, language arts, and math in their school garden. Their 'home-grown' produce makes its way into the school cafeteria.

Another partnership, this one with **FoodCorps** , leads to regular taste tests at the school where children try healthy ingredients in new and exciting ways.

Conclusion

Wherever your school is located, a garden can offer hands-on learning that connects children to nature, their food, and one another. Gardens give educators the chance to link lessons to real life, in a context that children can understand. For more information, visit us at **learn.eartheasy.com** to explore our articles about growing and thriving together.