





Creating and Growing Edible Schoolyards

A How to Manual for School Professionals

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Bloomington, Edina and Richfield

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Table of Contents

Introduction

Over the past ten years, childhood obesity has been on the rise. Currently one third of our children and youth are overweight and obese. Nutrition research supports the importance of adequate fruit and vegetable consumption in our daily lives to prevent chronic diseases. Unfortunately, 79% of school children do not get the recommended daily allowance of fruits and vegetables. (CDC Youth Risk Behavior Survey, 2009) In addition, our current lifestyles and environments have been an impetus to poor nutritional food choices. As part of the Minnesota Statewide Health Improvement Program Initiative, developing a comprehensive approach to impact the lifestyle factors contributing to being overweight include addressing poor nutrition.

Through the creation of the Statewide Health Improvement Program, the MN Department of Health has identified strategies to combat poor nutrition in schools and, school gardens are one of these strategies (also known as edible schoolyards or outdoor classrooms). The fundamental purpose of creating an edible schoolyard is to increase the consumption of fruits and vegetables in our children. Research has shown that children who are intimately involved in edible schoolyards have increased their daily vegetable and fruit consumption by 2.5 servings per day. (American Dietetic Association, 2007) This evidence-based strategy substantiates the significance for creating an edible schoolyard.

An edible schoolyard is a great tool to provide real-life experiences and to help students make the connection of how vegetables and fruit move from the seed to table.

Rachel Mabie, Initiator of the Gardening Angels Program housed at the Los Angeles office of the University of California Cooperative Extension Office, states, "A school garden gives young people an opportunity to better understand their relationship with nature, creates a dynamic environment for learning core subjects and promotes cooperation through group activities. A garden encourages self-confidence and a sense of responsibility and belonging to one's community."

Edible schoolyards can be easily incorporated into several subject areas within the K-12 educational system. These might include the physical sciences and life sciences, history-social sciences, visual and performing arts, mathematics, and health and nutrition. In addition, gardening teaches a life-long learning skill that children can enjoy as adults.

South Education Center Alternative High School Garden

Gardening is universal and is not dependent on socio-economic status, race, gender, or age. It allows for the individuality of each gardener to be expressed without bias and often times, it cultivates relationships that may not normally be developed within an indoor classroom setting.

This manual will guide you through the basic steps of creating and maintaining an edible schoolyard.

Section One:

Exploring the Edible Schoolyard Initiative

Once the desire to have an edible schoolyard is recognized and the benefits of a gardening program have been identified, it is time to begin to make the vision a reality.

Step 1: Brainstorm

Before attempting to seek administrative approval and organizational support, it is important to develop an outline for your garden vision. Areas you may wish to address in your outline may include: benefits to the students and the community, a list of potential partners, a tentative timeline, an action plan, short and long term financial considerations, and possible garden locations.

Step 2: Seek Approval and Support

It is essential that the administration participates in the garden planning process. Along with administrative approval, be sure to secure support of co-workers, parents, community partners and volunteer groups. Spread the word by presenting the garden project at a faculty, school board, or PTO meeting and invite people to get involved and make a commitment. Share ideas of how the school can incorporate the garden into the existing standards-based curriculum as a hands-on teaching tool.

Step 3: Identify an Edible Schoolyard Advisory Committee

Once administrative approval has been obtained, invite key stakeholders to join an Edible Schoolyard Advisory Committee. This committee will assist in the planning, implementation, maintenance and sustainability of the garden. In addition, they can identify goals, provide ideas and locate possible local resources. Create a membership list with names, titles, addresses and phone numbers. Potential committee members may include:

Teachers: Teachers are valuable because they have a firm understanding of the standards-based curriculum set forth by the district and have access to school facilities and supplies.

Buildings/Grounds & Maintenance Staff: The buildings/grounds and maintenance staff can be extremely valuable when identifying the garden location. They can assist in finding valuable resources like storage locations, water sources, identifying high traffic areas and emergency routes. In addition, employees in this classification are typically fulltime, year round employees so having them on the committee can help aid in keeping an eye on the garden during breaks and vacations.

Food Service Staff. Food service staff can provide resources in proper food preparation, storing, and handling of the produce. If they are able to utilize the produce within their school breakfast or lunch programs, it reinforces the whole growing concept and process from seed to table. The lunchroom scraps can be used for compost providing an additional educational learning opportunity.

Poplar Bridge Elementary School garden

Students: When students are involved in the edible schoolyard process from start to finish, they are more invested in the project's success and have a sense of pride and ownership in the edible schoolyard project.

Parents: Most parents will be enthusiastic about a program such as an edible schoolyard that is designed to enhance standards-based curriculum and provide their children with unique learning experiences. By asking for parent volunteers to serve on the Edible Schoolyard Advisory Committee, you may find parents with a horticultural background who can provide valuable expertise and find a person willing to serve as a volunteer coordinator.

Community Volunteers: Recruit volunteers that have garden experience and possible ties to other community partnerships. Community volunteers might include extension service master gardeners, gardening associations or club members, local nursery owners, and members of civic organizations such as the Lions or Legion.

"The Edible Schoolyard Advisory Committee is in charge of identifying the goals and objectives of the garden"

A cross-section of representation on the Edible Schoolyard Advisory Committee helps to:

- Promote project sustainability.
- Decrease the likelihood of vandalism because more people have a stake in the success of the garden.
- Provide critical personal connections for donations in the areas of labor, plants, supplies, and financial assistance.
- Develop interpersonal relationships amongst students, staff, other adults and community members.
- Bring needed expertise and fresh ideas to the project.

Section Two:

Garden Goals and Action Plan

The Edible Schoolyard Advisory Committee is in charge of identifying the goals and objectives of the garden. Invite all members to participate in the creation of the goals, objectives, and action plan.

Use these questions as a guide to develop the goals and objectives:

- What is the purpose for creating this garden?
- What are the benefits and challenges in creating a garden?
- What topics should be taught utilizing the garden?
- Is there current curriculum and/or systems in place to support the integration of the garden into classroom instruction?
- What plants should be grown?
- Should the garden have one central theme or have individual, smaller garden areas with numerous themes?
- Which classes and grade levels will be involved in the garden?
- How will the garden be funded?
- Who will be ultimately in charge of supervising the garden activities?
- Will the garden be organic, non-organic or a combination?

"The location should have five to eight hours of full or direct sun to thrive"

Once the goals and objectives have been identified, create an in-depth action plan to achieve these goals.

The action plan provides clarity, visibility and a level of commitment and responsibility necessary to achieve the goals and objectives. It should identify:

- The overview of the garden plan
- The individual tasks necessary to achieve the garden plan
- The resources needed (both tangible and non-tangible)
- The budget
- The timelines/deadlines for task completion
- Individual roles and responsibilities
- Decision- making process
- How successes will be measured
- Sustainability

The action plan should also include curriculum integration ideas to aid in administration approval and sustainability.

Depending on the district's decision-making system, these goals and action steps may need to be reviewed and approved by building administration, the curriculum director, superintendent and/or school board prior to moving forward. Do not forget to discuss how the garden is to be maintained during the summer months and determine how the fruits of the harvest will be enjoyed.

Many things grow in the garden that were never sown there.

Thomas Fuller

Determining Your Goals Worksheet

This worksheet is intended to be a guide for you to summarize your goals for the entire project.

1. **Garden as a learning environment**
    - **a.** How will the garden support the larger educational goals and values of the school?
    - **b.** What educational activities and lessons will you incorporate into the garden?
    - **c.** What activities are planned or could be planned to enable learners to:
        - **i.** Use the garden for scientific and multi-disciplinary learning?
        - **ii.** Gain confidence and enthusiasm for learning?
        - **iii.** Acquire gardening and environmental stewardship skills?
        - **iv.** Achieve other educational goals through active participation in the garden?
    - **d.** How can the garden meet the learning objectives of a particular lesson or unit?
    - **e.** Do some goals take priority over others? If so, how should this influence the design?
    - **f.** How will you meet the needs of students with disabilities or special learning issues?

2. **School garden team**
    - **a.** Does the team promote active participation by administrators, teachers, students, parents, neighbors, and volunteers?
    - **b.** Who does the school hope to motivate and train to use the garden: the entire faculty, teachers from a specific grade level, only interested teachers? Is every team member involved, or does most of the work fall to one or two staff members?

3. **Garden maintenance needs**
    - **a.** What are the special maintenance needs of the garden and how will they be met?
    - **b.** Do you have a system for assigning garden chores?
    - **c.** Do you have a system for maintaining the garden during the summer when school is not in session?
    - **d.** If vandalism is a potential challenge, how might it be discouraged and minimized?

4. **Teacher training**
    - **a.** In what areas or topics is training needed? (e.g., garden care and maintenance, curriculum connections, etc.)
    - **b.** Are training workshops scheduled at convenient times and locations for the majority of the participants?
    - **c.** What topics or content would best meet teachers' needs and interests?

d. Do activities and lessons meeting the local, state, and national standards?
e. What are your sources of expertise for training?

5. **Student involvement**
   a. How will the student body be involved with the garden?
   b. What aspects of garden installation and maintenance will the students participate in?
   c. What educational activities will the students conduct in the garden?
   d. Will the students be engaged in active discovery, problem solving, and questioning?
   e. If the garden has already been established, what activities are planned or could be planned for students to:
      i. Use the garden for learning across the curriculum?
      ii. Gain confidence and enthusiasm for learning?
      iii. Acquire gardening and environmental stewardship skills?
      iv. Achieve other educational goals through active participation in the garden?
   f. What smaller scale events and activities make the garden part of the students' daily lives (such as recess time, story hours, etc.)?

6. **Extra-curricular activities**
   a. For which extra-curricular and community activities will the garden be used?
   b. What events, programs, or celebrations will be planned in the garden?
   c. What ceremonies or cultural events will be held in the garden?

7. **Parents, community, and networking**
   a. How will the garden team work with existing in-school networks of parents (PTO/PTA/Local School Council)?
   b. Where are opportunities to tap into the support and resources offered by parents and parent groups?
   c. Is there a citywide network of school garden projects and teams that the school might participate in? If so, how will participation help sustain the garden?
   d. How will the school garden be used and supported by the community?
   e. What opportunities exist?

My Project Profile

Source: Gardening Matters

I. Goals, Success and Design

What am I hoping to accomplish through my garden program?

1. _____
2. _____
3. _____

How will I define success?

_____

_____

Conclusion of Session I

What is my primary goal for my garden and kids program?

_____

_____

II. Designing the program and involving the children

What will the kids do in the garden to accomplish my goal?

1. _____
2. _____
3. _____

How will I design and structure my garden to ensure my success?

_____

_____

_____

What is a favorite activity I definitely want to do with the kids?

_____

_____

III. Planning for the garden and engaging my community

What is the community for my garden?

_____

How will I make this community aware of the garden plans?

_____

_____

What will I do to engage my community?

1. _____
2. _____
3. _____

IV. Logistics, insurance, and other issues

What kind of insurance might I need?

_____

What details do I really need to settle soon?

1. _____
2. _____
3. _____
4. _____

What are the key unanswered questions for me?

_____

_____

_____

Will I have a bunch of fun? _____

Edible Garden Notes

Section Three:

Designing the Edible Schoolyard

Step 1: Decide the Location

Before designing the edible schoolyard, it is important to identify the specific location on the school grounds. Building and grounds supervisors and maintenance staff need to be involved in this process as they have knowledge of irrigation systems, high traffic areas, snow removal, and underground cables and pipes.

A site analysis is key and involves evaluating the environmental conditions of potential garden areas.

Items to consider investigating include:

- **Sun:** The location should have five to eight hours of full or direct sun.
- **Water:** Identify natural water sources that can be used such as redirecting roof run-off into a rain barrel. In addition, identify the water sources that will be used for daily watering such as building spigots and sprinkling systems.
- **Drainage:** Consider where the water naturally runs during a heavy rain because planting seeds in its path can cause the seeds to wash away or plants to die. This typically occurs in low-lying areas.
- **Soil:** Test the soil at the identified garden location. The U of MN Soil Testing Laboratory on the St. Paul Campus will provide this service for a small fee. http://soiltest.ctans.umn.edu. Creating the optimal soil composition for the plants will greatly enhance the overall health of the plants and increase the harvest. A soil analysis typically tests the pH and nutrient content allowing for appropriate soil enhancements to be added. The soil can either be acidic or alkaline and usually a soil analysis ranging in the 6.5-7 % pH range is deemed normal and desirable.

"Keep it simple"

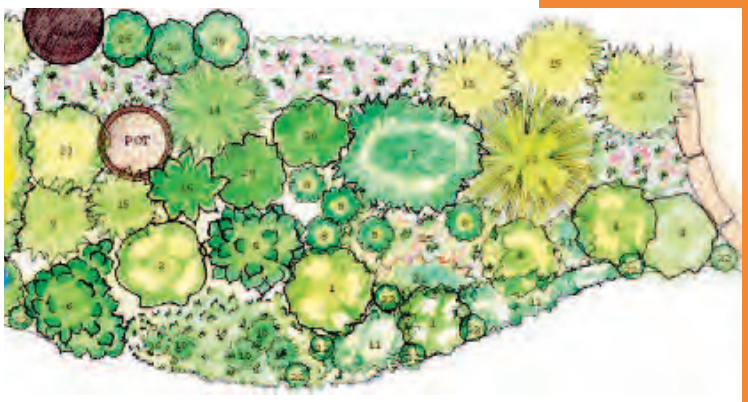
Westwood Elementary School garden

- **Access:** The location should be close enough to classrooms for daily observations of plant growth. In addition, make sure access to the gardens accommodates individuals with disabilities.
- **Participation:** Determine how many classrooms or groups of individuals will be utilizing the garden and for what purpose. Identifying those aspects will dictate the distance between plots helping to determine the overall garden dimensions.
- **Security and Safety:** Locate a site that is within view from the classrooms or in a secured area to decrease the likelihood of vandalism. Also, make sure that the garden is not situated in an emergency exit evacuation path or in a high traffic area.

After identifying a space that will suit an edible schoolyard, it is advantageous to measure the garden and stake it out. Walk around it and identify if there might be some natural challenges with the design and the location of the plots. Remember, most plants need at least six hours of full sun and there might be some areas of the garden that have either more or less than that so plan accordingly as to plant selection and plot location for best growth potential.

Step 2: Garden Design

After identifying the best location and the overall garden dimensions are calculated, the design process can begin. The garden design should be practical and functional while aiming to cater to the district's needs and edible schoolyard goals. Be sure to explore all garden design options by gathering ideas from other schools, magazines, garden shows and the imagination of students and the Edible Schoolyard Advisory Committee.



There are two very important things to keep in mind:

- Make sure the design results in a garden that will **fulfill the educational needs of all participants and allow the district to accomplish their curricular goals.**
- **Keep it simple.** Start with a garden design that is manageable for the school. Consider developing a 3-5 year plan, adding a few components each year.

The following is a list of common garden design components:

- **Garden beds:** Outdoor garden options include in-ground beds, raised beds, and container gardens. These gardens can come in all shapes and sizes but keep in mind if the beds are designed to be no more than eighteen inches wide, students can work from either side and still reach the middle without having to "step" into the dirt.
- **Paths:** Paths help reduce the risk of plant damage and also will help accommodate wheelchairs and wheelbarrows.
- **Outdoor Classroom Area:** There are many benefits to teaching outside in your edible schoolyard area. Therefore, planning ahead when designing the garden can prevent later reconstruction of it. Creating a shady spot will provide a more comfortable learning environment. A demonstration table surrounded by benches or picnic tables can enhance the outdoor learning environment as well.
- **Compost Area:** Incorporating an outdoor compost bin will teach students the wonders of decomposition and they will be able to witness how waste converts into a rich, soil-building ingredient. You may need to check with your city ordinance on composting regulations. Not all communities will allow a person or business to have one in their backyard.
- **Storage Area:** It is important to place the storage area or tool shed near the edible schoolyard for easy access to tools. Take time to explore tool shed construction materials. Wood may require more maintenance, but it is heavier and withstands weather well. Plastic storage areas are quick to erect, highly portable, and less expensive, but may not fare as well in inclement weather. Depending on style, possible theft may also be a consideration.
- **Green House or Hoop House:** Although not a necessity for a garden design, green houses are wonderful enhancements and help create a year round garden experience.

"Host a bean race. Plant a number of beans at the base of a trellis and track their growth."

Step 3: Identify Financial Resources and Requirements

The next step is to identify the funding requirements to implement the new edible schoolyard. Begin this process by first making a list of materials and supplies needed. Estimate the cost for the entire project and prepare a realistic budget. Remember to include expenses for site development, operation, curriculum and other miscellaneous items. If prior approval is needed, make sure this is pursued and achieved.

Here is a list of common school garden components to assist in completing a needs inventory for the garden:

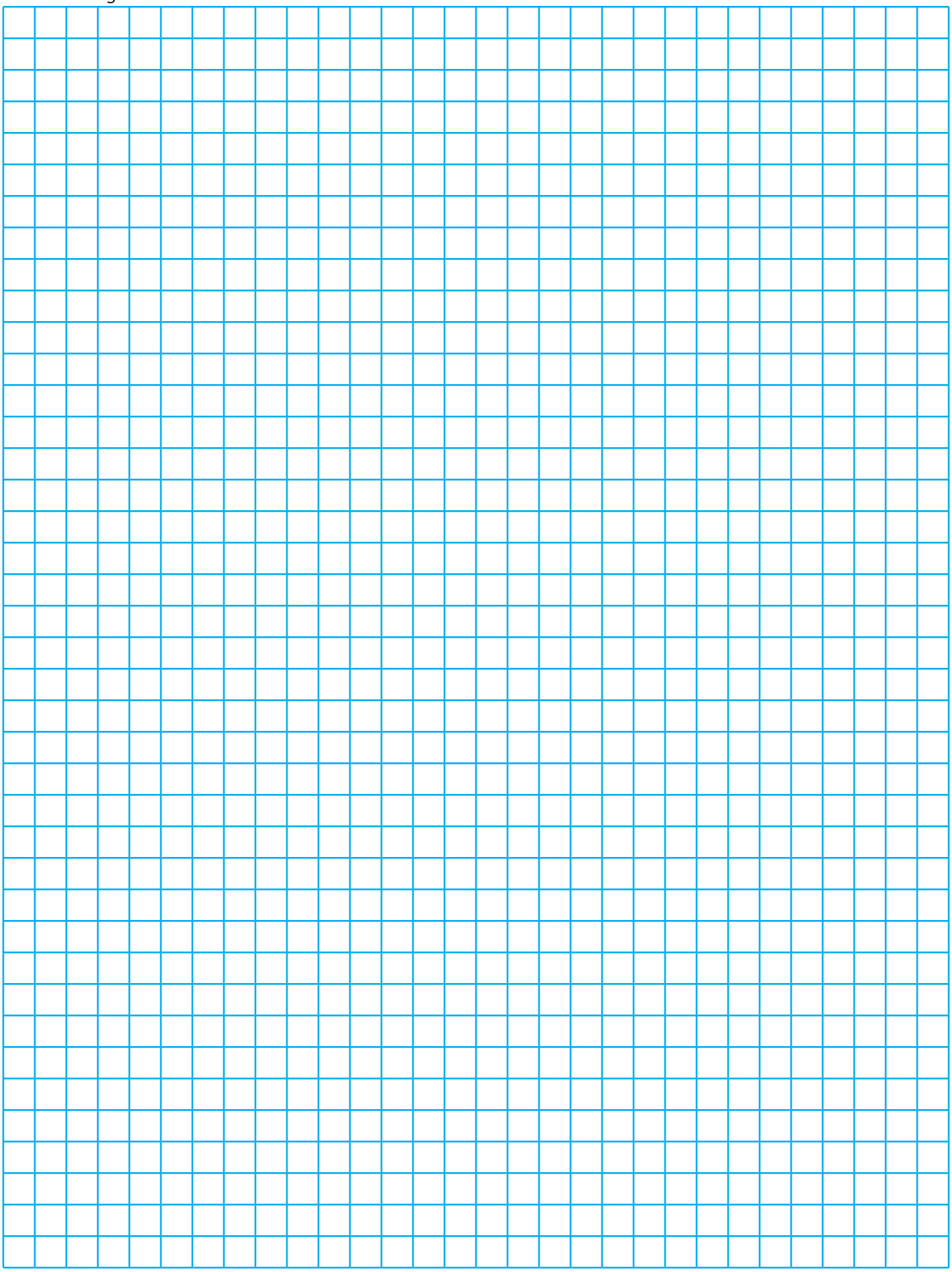
- Garden beds *(raised beds, container gardens, in-ground beds)*
- Plants
- Paths
- Mulch
- Fertilizer
- Hoses or sprinklers
- Tables and benches
- Storage shed
- Compost bin
- Fencing/edging
- Child-sized garden tools
- Gardening curriculum *(E.g. Junior Master Gardener Curriculum)*

"It is vital that the Edible Schoolyard Advisory Committee identifies ways to sustain the garden after the first year"

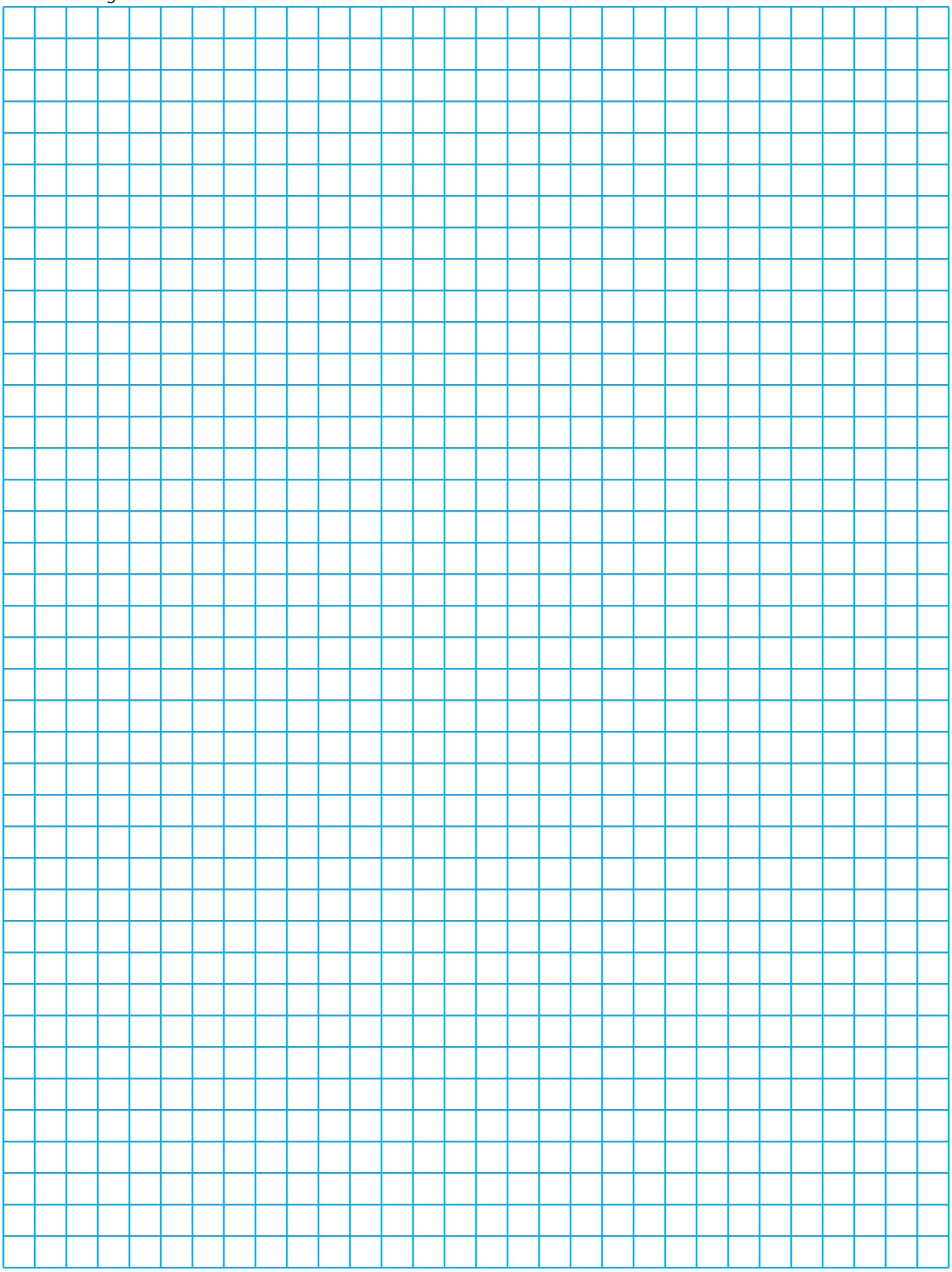
It is vital that the Edible Schoolyard Advisory Committee identifies ways to sustain the garden after the first year. Continual financial support can be unpredictable so identify financial supporters, volunteers, and potential donors. Most schools can find funding of garden supplies through donations, grants, partnerships and fundraising projects.

Once the financial requirements have been identified and the funding secured, items can be purchased. Remember to start with what is manageable and achievable. Garden expansions can be implemented the following year as the energy, enthusiasm and commitment grows.

Garden Design Grid



Garden Design Grid



Section Four:

Planting the Edible Schoolyard

After the garden beds have been created, supplies and materials purchased, dirt and soil enhancements combined and applied, it is time to plant! It is important that all volunteers and committee members are knowledgeable on the basics of garden installation. Plan on providing an orientation prior to planting so everyone understands what the expectations are, where the supplies, plants, and tools are located; a general idea of where specific plants will be planted; the style or design of planting; and who is the designated person in charge that questions should be directed to. Remember, there will be many people willing to assist in planting so have plenty of tools, gloves, plants, etc. available to make sure it is a success!

"It is important that volunteers and committee members are knowledgeable on the basics of garden installation"

There are a few space-saving techniques that can be utilized when planting a garden.

- **Interplanting:** Planting two or more vegetables in one area integrating a slow growing vegetable with a fast growing vegetable. For example, lettuce with tomatoes or plant pole beans at the base of corn stalks and they will climb the stalk.
- **Succession Planting:** Planting a second crop or a completely different crop of vegetables in the same location. For example, plant spinach and once harvested, plant beans or beets.
- **Wide-Row Planting:** Scattering fruit and vegetable seeds over an 8 x 12 inch band instead of a single row creates dense foliage preventing weed growth.
- **Vertical Space:** Using trellises or fencing to support climbing plants.
- **Bush Variety Planting:** "Bush" varieties of plants take up less space than standard varieties. For example, watermelon, cucumbers, or squash.
- **Square Foot Gardening:** Marking off 1-foot by 1-foot squares and planting seeds inside the complete square rather than straight rows. (Or triangles, circles, etc.)
- **Companion Planting:** It can be beneficial to plant two different plants next to each other as they will increase the overall production while decreasing pest problems and disease. For example, beans and potatoes or carrots and peas.

South Education Center Alternative High School Garden

Richfield STEM School Garden

"Garden maintenance teaches students how to be nurturing and take responsibility."

Section Five:

Maintaining the Edible Schoolyard

Students gain a variety of life skills when participating in garden maintenance. Garden maintenance teaches students how to be nurturing and take responsibility while having pride and ownership in the garden.

Depending on the size of the garden, the plants in it and the surrounding environment, a garden maintenance plan may need to be created. Consider the following:

- Nutrient/soil enhancements
- Spacing and maturation schedules
- Thinning and weeding
- Fertilizing
- Composting
- Monitoring pests
- Summer care
- Controlling vandalism

Because the Midwest's primary growing season is during the months that school is not officially in session, solid planning needs to occur as to how the garden will be taken care of and who will tend to the garden maintenance needs.

Throughout the summer months there are numerous groups that can assist in garden maintenance.

- Community Education Classes or Groups
  - Adult Basic Education
  - Summer School Aged Care (SAC) Programs
  - Adult Enrichment Classes
- Faith-Based Organizations
- Girl or Boy Scout Troops
- Summer School Enrichment Classes
- Volunteer Master Gardeners

Creating an organized schedule among the groups that utilize the school during the summer and/or incorporating families and volunteers to donate their time is an effective way to maintain the garden during the summer months. Do not be afraid to offer youth or adult enrichment classes in the newly created outdoor learning classroom!

Section Six:

Sustaining the Edible Schoolyard

A common recurring question when considering the implementation of an edible schoolyard is, "How will we sustain the garden year after year?" It is important to address this question during the initial conversations and continue to address it each year. Maintaining a positive garden experience for all participants will keep them engaged throughout multiple years. In addition, another powerful tool for sustainability is to incorporate new elements to the garden each year providing new interests. For example, a water feature like a pond or waterfall to attract birds, a specialized garden like a butterfly garden, or adding newly created stepping stones and sculptures.

Communicating the successes and positive impact on students beyond the school district and the Edible Schoolyard Advisory Committee is essential to the garden's sustainability. Promoting the edible schoolyard in the community establishes a solid reputation which not only provides validation to those participating in the creation of the garden, but also helps recruit parent or community member volunteers. These individuals bring fresh ideas, a wealth of knowledge and a variety of skills that can be beneficial to any garden program. When identifying volunteers, it is important to clearly list the garden expectations, provide the information needed to complete assignments, and keep the lines of communication open. Be sure to involve the volunteers as much as possible in the planning, implementation and decision-making process. This will help ensure a positive garden experience.

"It is important to show appreciation to all garden donors, community partners and volunteers through multiple methods"

It is also important to show appreciation to all garden donors, community partners and volunteers through multiple methods. It helps create a sense of involvement in the program and more than likely the individual or group will want to contribute again in the future. By showing appreciation to the people that donate time, money, resources, or materials to the edible schoolyard and letting them know their work and dedication has not gone unnoticed, fosters longevity and commitment.

Ideas for showing appreciation may include:

- Post a sign recognizing all garden contributors.
- Send garden newsletters or email updates on garden progress.
- Send personal thank-you notes.
- Donate some of the garden produce back to the contributors.

In order for the edible schoolyard to be sustained, it must tie closely to curriculum, be implemented into policy, maintain administrative approval, attract committee members and volunteers, and have a continued source of funding and support.

Richfield Middle School Garden

"Create a logo and slogan to promote the mission of the garden"

Here are a few items to consider when identifying how the edible schoolyard will be sustained:

- **Donations:** Begin with parents of the youth and potential donors by matching needs with services and skill sets.
- **Grants:** A number of grants are available that can provide money and/or materials to help fund edible schoolyards. See list on pages 17-19 and 21-22.
- **Fundraising:** Host an annual farmers market to sell the garden produce or hold special events like a family fun night or poetry reading at the garden site to assist in generating revenue.
- **Partnerships:** Identify garden partners to donate money or materials. Partnerships can include local youth organizations, faith-based groups, civic organizations, local nurseries, extension services, etc.
- **Policy Development:** All schools are to have a district wellness policy in place and enforced. Creating a similar policy that discusses how the edible schoolyard is to be sustained and incorporated into curriculum will assist in sustainability.
- **Curriculum Integration:** Some of the greatest benefits of an edible schoolyard are the numerous hands-on educational learning opportunities. The edible schoolyard provides a "living laboratory" for multiple disciplines to utilize. It is critical to the continuation of the garden to have curriculum integration throughout the multiple disciplines.

Other tips for edible schoolyard sustainability may include:

- Creating a logo and slogan to promote the mission of the garden.
- Developing an eye catchy garden icon linked to the home page on the school district's webpage.
- Adding supply items for the edible schoolyard to the "Back to School Supply List."
- Connecting with the local paper to create a "Garden Corner" column to provide monthly updates.

Oak Grove Middle School Garden

School Garden Sustainability Plan

Source: Cornell University, Cooperative Extension, Rockland County

School_____ Phone Number _____

Principal_____ Fax _____

Address _____

Grades serviced _____Total Number of Students_____

Get Organized!

1) Who's taking the lead/overseeing the garden (teaches parents, staff, and maintenance)?

2) Garden Committee Chairperson:

3) Sub committees:
   a) Fundraising
   b) Volunteer coordinator
   c) Documentation/handbook (to update to hand down to future volunteers/staff)
   d) In-service & education

4) Do you have funding? Yes_____ / No_____ /

5) Where is the funding from?

   National grant_____/ Local grant_____ / School budget_____/ PTA Budget_____/

   Local civic organization _____/ Other_____/

About the site

6) Is there any open space available to you around your school for a garden?

   Open space available: Yes_____ / No_____ /

   Space is: Currently used_____/ Currently not used_____/

   Access/security: Fenced, locked_____/ Fenced, unlocked_____/ Completely open____/

7) If you do have available open space, check which of the following you have:

   Landscaped garden_____/ Unused parking lot/black top_____/ Patch of dirt_____/

   Accessible roof_____/ Concrete area around school_____/ Courtyard_____/

Grass (adjacent to school, between two buildings) _____ / Other (please explain)

_____

8) What kind of light do these spaces receive?

___ Full sun (6 or more hours of direct sun a day)

___ Partial sun (2-6 hours of direct sun per day)

___ Shady (2 or less hours of direct sun per day)

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

___ No

___ Yes; how close? ____ feet

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

___ You have you had your soil tested for lead

___ There are any raised beds that are using treated lumber to grow food

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

___No

___ Yes; how close? ____ feet

Purpose of the Garden

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

Integrated into the curriculum _____ / Individual lessons_____ / After-school group_____/

Community gatherings_____/ Used by teachers but not related to gardening_____ /

13) If the garden is incorporated into the curriculum:

a) How?

b) What grades?

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

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SCHOOLYARD GARDEN SUSTAINABILITY PLAN

Sustainability is an ongoing process and requires flexibility to meet with "the times" and the changing dynamics of the garden. Use this template to assess the garden's sustainability from year to year

Name of School:

Schoolyard Garden Goal:

Activities to support Goal	**Person Responsible**	**Timeline**

Outcomes for Success:

Questions to consider:

1 – What is the school infrastructure that will support the garden?
2 – What is the decision making process?
3 – Who are the garden partners?
4 – How are garden activities communicated to students, parents, the neighborhood?
5 – Who is responsible for maintenance, planting, harvesting?
6 – How will the garden be financially supported? Is there a budget? Is there interest in applying for the Whole Kids Foundation Grant?

Edible Garden Notes

Section Seven:
Linking Edible Schoolyards to School Curriculum

As mentioned above, linking edible schoolyards to school curriculum is a wonderful way to help sustain a garden for years to come. Although science seems to be the most natural fit for curriculum integration, the edible schoolyard can be incorporated into a wide range of lessons for mathematics, history-social science, english-language arts, performing arts, and health.

When integrating different curricular areas into the outdoor learning environment, start by reviewing the state educational standards and the district's goals, and then align possible garden activities to achieve these goals.

Below are some ideas on how to integrate gardening into classroom curriculum.
(Information provided from California "School Gardens for Learning- Linking Gardens to School Curriculum" online comprehensive guidebook. http://www.csgn.org/page.php?id=20)

"Measure your garden parameters and calculate the area"

Science

Key science concepts that can be explored in the garden include organisms, cycles, and basic requirements for life, plant anatomy, adaptations, food webs, decomposition, interdependence, ecological principles, pollination and diversity of life.

Below are a few ideas for life, physical, and earth science activities in the edible schoolyard:

Life Science

- Observe the life cycles of plants using fast-growing plants in the classroom.
- Investigate the functions of different plant structures.
- Discuss how plants adapt for survival.

Earth Science

- Create a garden weather station.
- Simulate soil erosion in the garden.

Physical Science

- Simulate the water cycle in an indoor garden by covering it with a "dome" of clear plastic.

Mathematics

The garden provides a plethora of opportunities to practice mathematical activities. Here are a few math activity ideas:

- Measure the growth rates of plants and display results on different types of graphs.
- Create a calendar of desired harvest dates for each type of plant and then calculate planting dates. Explore possible variations in harvest dates.
- Measure your garden parameters and calculate the area.
- Count the number of seeds planted and the number of seeds that sprout along with calculation of germination rates.
- Measure the height of a group of plants and determine the mean, median, and mode.

History-Social Science

Plants are an important role in world history. Not only as a base of all food chains and a supplier of oxygen, but also in the development of civilizations and influencing international economics.

Gardening activity ideas:

- Research and report on cultural or ethnic differences in food consumption and gardening practices.
- Study the contribution of Native American and other cultural foods on our history and diet.
- Complete a site analysis of the school garden and map it out noting features and including a Compass Rose.
- Create a block styled diagram (comic strip style) journaling the path of a fruit or vegetable from seed to table.

Richfield STEM School students write in journals

English-Language Arts

Reading and writing are two very important classroom basics and mastery of these skills provides students with the power to succeed.

Activity ideas:

- Keep daily garden journals documenting observations, weather conditions, and classroom activities.
- Research the growing characteristics of the edible schoolyard using the Internet and reference materials.
- Write thank you notes to volunteers and garden sponsors.
- Write step-by-step instructions for common garden activities.
- Write, illustrate, and publish a collection of garden stories and poems.
- Read poetry to a small audience in the garden area.
- Write a research paper on a favorite plant, including source citation.

Visual and Performing Arts

A garden can inspire many works of art, dance, music and drama.

Activity ideas:

- Make a seed mosaic.
- Create a color wheel collage using pictures from seed catalogs.
- Make musical instruments from gourds, like an ocarina, and learn how to play them.
- Perform a drama or musical using the garden as the stage.

Health and Nutrition

Although research continues to document the significant health benefits of consuming fruits and vegetables, most children do not eat the recommended daily amount. Growing fruits and vegetables in the edible schoolyard improves students' attitudes toward healthy foods and motivates picky eaters to try new foods.

Specific activity ideas:

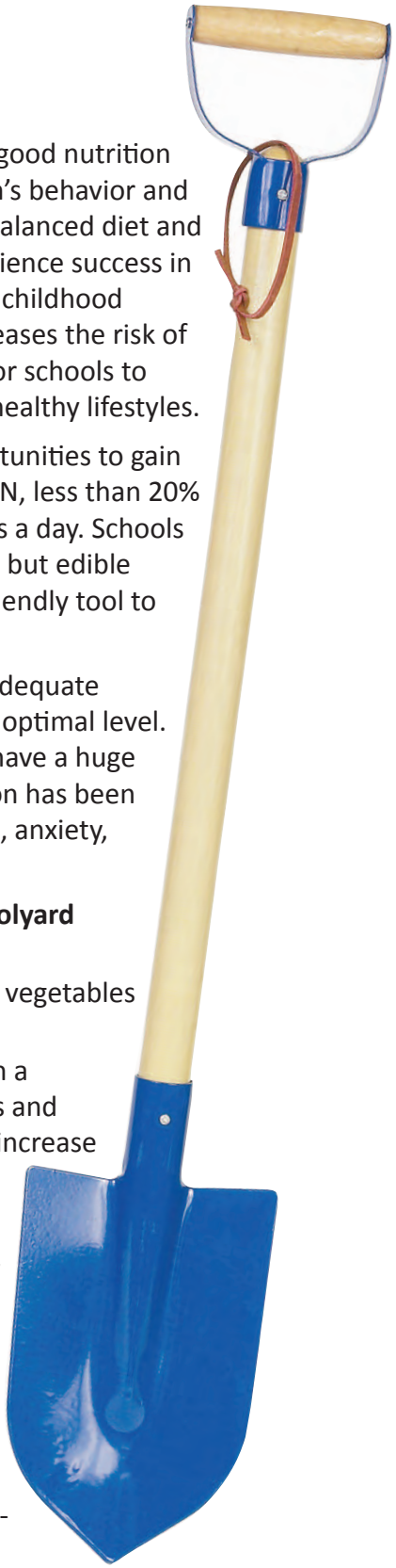
- Discuss the difference in nutritional value of various plant parts.
- Study the nutritional value of the various crops/plants that are in the garden.
- Conduct a blindfolded taste test using school grown vegetables and supermarket purchased vegetables.
- Keep food journals that highlight how many fruits and vegetables are eaten and describe any new produce consumed.
- Have a registered dietitian visit classrooms to discuss healthy food choices.
- Invite a local chef or food service personnel to do a food demonstration teaching a variety of skills and ways for food preparation.
- Teach students about general knowledge of how to identify a "ripe" fruit or vegetable, the proper storage of fresh fruits and vegetables, a variety of preparation methods, and how to serve them.
- Create a classroom cookbook of favorite recipes using garden fruits and vegetables.

"Discuss the difference in nutritional value of various plant parts"

Highlands Elementary students create vegetable prints

"Students who plant and harvest their own fruits and vegetables are more likely to eat them"

Section Eight:
Academic Success through Healthy Eating



A child's mental and physical development is closely tied to good nutrition and healthy eating habits. Healthy habits also affect children's behavior and social growth. It is important for a child to consume a well-balanced diet and participate in regular physical activity if he or she is to experience success in school. In addition, developing positive eating habits during childhood contributes to optimal health, boosts self-esteem, and decreases the risk of immediate and long-term health problems. It is important for schools to establish an environment that fosters the development for healthy lifestyles.

A healthy school environment provides students with opportunities to gain knowledge and practice for positive eating. Statistically in MN, less than 20% of students eat five or more servings of fruits and vegetables a day. Schools can use multiple strategies to create a healthy environment, but edible schoolyards have been proven to be a very useful and kid-friendly tool to introduce nutrition basics.

The human brain, even though it is very complex, requires adequate nutrients, including vitamins and minerals, to function at its optimal level. Skipping meals or substituting non-nutrient rich foods, can have a huge impact on a child's overall health and behavior. Poor nutrition has been linked to decreased attentiveness, inability to problem solve, anxiety, other behavioral disorders, and decreased learning ability.

Research on the health benefits resulting from edible schoolyard programs has found:

- Students who plant and harvest their own fruits and vegetables are more likely to eat them.
- Students with garden experience who participated in a nutrition education program not only ate more fruits and vegetables to begin with, but also demonstrated an increase in consumption by the conclusion of the program.
- Studies show that students who have participated in a comprehensive food system program, like gardens, and who have demonstrated an overall increase in understanding ecological principles, also demonstrated a significant increase in the total number of fruit and vegetable servings/day that they consumed.
- Students who participated in an outdoor, edible schoolyard learning opportunity develop healthy life-long eating habits as adults.

(Information provided from California "School Gardens for Learning-Creating and Sustaining Your School Garden" online comprehensive guidebook. http://www.csgn.org/page.php?id=36)

Section Nine:
Summary

Although the implementation of an edible schoolyard may seem like an immense amount of work, the benefits are endless for the schools, students and communities. Edible schoolyards are a wonderful way to bring students, teachers, administration, community volunteers and organizations together to work toward achieving one common goal.

"Remember, gardening is universal"

Keep in mind a committed, motivated garden team, upper administration approval, and stakeholder buy-in are all important components for a successful and sustainable garden effort and can make the planning and implementation stages more achievable. Classroom and curriculum integration into the garden environment is critical for long-term success and maintenance of the physical garden.

There are numerous stages involved for full implementation of an edible schoolyard and each stage needs personal attention. Taking the time to create a comprehensive vision and a well thought out action plan in the beginning, will save many countless hours on the backside.

Edible schoolyards contribute to a healthy local food system by increasing education, acceptance, cooperation, and the production of local food and agriculture. Remember, gardening is universal and is not dependent on socio-economic status, race, gender, or age. It allows for the individuality of each gardener to be expressed without bias and often times, it cultivates relationships that may not normally be developed within an indoor classroom setting.

With a little bit of time, energy, water, sunlight, a vision and the support of the administration and garden team, edible schoolyards can assist in not only growing healthy produce, but also broadening the knowledge base of everyone who participates in the garden. Measuring the impact of the edible schoolyard on several levels is key to sustaining the garden as an integral educational component to the district's overall learning objectives.

Olson Elementary and Middle School garden

Section Ten:
Garden Resources

Below is a list of resources to assist in developing, implementing, and sustaining edible schoolyards. ***A supplement to this information is at the end of this section.***

Online Publications:

- **"Setting up and running a school garden"**
  www.fao.org/docrep/009/a0218e/a0218e00.htm
- **"Gardens for Learning—Creating and Sustaining Your School Garden"**
  www.csgn.org

Training Opportunities:

- **University of Minnesota, Extension -** Farm to School: Growing healthy kids, healthy farms and healthy communities

Garden Grant Opportunities:

- **Lowe's Toolbox for Education ($200-$500) Grant -** The purpose of this grant is to fund school improvement projects initiated by parents. Projects that encourage parent involvement and build stronger community spirit will be favored.
- **Fiskars' Project Orange Thumb -** Funding is available for gardens and/or gardening projects geared toward community involvement as well as youth groups, schools, community centers, camps, clubs etc. and is geared toward sustainable agriculture and education.
- **Bonnie Plants 3rd Grade Cabbage Program -** Each year, Bonnie Plants distributes free cabbage to third graders across the country to foster an interest in gardening and the environment. Students in these classrooms each get their very own cabbage to plant, take care of and harvest.
- **Healthy Sprouts Award -** This award supports schools and youth garden programs that teach about nutrition and the issue of hunger in the United States. The selection of winners is based on the demonstrated relationship between the garden program and nutrition and hunger.
- **Operation Green Plant -** Operation Green Plant provides an opportunity to purchase large quantities of seeds for the price of shipping and handling.
- **General Mills Champions for Healthy Kids Grant -** The goal of this grant is to encourage communities in the United States to improve the eating and physical

activity patterns of young people, ages 2-20. Grants will be awarded to organizations that demonstrate the greatest need and likelihood of sustainable impact on young people's nutrition and activity levels through innovative programs.

- **Midwest School Garden Grant -** Elementary, middle, and high schools serving low- to middle-income students located in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin are eligible. Educators should be planning to use the garden to teach students life skills, reinforce academics, develop environmental stewardship, and encourage students to make positive choices.
- **Annie's Grants for Gardens -** Annie's Grants for Gardens has a rolling deadline and offers a maximum of $250. The grant supports garden seeds, tools, and other supplies.
- **Welch's Harvest Grant -** This grant is open to preK-8th grade classrooms in the United States with a minimum of 15 students. Garden plans must include teaching students about nutrition and sustainable agriculture. Grants are awarded in the amount of $500 to $1,000 and applications are due February 11th. Winners receive a garden package filled with a variety of garden tools, seeds, and educational materials.
- **Mantis Grant -** The Mantis grant is due March 1st and winners receive a Mantis tiller valued at $350. Each year, Mantis presents the award to charitable and educational garden projects that enhance the quality of life in their host communities. The National Gardening Association selects 25 outstanding applicants to receive Mantis tiller/cultivators.
- **Captain Planet -** The mission of the Captain Planet Foundation is to fund and support hands-on, environmental projects for children and youth. In 2009, grantees established 34 outdoor classrooms and organic gardens including pollinator gardens, native habitats and fruit, herb and vegetable gardens. The Captain Planet application is due March 31st and grant amounts range from $250 to $2,500.
- **Fruit Tree Planting Foundation (FTPF) -** The "Fruit Tree 101" program creates outdoor edible orchard classrooms at public schools of all levels across the country to provide generations of students with environmental education opportunities and a source of organic fruit for improved school lunch nutrition. The "Fruit Tree 101" event is completed in two parts. The first part is typically held on a weekend to accommodate volunteer schedules and involves planting the orchard under the direction of a certified arborist. The second part is held when school is in session and invites students to join FTPF's instructors for a fun, hour-long lesson about the importance of trees for the environment and fruit in the diet. Local media often attends and reports on the great things that are happening at the school.
  FTPF ideally seeks schools that can accommodate at least 20-25 trees on school grounds (at 15 ft. intervals) near existing irrigation sources (E.g. spigot or sprinklers). FTPF has a rolling deadline.

- **'I Can Grow' Youth Garden Award Program** - The 'I Can Grow' Youth Garden Award supports urban school and community gardens through garden installations and donations. Schools or communities can earn up to 500 vegetable and herb plants and $2500 for program supplies, installation, plant food, video camera, and on-site assistance.
- **National Gardening Association Youth Garden Grants -** The National Gardening Association site lists several gardening grants for quick and easy review. http://assoc.garden.org

Teaching Materials/Curriculum:

- **Botany on Your Place**
  www.gardeningwithkids.org
  This standards based curriculum for grades K-4 weaves together nutritional health, mathematics, language arts, and social studies with investigative science. Every lesson includes plant snacks that spark curiosity, interesting questions, and social dialogue to fuel the learning process.
- **Collective Roots**
  www.collectiveroots.org
  Collective Roots works with youth and adults to design and sustain organic gardens on school and community sites that are linked with kindergarten through 12th grade curriculum.
- **Junior Master Gardener Handbook; Health and Nutrition from the Garden**
  www.jmgkids.us
  The Junior Master Gardener curricula engages children in novel, "hands-on" group and individual learning experiences that promote a love of gardening, develop an appreciation for the environment, and cultivates the mind. The program encourages youth to be of service to others through service learning and leadership development projects and rewards them with certification.
- **Getting to Know Your Garden; Garden Habitat; Food Around the World**
  www.csgn.org
  This curriculum provides over one hundred garden-based lessons to create, expand, and sustain garden-based learning experiences. It offers practical ideas and resources from sprouting seeds to understanding the food system.
- **The Growing Classroom** -
  Garden and Nutrition Activity Guide
  www.lifelab.org
  This award winning curricula helps schools develop gardens where children can create "living laboratories" for the study of the natural world.

Helpful Websites:

- *www.actionforhealthykids.org*
- *www.healthyschoolscampaign.org*
- www.cfaitc.org
- *www.letsmove.gov*
- www.kidsgardening.org
- www.garden.org
- www.extension.umn.edu/garden/
- www.gardeningwithkids.org
- http://aggie-horticulture.tamu.edu
- www.healthiergeneration.org/schools.aspx
- www.mn-farmtoschool.umn.edu
- www.slowfoodusa.org
- www.dhs.wisconsin.gov/health
  Keyword: "Got Dirt" Wisconsin PDF File
- www.sustainabletable.org
- http://healthymeals.nal.usda.gov
- www.gardeningmatters.org
- www.edibleschoolyard.org
- www.arborday.org

WEBSITE NOTES:

Garden Resources Supplement

Online Publications:

- **"Impact of Garden-Based Youth Nutrition Intervention Programs: A Review"** *www.adajournal.org/article/S0002-8223(08)02044-0/abstract*
- **"Legal Issues Impacting Farm to School and School Garden Programs in Minnesota"** *http://publichealthlawcenter.org/sites/default/files/resources/ship-f2s-school%20garden%20legal%20issues-2011.pdf*
- **"Serving Locally Grown Produce in Food Facilities"** *www.mda.state.mn.us/~/media/Files/food/foodsafety/fs-produce.ashx*

Training Opportunities:

- **Minnesota Landscape Arboretum** - *www.extension.umn.edu/farm-to-school/onlinetrainings*
- **Gardening Matters** - *www.gardeningmatters.org/*
- **Edible Schoolyard Academy** - *http://extension.berkeley.edu/cat/course2290.html*

Garden Grant Opportunities:

- **Lowe's toolbox for Education** - *www.toolboxforeducation.com*
- **Fiskars' Project Orange Thumb** - *www2.fiskars.com/Activities/Project-Orange-Thumb*
- **Bonnie Plants 3rd Grade Cabbage Program** - *www.bonnieplants.com/CabbageProgram/tabid/81/Default.aspx*
- **Healthy Sprouts Award** - *www.kidsgardening.org/grants/2011-subaru-healthy-sprouts-award*
- **Operation Green Plant** - *www.grantwrangler.com/GrantManager/templates/?a=775&z=0*
- **General Mills Champions for healthy Kids Grant** - *www.generalmills.com/Responsibility/Community_Engagement/Grants/Champions_for_healthy_kids.aspx*
- **Midwest School Garden Grant** - *www.ecoliteracy.org/change/school-gardens*
- **Annie's Grants for Gardens** - *www.annies.com/grants_for_gardens*
- **Welch's Harvest Grant** - *www.scholastic.com/harvest/*
- **Mantis Grant** - *www.kidsgardening.org/grants/2012-mantis-awards-community-and-youth-gardens*

- **Captain Planet** - *http://captainplanetfoundation.org/default.aspx?pid=3&tab=apply*
- **Fruit Tree Planting Foundation (FTPF)** - *www.ftpf.org/*
- **Burpee, "I Can Grow" Youth Garden Award Program** - *http://www.burpeehomegardens.com/ICanGrow/_YouthGardenAward.aspx*
- **Whole Kids Foundation Grant** - *http://www.wholekidsfoundation.org/gardengrants.php*
  The School Garden Grant program is a collaboration between Whole Kids Foundation, Whole Food Market and FoodCorps. Thanks to the generosity of Whole Foods Market customers, Whole Kids Foundation is able to provide grants of $2,000 to support school garden projects in the US, UK and Canada. Applicants must be a 501C (3) nonprofit organization or nonprofit K-12 school that is developing or currently maintaining a school garden project that will help children engage with fresh fruits and vegetables. Garden project may be at any stage of development: planning, construction or operation.
- **Home Depot Youth Garden Grant** - *http://www.kidsgardening.org/grants/2012-youth-garden-grants-1*
  Thanks to the generosity of The Home Depot Garden Club, 5 winners will receive gift cards valued at $1,000, and 95 winners will receive $500 gift cards, for the purchase of gardening materials and supplies specific to the needs of their program from their local Home Depot store. Priority will be given to programs that emphasize one or more of these elements; educational focus, nutrition connections, environmental awareness, entrepreneurship, social aspects of gardening.

Teaching Materials/Curriculum:

- **FoodMaster** - *www.foodmaster.com*
- **Learning Zones Xpress** - *www.learningzonesexpress.com*
- **Math in the Garden** - *www.gardeningwithkids.org/11-3111.html*
- **The Growing Classroom** - *www.gardeningwithkids.org/11-4017.html*
- **"Good Enough to Eat"** - Author, Lizzy Rockwell
- **"The Vegetable Gardeners Bible"** - Author, Edward C. Smith
- **Burpee, "I Can Grow" Guide** - *www.burpeehomegardens.com/ICanGrow/_ICanGrowGuide.aspx*

Fundraising:

- **Seed Savers Exchange** - *www.seedsavers.org/Content.aspx?src=fundraiser.htm*
- **Gerten's Plant Sale** - *www.gertens.com/fundraising/*
- **Bachman's Plant Sale** - *www.bachmans.com/Fundraising*

Recommended Vegetable and Fruits for Edible Schoolyards in MN

Sponsored by the University of MN Extension Office

Below is a recommended list of vegetables and fruits to plant that are best suited for Minnesota's climate and growing season.

Recommended Vegetables

Asparagus
- Mary Washington
  Jersey Giant

Bean, Dry
- French Horticultural
- Jacob's Cattle
- Soldier
  Great Northern
  Mung
  Navy
  Pinto
  Red Kidney

Bean, Bush, Green
- Provider
- Greencrop
- Jade
- Strike
- Derby
- Bush Blue Lake 274
  Romano
  Green Ruler
  Tavera
  Romanette
  Mon Petit Cheri
  Straight-N-Narrow

Bean, Bush, Lima
(Southern 1/3 of state only)
- Henderson
- Jackson Wonder

Bean, Bush, Purple
- Royal Burgundy
- Purple Queen

Bean, Bush, Yellow
- Goldcrop
- Goldkist
  Roc D'or
  Dorabel
  Rocquencourt
  Wax Romano
  Dragon's Tongue

Bean, Pole
- Blue Lake
- Kentucky Wonder
  Early Riser
  Northeaster
  Kentucky Blue
  Liana

Beet, Cylindra
- Formanova
  Cylindra

Beet, Globe
- Ruby Queen
- Red Ace
- Pacemaker II

Broccoli
- Packman
- Premium Crop
- Arcadia
- Captain
- Patriot
  Munchkin
  Early Dividend
  Bonanza

Brussels Sprouts
- Prince Marvel
- Jade Cross
  Masterline

Those varieties with a bullet (•) are suggested for northern Minnesota

Cabbage, Chinese
- Blues
- Kasumi

Cabbage, Green
- Early Jersey Wakefield
- Dynamo
- Market Topper
- Polar Green
- Stonehead
- Green Boy
- Stonehold
- Copenheaven
- Discovery
- Fortuna

Cabbage, Red
- Red Dynasty
- Meteor
- Salad Delight
- Red Express

Carrot
- Nanco
- Scarlet Nantes
- Chantenay
- Apache
- Vita Sweet 781
- Touchon
- Sweet Sunshine
- Bolero
- Nutri- Red
- A-Plus

Cauliflower
- Snow Crown
- Fremont
- Andes
- White Sails
- Candid Charm
- Silver Cup
- Purplehead
- Violet Queen
- Stardust

Chard *(Swiss Chard)*
- Bright Lights
- Lucullus
- Rhubarb
- Perpetual
- Chicory
- Rossa di Chioggia

Corn – Sugar Enhanced *(SE)*
- Quickie
- Bodacious
- Mystique
- Delectable
- Seneca Pronto
- Seneca Arrowhead
- Seneca Sensation
- Temptation
- Ambrosia
- Alpine
- Argent
- For Heaven's Sake

Corn – shrunken Super Sweets – but must be isolated from other corn types to prevent cross pollination
- Early Extra Super Sweet
- Honey-N-Pearl
- Krispy King
- Candy Corner
- Northern Super Sweet
- Butterfruit
- Even Sweeter
- Dazzle
- Treasure
- Phenomenal

Corn, Popping
- Pretty Pops
- Iopop 12

Cucumber, Pickling
- Northern Pickling
- Eureka
- Liberty
- Patio Pickle
- Cool Breeze
- H-19 Arkansas Little Leaf

Cucumber, Slicer
- Dasher II
- Victory
- Marketmore 76
- Sweet Slice
- Fanfare
- Spacemaster
- Marketmore 86

Those varieties with a bullet (•) are suggested for northern Minnesota

Eggplant
- Ichiban
- Dusky

Cloud Nine
Green Goddess
Burpee Hybrid
Vittoria
Ghostbuster

Kale

Winterbor

Kohlrabi
- Grand Duke
- Early White Vienna
- Early Purple Vienna

Kolibri

Leek

Electra
Large American Flag

Lettuce, Butterhead

Most leaf and Romaine lettuce is not especially recommended for MN
- Buttercrunch

Kagraner Sommer
Tom Thumb

Lettuce, Head

Rosey
Mini-Green
Summertime
Burpee's Iceberg

Lettuce Leaf

Oakleaf
Grand Rapids
Black Seeded Simpson
Red Sails
Lolla Rossa Atsina

Lettuce, Romaine

Little Gem
Romulus
Cosmo

Onion, Bulb
- Yellow Sweet

Spanish
- Frontier
- Stuttgarter

Greek Salad
Superstar
Candy
Big Daddy
Big Mama
Sweet Spanish
Sweet Sandwich
Red Burgermaster

Onion, Green Bunching

Tokyo Long White
White Lisbon

Parsley

Pagoda
Krausa
Plain Italian
Moss Curled

Parsnip
- Harris' Model

All American
Hollow Crown

Pea, Garden
- Sparkle
- Green Arrow
- Mr. Big

Knight
Wando
Maestro

Those varieties with a bullet (•) are suggested for northern Minnesota

Pea, Snap
- Sugar Snap
- Sugar Daddy

Super Sugar Mel

Pea, Snow

Oregon Sugar Pod
Little Sweetie
Super Sugar Pod
Mammoth Melting Sugar

Pepper, Hot
- Mitla

Thai Hot
Super Cayenne
Big Chile
Tam Mild Jalapeno
Thai Hot Dragon
Faijita Bell
Mucho Nacho

Pepper, Sweet -red
- Superset
- Ace
- Park's Early Thickset
- Gypsy
- Northstar
- Red Start
- Crispy
- Green Boy
- Islander

Ma Belle
Super Red Pimento
Lady Bell
Fat N' Sassy

Pepper, Sweet -yellow/brown
- Sweet Chocolate

Sunrise Orange
Golden Bell
Golden Calwonder

Potato, Sweet

Centennial
Georgia Jet
Porto Rico
Vardaman

Pumpkin, Field
- Rocket
- Face
- Harvest Moon
- Ghost Rider
- Long Face

Howden
Lumina
Connecticut Field
Big Max

Pumpkin, Mini
- Wee-b-Little
- Munchkin

Baby Bear

Pumpkin, Pie
- Oz
- Trickster

Triple Treat

Radish, Fall

All Seasons White
Summer Cross
April Cross
Red Meat
Misato Green

Rhubarb, Root

Chipmans Canada Red
Valentine

Radish, Spring
- Scarlet Knight
- Cherry Belle
- Champion
- White Icicle

Cheriette
Red King
Pink Beauty

Rutabaga
- American Purple Top

Laurentian

Salad Greens

Kyona/Mizuna
Tendergreens *(Mustard)*
Green Cured Ruffec *(Endive)*
Tatsoi

Those varieties with a bullet (•) are suggested for northern Minnesota

Spinach

Indian Summer
Malabar *(Basella)*
Tyee
Bloomsdale Longstanding
Correnta

Squash, Summer

- Eight Ball
- Zucchini Select
- Gold Rush
- Burpee Hybrid

Elite
Spacemiser
Sunburst
Zephyr

Squash, Winter, Vining

- Table Ace
- Sweet Mama
- Ponca
- Carnival
- Buttercup
- Blue Ballet

Early Butternut
Festival
Table Queen
Baby Blue Hubbard
Ambercup
Sweet Meat

Squash, Winter, Bush

Cream of the Crop

Tomato, Small Fruited/container/ paste types

- Tumbler
- Patio Hybrid
- Early Cascade
- Oregon Spring
- Sweet Million
- Sweet 100

Juliet
Vita Gold
Sweet Chelsea
Container Choice
Viva Italia
Square Paste

Tomato regular size fruit/beefsteak

- Johnny's 361
- Redrider
- Roadside Red
- Sunrise
- Celebrity
- Royal Mountie
- Sunshine
- Sunstart

Quick Pick
Bush Celebrity
OG50 Whopper
Golden Girl
Mountain Pride
Lemon Boy
Supersteak
Brandywine
Golden Jubilee

Turnip

- Purple Top White Globe

Tokyo Cross Hybrid

Melon, Honeydew

- Earlidew

Honey-I-Dew

Muskmelon

- Earlisweet
- Earliqueen
- Burpee Hybrid
- Superstar
- Athena

Earligold
Fastbreak
French Orange
Rocky Sweet
Touchdown

Watermelon

- Festival
- Sugar Baby
- New Queen

Jubilation

Those varieties with a bullet (•) are suggested for northern Minnesota

Container Vegetable Gardens:

Highlands Elementary School Garden

Almost any vegetable that will grow in a typical backyard garden will also do well as a container-grown plant. Because Minnesota's growing season is short, beginning vegetables in a container is a great way to get an early start and insure a large crop yield. Vegetables that are ideally suited for growing in containers include tomatoes, peppers, eggplant, green onions, beans, lettuce, squash, radishes and parsley. Pole beans and cucumbers also do well in this type of garden, but they do require considerably more space because of their vining growth habit.

Variety selection is extremely important. Most varieties that will do well when planted in a yard garden will also do well in containers. Some varieties of selected vegetables, which are ideally suited for these mini-gardens, are indicated in the table below.

Varieties for Container Grown Vegetables:

Broccoli *(2 gallons, 1 plant)*	Packman, Bonanza, others
Carrot *(1 gallon, 2-3 plants. Use pots 2 inch deeper than the carrot length)*	Scarlet Nantes, Gold Nugget, Little Finger, Baby Spike, Thumbelina
Cucumber *(1 gallon, 1 plant)*	Burpless, Liberty, Early Pik, Crispy, Salty
Eggplant *(5 gallons, 1 plant)*	Florida Market, Black Beauty, Long Tom
Green Bean *(2 gallons minimum, space plants 3 inches apart)*	Topcrop, Greencrop, Contender, (Pole) Blue Lake, Kentucky Wonder
Green Onion *(1gallon, 3-5 plants)*	Beltsville Bunching, Crysal Wax, Evergreen Bunching
Leaf Lettuce *(1 gallon, 2 plants)*	Buttercrunch, Salad Bowl, Romaine, Dark Green Boston, Ruby, Bibb
Parsley *(1gallon, 3 plants)*	Evergreen, Moss Curled
Pepper *(5 gallons, 1-2 plants)*	Yolo Wonder, Keystone Resistant Giant, Canape, Red Cherry (Hot), Jalapeno
Radish *(1gallon, 3 plants)*	Cherry Belle, Scarlet Globe, (White) Icicle
Spinach *(1 gallon, 2 plants)*	Any cultivar
Squash *(5 gallons, 1 plant)*	Dixie, Gold Neck, Early Prolific Straightneck, Zucco (Green), Diplomat, Senator
Tomato *(5 gallons, 1 plant)*	Patio, Pixie, Tiny Tim, Saladette, Toy Boy, Spring Giant, Tumbling Tom, Small Fry
Turnip *(2 gallons, 2 plants)*	Any cultivar

Information provided by: Texas A & M Horticulture Dept. http://aggie-horticulture.tamu.edu/publications/guides/E-545_vegetable_gardening_containers.pdf

Garden Remedies:

Creating household organic garden remedies are an effective, simple way to detour unwanted pests and weeds from the garden and can help your plants grow stronger and more quickly. Many ingredients for these remedies can be found in one's kitchen or medicine cabinet. Examples of household remedy ingredients include, baking soda, vegetable oil, apple juice, garlic, lemon juice, vinegar, dishwashing soap, shampoo, and many others. A variety of garden remedy resources exist; below are a few examples.

"Lay sheets of newspaper between garden rows to suppress weed growth."

By August, the hours of full sun has significantly decreased and your plants will start to show it even though they still have a lot of growing time left.

Hurry – Up – The Harvest Tonic:

1 cup of apple juice
½ cup of ammonia
½ cup of baby shampoo

Mix all of these ingredients in your 20 gallon hose –end sprayer jar, filling the balance of the jar with warm water. Then spray the Tonic on your garden to the point of runoff.

Add this Tomato Booster Tonic in early summer to your tomatoes, just as they begin showing a bunch of yellow flowers. This Tonic will help set more fruits and help the plants grow fast and strong.

Tomato Booster Tonic:

2 tbsp. of Epsom Salts
1 tsp. of baby shampoo
1 gallon of water

Mix all of these ingredients together and liberally soak the soil around the tomato plants as they flower to stimulate their growth.

Pest control - A strong smell of garlic apparently offends as many bugs as it does people. This tonic works great to keep bugs at bay.

Pest Control Garlic Tonic:

6 cloves of garlic cut up
1 tbsp of baby shampoo and 1 quart of water

Mix all of these ingredients together and spray on plants to repel bugs. Don't use on cucumbers and melons unless you test it first. It could be sensitive to the shampoo.
Also cut up 2 or 3 cloves and sprinkle them among your rose bushes to keep aphids away.

Example Edible Schoolyard Garden Policies:

Creating a schoolyard garden policy is key for garden sustainability. A garden policy can be an addition to the current wellness policy. Please see the example policies below to use as guidelines for policy development.

These examples were created in collaboration with the MN Public Health Law Center at William Mitchell College of Law. The School Wellness Committee will need to discern the exact location of insertion for this verbiage. It might fall nicely between the Nutrition and Physical Activity components of your policy.

EXAMPLE ONE:
Columbia Heights School Garden Insert for Current School Wellness Policy.

WELLNESS POLICY

I. GUIDELINES

G. School Gardens

1. The school district will support the use of school property to promote nutrition, physical activity, and curricular and co-curricular activities through school gardens. The school district will support the sustainability of school gardens through activities including, but not limited to, fundraising, solicitation of community donations, use of existing resources, and allocation of school district funds.

2. School gardens ensure students have the opportunity to experience planting, harvesting, preparing, serving, and tasting self-grown food that reflects the ethnic and cultural diversity of the student population. The school district supports the incorporation of school gardens into the standards based curriculum as a hands-on, interdisciplinary teaching tool to influence student food choices and lifelong eating habits.

3. The superintendent has the authority to designate school property as a school garden and negotiate the terms of the agreements and licenses needed to create and maintain a school garden. The superintendent will ensure that the development of a school garden includes necessary coordination with appropriate representatives of the school buildings and grounds department.

4. The superintendent, with the assistance of the School Wellness Committee, will develop guidelines for school gardens. These superintendent guidelines will include:

a. explanation of how the school garden program fits the standards based curriculum and curriculum guidelines of the school district.

b. how the costs of the school garden, including materials, supplies, water, and personnel, will be funded.

c. how the school garden will be maintained during and outside of the school year, including identification of school staff who will supervise and maintain the garden.

d. how the school garden will be used and how the harvest of the garden will be distributed.

5. The superintendent or designee will review existing school board policy and recommend updates to any other school board policies to incorporate the goals and objectives of school gardens, including school grounds, curriculum and community use policies.

II. IMPLEMENTATION AND MONITORING

A. School Wellness Committee
(Example of verbiage for establishing a School Wellness Committee in the event the district's policy does not currently address the existence of one.)

1. The superintendent will ensure the formation and implementation of a district-wide School Wellness Committee. The School Wellness Committee will include representatives from appropriate stakeholder groups as determined by the superintendent. The School Wellness Committee may include students, parents, teachers, food service staff, and other interested persons.
2. The superintendent will ensure the School Wellness Committee provides an annual report to the school board, individual schools, and the public on the implementation of and compliance with the School Wellness Policy and any other wellness objectives identified by the superintendent.

EXAMPLE TWO:
Anoka-Hennepin School Garden Insert for Current School Wellness Policy.

I. Curriculum

A. School Gardens

1. Understanding the science of growth of plants for food and the place of plant matter in the ecological system by use of school gardens is a proper study for students through experiential learning.

2. A school garden (outdoor classroom or edible schoolyard) is defined as one;
   a. created, maintained and used by the students of the school.
   b. where the garden is an integral part of the standards based curriculum of the district as taught in the school.
   c. where the gardening program conforms to district curricular guidelines and beliefs about learning.
   d. where the gardening program is supervised by school staff.

3. The District will work to establish pilot programs which link school gardens to standards based curriculum and evaluate the pilots for a more systematic roll out of the garden programs.

4. The District will seek to work with community partners and to establish resources to provide educational curricula and professional development for garden instructors, students and their gardens.

5. Staff and persons associated with school gardens will engage appropriate District staff to have gardens approved and installed.

Garden Workshop Participants

School	Participant	Email Address
Oak Grove Middle School		
1300 West 106th Street	Pamela Ludvigsen	pludvigs@bloomington.k12.mn.us
952-681-6600	Steve Olson	sjolson@bloomington.k12.mn.us
Principal: Brian Ingeman*		
Olson Elementary/Middle/Transition Schools		
4501 West 102nd Street	Wayne Shipley	wshipley@bloomington.k12.mn.us
Elementary: 952-806-8800	Susanna Brar	Sbrar3@yahoo.com
Middle: 952-806-8600	Amy Pagett	apagett@bloomington.k12.mn.us
Principals:		
Paul Meyer (Elementary)		
Tom Lee (Middle)*		
Poplar Bridge		
8401 Palmer Avenue South	Kelsey Maynard	kmaynard@bloomington.k12.mn.us
952-681-5400	Suzy Peterson	suzyq@tcq.net
Principal: Gail Swor	Liz Schmitt	lschmitt@bloomington.k12.mn.us
	Lori Johnson	ljohnson@bloomington.k12.mn.us
	Matt Marohn*	mmarohn@bloomington.k12.mn.us
Westwood Elementary		
3701 West 108th Street	Diane Walker	Dwalker2@bloomington.k12..mn.us
952-806-7200	Leanne Docherty	ldocherty@bloomington.k12.mn.us
Principal: Carolyn Hartwigsen*		
Richfield Middle School		
7461 Oliver Avenue South	Marilyn Johnson	marilyn.johnson@richfield.k12.mn.us
952-798-6400	Leah Delia Larson*	leah.larson@richfield.k12.mn.us
Principal: Brian Zambreno	Sherri Juenemann	sheryl.juenemann@richfield.k12.mn.us
Richfield Dual Language School		
7001 Elliott Avenue South	Melissa Campana*	melissa.campana@richfield.k12.mn.us
952-798-6700	Karen Sherman	karen.sherman@richfield.k12.mn.us
Principal: Marta Shahsavand		
STEM (Science, Technology, Engineering, Math)		
7020 12th Avenue South	Kay Chambers	kay.chambers@richfield.k12.mn.us
952-798-6600	Sheila McGuire*	sheila.mcguire@richfield.k12.mn.us
Principal: Joey Page		
SECA (South Education Center Alternative)		
7450 Penn Avenue	Brian Wheat *	bwheat@district287.org
612-355-5838		
Highlands Elementary		
5505 Doncaster Way	Caitlin Williams	caitliinmariewilliams@gmail.com
952-848-4500	Jennifer Livingston*	tjehlhome@gmail.com
Principal: Peter Hodne		

**Garden Coordinator*

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