

creating an outdoor classroom



GroundWorks



LifeCycles
cultivating communities

SCHOOL FOOD GARDEN IMPLEMENTATION MANUAL

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Home is Where We Live

LifeCycles Project Society

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**“We envision a world that recognizes
our relationship with food as key to
maintaining a healthy planet.”**

LifeCycles is a non-profit organization dedicated to cultivating awareness and initiating action around food, health, and urban sustainability in the Greater Victoria community. We work proactively to promote and create personal, shared and community gardens, research, and educational activities and youth skills development programs. Through partnerships we strengthen individual, community and global health.



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Introduction to Creating an Outdoor Classroom



"To involve everyone in the process, working together in growing their own food satisfies the basic need to harmonize with one's fellow human beings and the land."

-Christian Portilla, "Home is Where We Live"

LIFECYCLES AND GROWING SCHOOLS

LifeCycles Project Society is a nonprofit organization dedicated to cultivating awareness and initiating action around food, health, and urban sustainability in the Greater Victoria community.

Growing Schools, one of LifeCycles many community based programs, offers education to local elementary Schools. Through hands-on gardening in food gardens built on the school grounds, children learn about food security, healthy food choices and urban agriculture.

Growing Schools developed it's first sustainable model garden in 1996 and now supports a wide range of schools. After working with each school community to create a food garden, Growing Schools returns every year to provide three core workshops that integrate the "outdoor classroom" into the curriculum. Growing Schools educates 300-500 students each year, creating a community of kids, parents, teachers, and neighbors around the garden.

Growing Schools has now expanded their services to become a resource for school communities, offering resource training and consultation in developing all aspects of a school garden project.

LIFECYCLES SCHOOL FOOD GARDEN IMPLEMENTATION RESOURCE MANUAL

"Creating an Outdoor Classroom" is a Resource Manual published by LifeCycles to support school communities in creating sustainable school food gardens on school grounds. This resource manual is especially designed for educators, parents and Parent Advisory Councils to establish capacity for the long-term success of the garden project. If you don't have a green thumb, don't worry! In pursuing a school garden project, interest and commitment are all that's required for success. This manual provides a basic garden start up guide which is intended to be supplemented by other gardening resources as well as subsequent "Creating an Outdoor Classroom" modules that are available from Growing Schools. This 2005 edition was edited by LifeCycles School Program Manager, Kezia Cowtan and sponsored by groundworks. The information in this guide was compiled by the LifeCycles Team. Although this resource manual focuses specifically on food gardens, much of the information on creating a garden could be applied to a native plant garden or the creation of a comprehensive school greening program.

Growing Schools works with school communities on Southern Vancouver Island, which has a climate and terrain that may differ from that of your school. This would affect the dates of the growing season, soil conditions and types of native plants. Look for reference guides particular to your location for information on gardening in your region.

"Take a moment now to think back to your days in elementary school. Remember planting the bean or the sunflower seed in the styrofoam cup. Remember how delighted and proud you felt when the first signs of life appeared? Teachers continue to recognize the importance of teaching children how plants grow, and many want to expand the learning experience beyond the styrofoam cup." - **Bernaditte Huys, 1998**

School food gardens and their integration into the classroom provide an opportunity for children to learn and understand:

- Where our food comes from and how to make healthy food choices
- What effects backyard gardening and the food production process have on the environment and communities, both locally and globally
- That they are a part of a larger community (teacher, parents, school neighbors and community members) within the garden and community projects
- How to plan, build and grow a garden, while developing planning, design and decision-making skills

LIFECYCLES SCHOOL FOOD GARDEN IMPLEMENTATION RESOURCE MANUAL...

Most importantly school food gardens empower children to actively create and promote healthy change within their community and to give them the opportunity to realize the positive impact a shared vision can have. The food grown in the garden supports healthy harvesting for classes and school events, school families and donations of produce to the local school food bank.

Although many teachers are aware of the benefits of school food gardens, the amount of work it takes to install and maintain a garden can be daunting. With increased class sizes and budget cutbacks, teachers are less able to undertake outdoor projects or to take children on field trips to foster the connection between classroom education and the natural world. LifeCycles' Creating an Outdoor Classroom includes the entire school community of parents, teachers, administrators, businesses, and community organizations, ensuring long- term success for their collective vision of a school garden project.

The Implementation of a School Garden



“To involve everyone in the process, working together in growing their own food satisfies the basic need to harmonize with one’s fellow human beings and the land.”

-Christian Portilla, “Home is Where We Live”

WHY A SCHOOL GARDEN?

Defining your school community's purpose for a school garden will help the creation, process and success of the garden project. Think about what your school garden is going to be used for before you get started.

You could ask yourself if the purpose of the garden is to:

- Learn about food and where it comes from?
- Learn about cooperation and growing as a school community?
- Grow food to be taken home or given to the school lunch program?
- Learn about insects and wildlife in the garden?
- Give students a sense of accomplishment and self-confidence?
- A lab for practical peace education?
- Reinforce lessons from science to see how plants grow?
- Enrich the curriculum of math, art, social studies, environmental studies, health and home economics through garden-related activities?

There will be plenty of time for detailed discussion and planning of curriculum goals further down the line. In the beginning, just identify broad areas that are of interest to you, and that you feel will be particularly beneficial to the children. This will be helpful to you when expressing your vision to others.

The answers you come up with will help to define how the garden is designed and how it will grow over the years. It is important to write down the decisions, but also to keep in mind that these very well may change as the actual growing takes place.

THE ABC'S OF GETTING STARTED

So, you have decided that your school needs a garden! Starting a garden can be a very exciting and confusing project. Where do you start? Who do you talk to first?

Start with a vision. What sort of garden would you like and what would benefit the school the most? It is very tempting to think of grandiose gardens that will involve the entire school or community, and include every kind of vegetable and habitat. For a successful project, however, it is very important to be realistic and plan for a small, pilot garden that has possibilities for expansion over several years. Colleagues will feel less overwhelmed and more supportive of the idea, the garden will be easier to maintain, will look better, and others will be encouraged to become involved.

You don't need a detailed, to-scale plan of the garden at this point. Leave the specifics of the garden as open and flexible as possible. The input of other people in the planning process is crucial and their contributions may make the garden different from the one you first envisioned.

Informally assess support for the project by talking to representatives from the different groups who will play a part in the school garden. Make sure to survey the principal, several teachers, and the maintenance staff. You might have immediate support and interest, but you might have to do a sales pitch. Your vision and ideas for why your school needs a garden will be useful at this time. Be prepared for questions about maintenance, vandalism and summer care, and be ready to remind inquiring individuals that you are looking for support for the *principle* of starting a school garden.

It is important to start documenting your project now

Start a 'Garden Binder' where you keep all the names of interested people, rough ideas for the garden including any correspondence. Every detail helps, when you have a telephone conversation with someone, make a note of it, and put it in the binder. This enables new staff and parents to get a clear picture of how the garden runs and how it came into being. Promising garden projects have failed simply because one teacher has left a school. To avoid this, good documentation is essential every step of the way!

A TIMELINE FOR YOUR GARDEN

This timeline is based on the Growing Schools model program. It is meant to give a basic idea of the steps involved in implementing and running a school garden program. The manual describes each of these specific areas in more detail. Use this as a basis for plotting your own plans filling in the specific dates. The dates for your project may be different from those illustrated below depending on your start date and climate.

The process of starting the project often takes more time than expected. Don't get too frustrated as it is integral for the long-term success and sustainability of the project.

TIMELINE FOR IMPLEMENTATION OF A SCHOOL GARDEN

Date	Activity	Page in Manual
September → December	• Create vision for school food garden • Identify educational focus • Begin documentation • Assess support for project • Information night. • Form a Steering Committee • Develop a funding package • Work up a budget • Secure funding for first year • Garden design considerations	pg. # 15 pg. # 14 pg. # 15 pg. # 15 pg. # 17 pg. # 19 pg. # 27 pg. # 73 pg. # 28 pg. # 35
<i>One to three months before workshops, depending on the capacity of Maintenance</i>	• Contact School District Maintenance • Construct the garden	pg. # 18 pg. # 37
<i>One to two months before Workshops</i>	• Create/decide on spring workshops • Ensure materials & supplies • Contact media • Recruit/train volunteers • Prepare garden for planting	pg. # 49 pg. # 50-53 pg. # 30-31, & 67 pg. # 25-26 pg. # 38
<i>One week before planting</i>	• Notice home to parents	pg. # 79
April → May	• Indoor spring seeding workshop	pg. # 50
May → June	• Outdoor spring planting workshop • Set up summer care schedule	pg. # 52 pg. # 24
July → September	• Create/decide on fall workshops • Ensure materials & supplies	pg. # 49 pg. # 55
October → End of October	• Fall harvest workshops • Prepare garden for winter	pg. # 54-55 pg. # 46

WHO TO CONTACT AND WHAT TO ASK

After getting some initial support for the idea of a school garden, find out who can dedicate their time to the garden. There are many people who will have input and advice for the garden. Now is a good time to put out an open letter or article in the school bulletin. Be sure to invite all of the teachers in the school, the Parent's Advisory Committee, Maintenance and any interested parents to be part of the planning process. The letter should let everybody know they can become involved by forming a steering committee (the next stage) or by giving their input into the proposal. Make sure to inform the principal of everything that is happening and give them a copy of the letter you write to the teachers and Parent Advisory Committee.

WORKING WITH MAINTENANCE

A sample letter and Victoria School District School garden Application to Maintenance appears in Appendix A/B

If you are working in a school setting (or even in a community organization) you will have to connect with Maintenance when deciding to build a garden on site. Maintaining good communication at every stage of the project is important. In a public school setting, all development work on the school grounds is at the approval or disapproval and is within the contractual job description of district Maintenance staff. Individual School District Maintenance Staff will need to be consulted regarding their application and approval process and addressed regarding the placement of the garden. When you present your garden proposal you will be able to negotiate what the Maintenance staff will supply and build, and what materials you will be responsible for providing.

Shared responsibility for the construction of the garden could be negotiated similarly to the following example:

The Maintenance staff built raised bed gardens with wood supplied by a community group (LifeCycles) and allowed students to fill the beds with soil (supplied by maintenance). The plans for the raised beds were drawn up by LifeCycles with the school involved. The plans were then taken to the School District Maintenance Supervisor, who then arranged for a grounds Foreman to work directly with the school partner.

After an initial phone call, and an invitation to the first steering committee meeting, you must supply your school maintenance staff with a letter or in some cases a proposal, letting them know service you need them to do, and how the project is progressing. A sample of this letter and the Victoria School District School Garden Application can be found in the Appendices. A copy of this letter/proposal should also follow up your initial contact with the District Maintenance Supervisor.

CREATING A STEERING COMMITTEE

A sample agenda for the first Steering Committee meeting appears in Appendix C.

Going at it alone can be frustrating and time consuming, and it can defeat the purpose of a school community garden. It is recommended that you gather a team of supporters into a steering committee. A committee spreads around the work of managing a garden. It can be made up of many or few people, and although building the committee may be time-intensive at first, it will save your sanity later! Other voices also add a wealth of new ideas and perspectives that will enrich your garden project. If the committee is large enough you might want to consider dividing into sub-groups to focus on specific topics.

You will notice in the sample School District Maintenance School Garden Application you are required to involve all levels of the school community in a committee to ensure the long term success of the project and for approval from the facilities department.

Ensure teachers are a component of the committee, as teachers are commonly at a school for 30-40 years. Conversely, School Administration is only at one school for a couple years, and parents move on as their children do.

Send out a 'blanket' letter to teachers, support staff, parents and Maintenance encouraging them to attend an informal information and early planning meeting on a set date. The Steering Committee should meet as early as possible, so as to have plenty of time to work out all of the details of the garden. This first meeting should outline the vision of the garden and determine the basics of how it will take shape. Include your contact number and connect with office staff to ensure you receive any replies or queries. Included in the resource guide is an example first Steering Committee agenda.

Depending on your setting, and the number of people involved, a steering committee's role can include the following:

- Defining a clear set of goals and objectives for the school garden project
- Meeting with Maintenance to build and design the garden
- Creating activities and researching existing curriculum
- Dealing with fund-raising and soliciting donations of materials or supplies
- Documenting the stages of the development of the garden
- Writing up articles for the school newsletter or other media
- Designing the layout of the garden and what will be planted

ROLES AND RESPONSIBILITIES

To maintain a self sufficient garden everyone who works on the garden should have clearly defined personal responsibilities so that nobody's toes get stepped on and the garden is well cared for. Below are some typical roles and responsibilities.

Teachers: Involved in all stages of the project - from planning to bringing their class out for work on the garden or just a tour to see what is growing! One of the teacher's most crucial roles can be incorporating lessons from the garden into the student's curriculum. Teachers play a big part in the legacy of the school garden as they can work at a given school for many decades .

Parents: Helpful as volunteers in the planning of the garden and help with the days of planting and gardening. Many of the students' parents will have experience gardening and can act as mentors when it comes to growing techniques. Parents can support raising additional funds for the garden.

Parent Advisory Committee: Very useful for helping with fundraising and donations of materials. The PAC may have members with experience fundraising and working on community projects.

Maintenance Staff: Maintenance approves all aspects of the general construction and they are invaluable in consultation of the design of the garden beds and location, warn against potentials for vandalism, and give general advice. The maintenance staff may be able to donate labour for construction and/or materials such as soil and lumber for raised beds. Maintenance staff must be well informed from the beginning.

Immediate Neighbours: Extra eyes to watch out for potential vandalism and may possibly help with summer maintenance, such as extra watering on hot sunny days.

School Administration: Help to find funding for the project and may be able to help with the planning and communication with the maintenance staff. Don't forget, there may even be a gardener in the school offices who would love to get outside and dig in the garden.

Students: Who is the garden primarily for? The students! The more they are involved in the process of creating and maintaining the garden, the more ownership they will feel over it. This will result in not only a well looked after garden, but the students will feel involved, empowered and are likely to get more out of the experience.

OWNERSHIP OF THE GARDEN

Children who help create a garden will naturally be more interested in maintaining and caring for it. Involve the children in as many stages of garden creation as possible and look for ways that the garden can be integrated into the curriculum. Every child can benefit from working in a garden. Getting re-connected with the earth provides an atmosphere of creativity, responsibility, peace and respect. However, in school settings where there are often a large number of children, involving everyone is simply not practical.

Here are some suggestions for how you could organize your class, based on what other groups have tried:

One class takes on the whole garden as a 'special project'

Advantages:

- Gardening is easy to coordinate by one dedicated teacher
- Others can observe how the garden works for a year or so before committing to their own project
- A class can see a garden project through its entirety
- A good model for a smaller, less curricular-based garden (e.g.: community centre)

Disadvantages:

- Limited numbers of children and adults benefit from the garden
- The garden project must begin from scratch, with a new group of students, each year
- Isolation for one teacher

Several classes share the garden, each with their own section

Advantages:

- A larger number of children, at different levels, can be involved in the garden and feel ownership
- As the project progresses, children who have gained some experience in the garden can mentor new participants
- Different groups can design and focus on different aspects of the garden
- More adults are involved and may be willing to share coordination tasks

Disadvantages:

- Some work is needed in coordinating the activities of a number of groups, and extra care needs to be taken in defining who has responsibility for what. It is important to make sure that no toes get stepped on!

A special Gardening Club is formed

Advantages:

- All interested children have a chance to be involved in the garden
- Interest and motivation are high
- A club may bring together a wider pool of parent helpers

Disadvantages:

- Fails to engage students who may avoid extra curriculars, smaller impact
- Coordination becomes an extra curricular activity for teachers

An out of school care program takes on the garden

Advantages:

- A wide variety of children can be involved, with a focal community point, like a school, providing space and support
- Year round care is easier

Disadvantages:

- Limited time to work in the garden
- No curricular incorporation
- Only children in the out of school care program get to participate

This is not an exhaustive list; it simply shows some of the most common ways children can be fully involved in a garden project. Some of these models could be combined to create an effective program. Define what is best for your school or group based on available time, interest and support.

VANDALISM

In our experience with Growing Schools, there has never been an incidence of vandalism causing a serious project setback. However, vandalism happens and it can not be ignored. There is no foolproof deterrent for vandalism, but many strategies can help. As with any successful project, communication is the key. If the community is made aware of the project, they can monitor, informally, after hours. If a neighbour knows that a garden project belongs to the students, they can alert the police if people who are not students are clearly not gardening. As for vandalism within the school community, a good sense of ownership helps to protect the garden.

G a r d e n A l e r t !

In front of the James Bay Community Centre, you may have noticed a small but important addition to the site. Students in Division 14 at James Bay Community School planned and planted a small organic vegetable garden. The garden belongs to the students, who were involved with the project right from the first seeds planted inside the classroom. Through the spring, they have learned about where food comes from, and learned organic gardening techniques -- all in a practical, hands-on setting.

Because vandalism of the garden is a concern (we have had a few plants ripped up already), it is important that the community knows about the project. We are not requesting around the clock surveillance, but are simply letting neighbours know about the garden, and who it belongs to. If you see anything destructive going on, feel free to inform the police.

If you want to know more about the garden, or are interested in helping out during the summer season call Mark from the Growing Schools project at LifeCycles: 383-5800

PLANNING FOR THE SUMMER

The most obvious challenge in school gardening is the fact that the students are away for the height of the gardening season. To work around this, there are a few options that schools have used in the past. Forming a group of interested children and their parents to divide the task of taking care of summer watering and maintenance is one option. It can be arranged so that each adult and child pair takes on several weeks of the summer or so that each pair gets a day of the week to monitor the garden. Another option is having a group that is near the garden in the summer be responsible for summer maintenance. For example, an out of school care program could look after the garden in the summer as part of their programming. It is important that everyone involved be committed to taking care of the garden and that they have the school's support.

Listed below are several possibilities for summer maintenance and some strategies for reducing the work:

- Plant vegetables that can be harvested during the school year - veggies should either grow early and bloom quickly (e.g. lettuce and radishes) or be able to be harvested in the fall (e.g. squash).
- Grow plants that need very little attention - nothing that will need careful monitoring for pests or daily watering (e.g. Rosemary).
- Watering can be made easier by giving the garden a few good soakings a week rather than superficial daily watering.
- Set up a regular schedule for watering and maintenance. Have an organizer who can replace volunteers if someone wants to go on vacation, or if people have horticultural questions.
- Post a list of things to be done in the garden and how to do them (where the hose and tap are, how much to water, what plants can be picked, and which ones need to be cut back, etc.). Give each person who is involved in the garden a copy of the list.
- If possible get the same students involved throughout the year so that there is continuity and a shared sense of ownership.

ESTABLISHING A VOLUNTEER PROGRAM

Volunteers are vital to a smoothly running school garden program. Volunteers could be active in many areas of a school garden program, especially to assist, facilitate and give support during the garden work. Having a high facilitator to student ratio is especially helpful during workshops when the kids have lots of questions and energy.

For a school's garden program, the best kind of volunteers you will find are ongoing. Volunteers that can make a somewhat long-term commitment, coming to orientation and training sessions, and participating in school workshops, provide a sense of continuity for the children and require less guidance from you (the facilitator).

It is important that the principal and the maintenance staff be informed about any adult volunteers that will be working in the garden with the children. Maintenance policies, regulations and guidelines on "ground volunteerism" can be received from your school district's head office.

Recruitment

Some volunteers recruit themselves. They are interested parents or community members who find out about your garden program and contact the school to find out how to get involved. This is where promotion of your program is often useful. These people are usually quite committed and enjoy gardening or working with children.

Environmental Studies or Early Childhood Education classes at the local university or college are also a great resource. Asking professors if they would announce the need for volunteers or allow a small presentation to their class has proven to be successful. Make the project sound interesting and fun but don't push people. The best volunteers come on terms that they feel good about.

Orientation and Integration

When there are new volunteers coming into your school, try to arrange for a group orientation. In this way, volunteers can meet each other and become acquainted. Evenings during the week are usually the best times. Ask everyone to commit to attending the orientation to save having to arrange one-on-one meetings. The purpose of an orientation is to give new volunteers an idea of the garden program's goals and to give them a feel for how workshops will be run. Make sure they are aware of what their legal responsibilities will be and what the guidelines are for working in the school. It is helpful at this time to have a volunteer sign-up sheet so you can get an idea of their commitment and availability. Have a copy of your phone list on hand so they can check to make sure their contact information is correct.

It's helpful to do call-arounds often during the program so you can keep in touch with volunteers at the same time as you let them know about any upcoming changes or volunteer needs. The more you get to know people, the better the chances are that you will have a committed core of well informed volunteers.

Volunteer Follow-up and Recognition

Recording how much and what kind of work volunteers do helps to recognize the work that each volunteer does. It also helps to track the "in-kind" support that your school receives (important for funding proposals and reporting).

One of the most effective ways to follow-up with volunteers is simply to find out how they're doing whenever you talk to them on the phone or in person. People's interests tend to change, their amount of free time fluctuates, and all these things affect the way they are involved. Keeping in touch during the months between seasons where you may not have a need for any volunteers will keep you updated on any new phone numbers or changes in a volunteer's situation.

Recognition is important, especially for volunteers whose involvement has been high in quantity or quality. Thanking volunteers for their time and commitment helps to make them feel appreciated. Hold a recognition function for volunteers and project staff. It gives everyone the opportunity to socialize and have fun together outside of work. Thank-you cards are also a great form of recognition.

Documentation

Keeping a record of all volunteer information, including full names, addresses and when they volunteered is important for yourself and for the next person who might try to take on coordinating the volunteers. Good records keep you from having to rely on memory and are useful in the event of a liability issue to keep accurate records of who was at each workshop.

DESIGNING A FUNDING PACKAGE

Contact information for possible funding agencies and grant opportunities appears in the Resource Guide. A sample letter requesting funding appears in Appendix D. A sample budget planning table appears in Appendix E.

Financial planning is an essential part of any gardening project. Start by planning out your garden and how much it will cost. You may wish to come up with several plans for the garden, from cheapest, and most likely simplest, to the most expensive. Depending on how much money you are able to raise and what sort of donations you receive, you can decide which plan to go ahead with. At this stage, the garden plan creation and financial planning will go hand in hand.

Beyond in-kind donations and volunteer support, a children's gardening program will probably need financial help for materials and supplies. The first place to look for financial support is your own school or community centre. Grants from large organizations can sometimes require a lot of paperwork and "lead time" (time between when you apply for a grant, and when you actually receive the money). If the garden is run inexpensively, it is often easier to locate money within the school's budget. There are several ways to approach the school community for money:

- Individual fundraisers (Bake sales, raffles and other small fundraisers)
- Applying to the Parent Advisory Committee for money
- Asking the principal if there is any money in the school budget
- Asking for individual donations from parents and businesses, recognizing them as donors to the garden (with a small plaque near the garden)
- Asking the general public for equipment or monetary donations. This often done best by printing an article in the school or local paper on the school garden with a request at the end for funds or tools/seeds

After approaching the school/community for money, you may still need additional funds. If this is the case there are a number of different organizations you can approach. A list of possible funders can be found in the reference guide.

When approaching a potential funder, it is a good idea to have a strong information package to accompany your vision and enthusiasm. Some organizations will require more information than others. Contact the community relations or funding director of the group you plan to approach to determine if any specific paperwork needs to be completed.

It is initially time consuming to prepare the documentation for fundraising. A well prepared application will save you time and effort in the long run. Much of the information can be used repeatedly, with only minor modifications. It is helpful if the application is made on behalf of the school community with the support of both the Parent Advisory Committee and the school staff. The applications are usually made on behalf of the PAC.

Support your application with as much information as you can gather. Include:

1. A letter of support from the school principal
2. A written outline of the rationale for the project. Indicate the community process that was used during the decision making process. Depending on the mandate of the funder, be sure to include any positive social and environmental benefits the project may have in your community. Describe the community's plans for the long term maintenance of the project.

As well, provide the rationale for the kind of garden you are proposing. Include:

3. A cost list including: plants and materials, in kind donations, time and discounts.
4. A sketch of the site, giving the approximate dimensions of the project.
5. Enclose any articles or posters that have been used to advertise your project.

Sustaining funding

As already mentioned, it is important in your financial planning to address the sustainability of a garden project by examining yearly costs. Once you cover the start up costs of the garden, where will the money come from to keep it going? Unless you are expanding the actual size of the garden, the expense should be relatively small, and can be covered by general operating budgets or small fund-raisers (bake sales, raffles etc.).

It is empowering for students to be part of financing the garden, and there are many creative ways to build knowledge and experience in gardening and finance! You might consider selling produce in the fall, growing seedlings indoors, and selling them for transplants, or even making scarecrows and garden ornaments. The possibilities are endless!

Some points to bear in mind...

- Apply for grants as early as possible. Funding agencies often take several months to process applications.
- If the garden is part of a bigger school greening program, be sure to include that in your description of the project. The funder may be interested in supporting more of the project.
- Before submitting any funding request, attempt to find out if there is anything *specific* the organization is interested in supporting (tools, educational materials, actual bed construction). You can then reflect this in your proposal.
- Some funders are concerned with the sustainability of projects, and thus, it is important to stress that you will not be returning year after year to request more funds, but instead will have other ways of continuing the garden.
- Keep track of all your funding requests and, if possible, keep *one person* in charge of contacting organizations. This insures funders have a consistent contact person.
- Could a class or club become involved in the fundraiser? Designing grant applications and raising money holds some super opportunities for learning and allows students to gain ownership over the project by being involved from the very beginning.

Tips on designing a funding package:

A basic funding package, which can easily be tailored to suit varying needs, includes the following:

- ☐ A cover letter
- ☐ A description of the garden plan, and the educational, environmental and social value it will bring to the children and community. Include basic information on how the garden will be maintained over the summer, and in future years.
- ☐ A brief description of all involved partners to date (i.e.: the school, community group, PAC, maintenance union, classes or clubs of children).
- ☐ A budget projection showing overall funding needed, and where you envision the donor organization fitting in.
- ☐ Donors want to ensure a project is truly needed, will be well managed, and is sustainable. Your funding package should address these concerns. Above all, don't be discouraged! All your hard work now will lay a strong foundation for ongoing support, and for encouraging others to see children's garden projects as a vital fixture in our communities.

PUBLICITY AND MEDIA

Students planting and harvesting their school ground food gardens make for some beautiful opportunities to promote your gardening program. Before going ahead and inviting news crews and sending press releases there are a few things to consider. It is important that all partners in the project have been contacted and have given approval for media. As well, often schools need photo permission forms signed by their guardians from all students participating in the garden program. When a note is being sent home to inform parents that the gardening days are taking place, include a tear off portion for them to sign and return. Do this well in advance as it may take awhile and you will need them before any outreach begins.

There are also some pros and cons that should be looked at before deciding if you want media coverage:

Pros

- Publicity will promote the idea of school gardening and may encourage other schools to follow the example
- An opportunity to mention the funders
- Attracting needed donations, knowledge and support from the community

Cons

- Publicity is one more thing to do
- Busy reporters do not always get everything straight in their stories. Something other than what you expect or want may be printed
- Working with the media can be extremely difficult. They need plenty of attention if they're going to write a good story about your project
- Having reporters at the garden site during workshops can be distracting from the main purpose of the garden: teaching and involving the students

If there is a desire to publicize the garden in the community and beyond, the first step is to contact those publications that would be interested in the project and would also reach your desired audience. Creating a relationship with a particular reporter or paper can lead to stories year after year. Keep in mind that if any media are invited to the workshops, one extra staff member/volunteer will be necessary to stay with them while they are on the school grounds. They need lots of support to do their job efficiently.

IDEAS FOR OUTREACH IN YOUR COMMUNITY

Local television crews very often run segments on what's happening around the community.

Send a press release then follow up with a phone call to the assignment desk. Let them know when the workshops in the garden will be taking place and what the students will be doing.

Send a press release and an invitation to a workshop to a newspaper reporter or photographer.

Another possibility is to contact the editor with a story idea.

Radio stations can be invited to workshops to take some sound bites, or, with a press release, they can be used to publicize upcoming events. An on-air interview is also great publicity.

Special interest publications such as parenting, gardening or education based magazines prefer to have a letter sent to them outlining an idea for an article rather than just sending in something complete. This gives them the opportunity to tailor your story to meet their length and needs.

Doing outreach and having a booth at events in the community are a great chance to make connections within the community. Create a colorful display and include photos of the kids working in the garden.

Throughout the school ground gardening project, it is important to take photos that can later be used for funding requests, documentation and media. It's also good to occasionally jot down and use a particularly good quote from either the children or parents. Keeping a photo album record with pictures of smiling kids in the garden and before and after pictures of the garden site might help during funding meetings or in community outreach. It's also a beautiful way to document the life of the project for the class and school.

The Garden



“To forget how to dig the earth and to
tend the soil is to forget ourselves”

Mahatma Gandhi

INTRODUCTION TO KIDS GARDENS

See School Gardening Planting Guideline, Appendix F.

The design of the garden space goes hand in hand with many other parts of creating a complete vision for your program. At this point, you and other members of the steering committee most likely have some ideas on what you envision the garden will look like, and there are infinite wonderful and creative design options. Remember, however, the principle of “small is beautiful.” There is lots of time for more grandiose plans when the garden program is well established. Few rules govern garden design, but there are many considerations to keep in mind. As you begin remember that *this is a children’s garden*. The design needs to be child friendly, and its helpful to keep referring back to your goals and objectives so bursts of creativity don’t overwhelm your purpose.

Creating creative gardens!

- Vary the bed design - gardens have been made in everything from flower pots to cement pipes in the past!
- Instead of grass paths between garden beds you could use wood chips
- Create a wildlife haven with a bird bath, shallow pond or snakehouse
- Contain soil in raised beds using large rocks or driftwood
- Build a trellis for beans or peas in the shape of a teepee type shelter for children to crawl inside
- Have garden beds in interesting shapes, and use themes when planting. With the teachers and students imaginations you can dream up all kinds of creative gardens. What about an edible native plant bed, or an “all in one colour bed”, or a circular, pizza theme bed, with tomatoes, peppers and herbs?

SITE SELECTION

Your first consideration when designing your garden is location. Have the people dealing with the design aspect of the project, including a member of the maintenance staff, go on a 'walk about' of the school or centre grounds.

Consider:

- **Amount of sunlight needed.** The garden should get full sun for as much of the day as possible
- **Accessibility.** Is the area easy to get to with children, tools and materials, and it is reached by a water supply?
- **Traffic.** Both people and automotive. If possible, plant away from busy streets, and make sure the garden has some protection from running feet and ball games!
- **Condition of the site.** Will a lot of debris need clearing from the area?
- **Size.** Will raised beds, children and helpers fit comfortably into the proposed area?
- **Visibility.** The entire garden should be visible from from the road, with no obstructions or blindspots so that Police can easily survey the grounds.

Once you have selected a site you should notify neighbours who will overlook the garden, so they will be aware of the changes that will take place there. Having informed neighbours serves numerous purposes: they will be more supportive of the garden if its arrival is not a surprise, and may be able to help keep an eye out for potential vandals. Who knows, you may uncover a wealth of valuable horticultural knowledge, right on your doorstep!

BED DESIGN

Instructions on how to build a raised bed can be found in Appendix G.

There are several wonderful books listed in our bibliography that give many ideas for potential garden plans. In this section we will give details of the basic raised bed model used successfully by LifeCycles for many school and community gardens, and give you some suggestions to make *your* garden space truly unique.

The use of a raised bed design has many advantages. The LifeCycles Growing Schools Project, and many other school gardens opt to use a raised bed system for growing. These gardens have a wooden frame, between four inches and one foot high, that contains the soil. There is a clear sense of where the garden starts and stops, so plants won't get accidentally stepped on, mowed or ridden over by a bike. These garden beds are designed to be thin enough that you can reach all the plants without walking on the soil. Raised beds can be built on top of grass, there is no need for tilling soil or removing much sod. Growing conditions in a raised bed tend to be better as you can add in good soil and easily mix in amendments. Drainage is improved and you do not run the risk of people walking on the garden and compacting the soil. The sun will warm the beds from both the top and the sides and the appearance of the garden will be clean and neat. Although most raised bed boxes are rectangular there is no rule stating they must be. It may be fun to experiment with different shapes - try octagonal or triangular!

LifeCycles has found that building two raised beds, three feet wide, by eight feet long, is the minimum required for work with a group of 25 children. Make sure beds are two feet high so they are wheelchair accessible. Space between the beds should be at least two and a half feet to allow children to gather around, kneel, and work.

If maintenance staff are responsible for the actual construction of the beds, remember to be in consultation with them every step of the way in designing your garden. It saves confusion if you are able to provide a plan detailing where, what size, and what shape you want the garden to be, and be open to making minor changes to accommodate any safety and logistical concerns. The grounds foreman, with approval of the maintenance supervisor and head gardener, then sends out a work crew who will construct the bed according to the agreed upon plan.

It is important to allow plenty of time for bed construction.

HEALTHY SOIL = HEALTHY PLANTS

The soil holds all the nutrients and water a plant will need while providing a stable foundation for it to grow. Healthy soil is important because it helps to prevent plant diseases and improve plant quality. There are three basic types of soil: Sand, Clay and Loam. The ideal soil for any garden is loamy soil. Loam is a mixture of sand, clay and organic matter, it has good air circulation, drainage, water and nutrient retention. If you have sandy or clay soil it is easy to improve its quality through the addition of amendments like organic matter, composted manure and leaves. When filling your garden's raised bed with soil, it is a good idea to build lasting fertile soil by adding three elements:

- *Organic matter*, such as compost or manure.
- *Rock Phosphate*, a ground rock powder that adds phosphorus
- *Greensand Marl* or Kelp Meal, adds potassium and micronutrients

There will need to be maintenance applications of phosphate and greensand every four years, and manure and compost should be added at least once a year. Lime or sulfur should also be used to maintain an ideal soil pH between 6.2 and 6.8.

Mulch & Mulching

A two to three inch layer of organic material, such as leaves, placed on top of the soil is known as mulch. Mulch keeps the soil warm during the cold season and cool on hot days by reducing the evaporation rate of moisture from the soil. Mulch protects the soil from compaction and erosion from rain and wind. Mulching also helps to suppress weeds and adds nitrogen to the soil as organic material breaks down. Mulch can be made from compost, aged manure, dry grass clippings (use only half an inch), leaves or pine needles, weeds that have not gone to seed, and straw. In applying mulch be careful not to smother your plants or put mulch right up against their stems as they will rot. In the spring you may want to remove winter mulch to allow the soil to warm up before applying a new layer as the weather gets warmer.

COMPOST

Composting is the natural process of decay. As small organisms work together to break down organic material, they produce a dark and nutrient rich soil amendment known as compost. Creating compost is an easy way to improve soil conditions and reduce the amount of organic material destined for landfill sites. A school-wide compost program has the potential to radically reduce the waste generated by a school, as well as building excellent fertilized soil for a garden. It is, however, a large undertaking and needs the support of all the teachers whose classes are involved. A two box school district maintenance compost can take up to a pail of food scraps a week. The food scraps will also require leaf mulch and grass clippings to avoid an imbalance within the bin. Someone will need to take charge as the “compost monitor” to ensure that the compost is turned three times a week in order to actively break down the material and that enough dry matter is added to balance out the food scraps.

For any composting trouble-shooting questions contact a regional compost centre or the internet (contact information for the Victoria Compost Education Center appears in our resource guide). Despite all the work, it is an excellent learning experience for children; demonstrating how soil is created and promoting waste reduction!

Another easily maintained alternative to a large outdoor composter is an indoor worm composter. Well managed worm bins can create great compost within three weeks. To achieve good results, you need a dedicated group of compost monitors. Worm bins can generally break down an ice cream tub of food scraps a week. You need nothing more than a large plastic tub, a mix of dried leaves, newspaper and soil, and a pound or so of worms (red wigglers work best). Combine these ingredients in the tub, add enough water to make the box moist and then add your vegetable scraps from lunch. Soon the worms will be busily converting the organic matter to soil and creating a dense black matter called worm castings, that will be like a nutritive skyrocket to your vegetable crops.

Once organic matter is broken down into compost apply two to three inches thick around mature plants or mixed into the soil before planting. If conditions allow, lightly hoe into the surface layer of soil.

WHAT TO PLANT

See School Garden Planting Guideline in Appendix F. A planting guide and care table appears in Appendix H.

Deciding what to plant in your garden for the first year can be somewhat daunting. There is an increasingly large selection of seeds to choose from. It helps to view your first year's planting as an experiment. It is an interesting science project to see what grew well, what didn't, and then research why.

When choosing plants, involve the children. Look for varieties of interesting coloured vegetables, purple potatoes for example. Incorporate plants that attract birds and butterflies (Honeysuckle, Echinacea, Butterfly Bush). Keep in mind plants that will be ready to harvest at appropriate times for your program, for example: school based projects need to consider an early (June) harvest, and a late crop, ready in September.

In Appendix F is a list of some of the crops the Growing Schools project has success with, along with basic details regarding planting and growth. It is annotated with which plants were started from seeding indoors, which were directly seeded into the garden, and where nursery-raised transplants were used. To give students a variety of experiences, and to ensure a good harvest, we found it helpful to use a combination of all three methods. For more detailed information on germination, spacing and plant size of various crops, check the information on the back of seed packages.

Kid Friendly Plants:

Child friendly plants have been chosen based on three main plant criteria:

- Bright colours
- Attracts birds, butterflies or other animals
- Grows quickly or produces large foliage or fruit

Bird or Butterfly attracting:

- Seeding plants: sunflowers and millet
- Berry bushes: raspberry, blueberry, logan berry
- Plants with nectar sources: Wild Columbine, Honeysuckle, Bee Balm and Pineapple Sage

Colourful Fruit and Flowers:

- Purple peas
- Tomatoes
- Strawberries
- Edible flowers: nasturtiums, borage, calendula
- Marigolds

Fast Growing or Large Fruit:

- Brassicas: collard greens, broccoli and cauliflower
- Lettuce and other greens
- Radishes
- Beans - especially pole varieties
- Hops
- Squash family: pumpkin, zucchini and cucumber.

WHAT IS COMPANION PLANTING?

A guide for companion planting for pest management appears in Appendix I.

Companion planting is a technique where diverse flowers, herbs and vegetables are planted together in order to take advantage of their natural relationships. Companion planting can act as a natural insect repellent, attract beneficial insects or nourish other plants.

NATIVE AND DROUGHT TOLERANT PLANTS

There are many options for incorporating permanent plants into the garden as hedges or borders to protect the veggies from too much sun, bouncing basketballs and running children. We encourage you to use native plants as borders for a variety of reasons:

- They are often drought tolerant and need little or no watering
- To preserve a part of our natural history
- To provide better habitat for fauna (butterflies, birds and bees)

Below is a partial list of **hardy shrubs** that grow well in full sun or part shade:

Native Plants

Common Name	Latin Name
Saskatoon Bush	<i>Amelanchier alnifolia</i>
Red-osier Dogwood	<i>Cornus sericea</i> or <i>C. stolonifera</i>
Salal	<i>Gaultheria shallon</i>
Oceanspray	<i>Holodiscus discolor</i>
Tall Oregon Grape	<i>Mahonia aquifolium</i>
Dull Oregon Grape	<i>Mahonia nervosa</i>
Indian Plum	<i>Oemleria cerasiformis</i>
Red Flowering Currant	<i>Ribes sanguineum</i>
Nootka Rose	<i>Rosa nutkana</i>
Common Snowberry	<i>Symphoricarpos albus</i>

Cover crops

To improve the aesthetics of a school garden during the off season and build up the fertility of the soil, plant a cover crop or “green manure.” Planting a cover crop will give a nice green look to the garden over the fall and winter as well as stopping the wind and rain from eroding the soil. Cover crops also add nitrogen from the air into the soil and improves overall soil structure. Leguminous plants like red or white clover, winter oats or rye, and winter peas all make great cover crops and are available for low cost at most garden supply stores. Come spring, all you have to do is turn the crop under a few weeks before you plant your garden!

CARING FOR THE GARDEN

Keeping a regular maintenance schedule will keep a plant's immune system healthy, ensure a higher yield of produce and help prevent any problems in the garden.

To be most effective in maintaining plant health follow these methods :

Watering

- Make sure to water in the early morning to reduce evaporation.
- Try to water the soil instead of the plant. Water on the leaves will leave the plant susceptible to disease and burning.
- Watering the garden deeply once or twice a week is preferable to frequent surface watering. This will help root systems and prevent drought.
- Try to use drought tolerant and native plants to reduce overall water use.

Fertilizing

- The three main nutrients a plant needs are Nitrogen, Phosphorus and Potassium.
- Even though plants will be getting most of these nutrients from a healthy fertile soil, giving them a boost during the growing season is a good idea. Plants need different nutrients at different times in their development.
- Nitrogen is necessary for leafy growth, Phosphorous is good for flowering, fruiting and seed formation and Potassium helps cold hardiness, enhancing color and root development in plants.
- Using solid fertilizers like compost or manure, which are slow release fertilizers, release nutrients at the rate plants can use them.
- Liquid fertilizers like kelp concentrate, manure tea and plant teas can be used in order to achieve quicker results.

Weeding

- Weeds are competitors for light, nutrients and water.
- It is best to keep on top of any unwanted plants by pulling or raking them while they are small and before they crowd other plants out.
- Removing them from the garden before they go to seed will prevent the weeds from spreading.

INSECTS AND DISEASES IN THE GARDEN

See Pest Solutions in Appendix J.

Prevention is the best method for dealing with pests and diseases in the garden. Healthy plants, which are placed in the right location, with nutrient rich soil and a regular maintenance schedule are better able to cope with a plant disease or pest problem. During regular maintenance take time to walk around the garden and look closely at plant buds, leaves and stems. In this way pest and disease problems can be diagnosed early on before they have a chance to do too much damage. Insect and disease damage often look the same.

Some common indicators are:

- Leaves with holes or chewed around the edge;
- Leaves that are wilted, discoloured, speckled or curled;
- No leaves left on the plants

Prevent the spread of disease through precautionary measures:

- Have a regular maintenance schedule with proper watering, weeding and fertilization patterns;
- Choose healthy looking plants and seeds;
- Try not to handle plants when they are wet in order to prevent the transmission of diseases;
- Keep potting areas, pots and tools clean from soil by washing them with water and wiping them dry;
- Prune plants that show signs of disease or insect damage;
- Remove plants that are infested with insects or disease. With infectious diseases and viruses dispose of plant material in the garbage; not the compost
- Practice crop rotation to help prevent the build up of disease or microorganisms in the soil.
- Use companion planting as a proactive measure to ward off predatory insects.

Attracting Beneficial Insects

Pollinators and predatory insects that eat destructive insects are referred to as beneficial insects.

There are a few ways in which you can attract these natural predators to keep pests in check:

- Plant a variety of plants that produce flowers
- Create habitat and shelter with border plants, compost and mulches
- Provide a water source like a shallow bowl with rocks in it for landing pads
- Don't use pesticides or herbicides.

CONTROLLING PLANT DISEASES AND INFESTATIONS

In some cases of infestation where many plants may be lost, you must decide what kind of control to use. Organic control solutions are the environmentally sound choice. There are many organic alternatives to chemical sprays from homemade baking soda mixtures to a pyrethrum solution. In the case of a children's garden, the use of chemical biocides is a serious concern as children are more vulnerable to their ill effects. In applying organic controls be careful to use the correct method and follow the instructions carefully. In tackling a pest or disease problem, start with the mildest and safest controls first.

SAFETY TIPS FOR APPLYING ORGANIC CONTROLS:

- Pick all fruit and vegetables that are ripe before you spray
- Apply controls early in the morning on a calm day
- Wear protective clothing fully covering your skin
- Follow directions for application very carefully and be sure to only mix the amount needed
- Warn children and use caution when working in recently treated areas

YEAR ROUND GARDENING

A year round garden diagram appears in Appendix M.

What is your garden going to look like year round? Don't forget that although school ends in June and starts in September, the growing season flourishes away. It is essential to incorporate summer plans into a year round gardening plan. This is when plants started in the spring will need water if they are to provide a harvest in the fall. Things to consider in the year round plan are:

- Does the school want a garden year round or only in spring?
- What will be done with the produce? Will students take it home or will it be donated to a local soup kitchen?
- Who will be involved in maintenance over the summer?

With a little advance planning, fall and winter gardening is also possible. Fall and winter can be times of renewal, concentrating on sprouts, indoor plants and composting.

Year Round Gardening

February → April:

At some point in the early spring, the garden should be turned over. If you planted a cover crop in the late fall, the crop should be cut back and turned into the soil for green manure. Make sure the deepest part of the soil is turned to the top. Now is also the time to add compost to the soil to make it ready for the spring planting.

May → June:

Spring is the time for planting. In the reference guide there is a chart for what crops do best in early May and those that need the heat of June to get the best start.

May → September:

From the time of the first planting until the last harvest, the garden will need to be well watered, weeded, and fertilized according to the specific crop needs. (See plant care in Appendix G).

June → September:

As early as two weeks after spring planting, some spring crops will be ready for harvest. Throughout the summer and into the fall, different crops will reach their peak. Harvest and enjoy.

October→:

A final harvest where everything in the garden should be cleared except for those that can survive the winter. Strawberries, herbs and other fast spreading plants should also be cut back so they don't take over the garden. Turn the soil over, watching for any edible root crops such as potatoes and onions. Plant a cover crop such as Winter Rye and cover the garden with leaves.

Growing the Curriculum: Workshops and Ideas



“Adults can’t expect kids to grow up
to care about the environment...if
they haven’t experienced nature as
children.”

Eleanor Dwight, “A Tree Grows in Harlem.” 1992

LESSON PLANS FOR THE THREE GROWING SCHOOLS WORKSHOPS:

Pick a copy of LifeCycles' Patterns Through the Season, a year round school food garden curriculum manual. A sample letter home to parents, informing them about a gardening day, appears in the Appendix L.

Once a garden is established, there are several ways to start the actual gardening. How the students actually work in the garden is dependant on what group of students are involved and what times they are available to work on this project. Below is the LifeCycles approach to gardening in schools. In this method there are specific gardening days when all the students involved come together and do tasks in the garden. This is helpful when a large workforce is needed. Below is a outline and brief description of the basic gardening days. Following the outline is an example lesson plan of three important gardening days: Seeding Day, Planting Day and Harvesting Day.

Introduction Day: The teacher and adult volunteers talk to the students about the proposed idea and get student input on what the garden should look like and what will be planted. The plan for working in the garden will be discussed and curriculum integration begins with the teacher discussing how the garden will relate to the rest of the subjects.

Seeding Day: The students plant seeds inside the classroom as "starts" to be transplanted into the garden.

Planting Day: The students plant the transplants into the garden and directly seed other plant varieties.

Weeding and Thinning Days: Several times throughout the season the students go into the garden and search for invasive weeds and pull them out. They also thin the crops that were planted too close or too intensively.

Harvest Day: During either the summer or fall there is a harvest day that celebrates the bounty of the harvest. This is also a time of renewal and replanting of new veggies or cover crops.

Education/Garden Activity Days: These are interspersed throughout the year or growing season. They are times when the students either take part in educational activities in the garden or learn about themes related to gardening. It is best if these are concurrent with the actual gardening.

SEEDING DAY LESSON PLAN

What is Seeding Day?

This is when all of the children plant seeds that will grow up on the classroom window sills. On planting day any plants that are big and healthy enough will be transplanted into the garden.

Rationale

By growing all of their own transplants, students gain more ownership over the garden and can start their growing season early. This also demonstrates to children the growing cycle from the very beginning of the plant's life. The seed of the children's interest will sprout and flourish with the plants; and they will be more enthusiastic and knowledgeable when it comes time to start the outdoor garden.

This provides an important time for the teacher to observe the students while gardening to see which students are keen. It can also help give the teacher and volunteers experience gardening in a controlled atmosphere. When the time comes for the outdoor workshops, they will be better able to ensure the activities run smoothly.

Set Up

Prepare all of the materials and decide how many pots and plants there will be room for in the classroom. Set out a number of each variety of plant you will grow and ensure that there is enough seeds and soil. Be ready for mud, lots of water and dirty hands!

Activities

- You will probably already have introduced the idea of a garden and may have talked about what you will grow.
- Decide how many starts you will want in total and which students will plant which plants. You can always plant extra and have the students take those home with them.
- Instruct the children on how to plant the seeds (depth is roughly 4 times the length of the seed) and talk about what plants need to in order to live (light, water and soil).
- Give out the seeds one at a time to avoid kids planting too many in a pot.
- Supervise to ensure that pots are labeled correctly and seeds are well planted.
- Allow plenty of time for clean up.

Follow Up

Have the students water the seeds and decide who will be in charge of watering the plants. In order to keep the soil moist it is often easier to cover the plants with plastic until the seeds have sprouted rather than to water every day. As soon as seeds have sprouted (one -two weeks) remove the plastic and water them.

Discussion Themes

- What is organic gardening?
- Life cycle of a plant
- Garden Ecology
- Why grow your own food?
- Photosynthesis
- Where your food comes from

Suggested Plants for Indoor Starts

- Brassicas (collard greens, broccoli, cauliflower)
- Tomatoes
- Herbs
- Squash/ zucchini
- Peppers
- Melons

Materials Needed

- Potting soil, peat moss and worm castings
- 3" pots with drainage, 1-3 per student
- Seeds
- Mixing bucket , to mix: 3 parts soil, 1 part peat & a handful of worm castings
- Stakes and markers for labeling students name and plant type
- Spoons for scooping mixed soil into pots
- Watering cans or cups
- Trays to place newly planted and watered seedlings on

PLANTING DAY LESSON PLAN

What is Planting Day?

This is a time when the students plant seeds and transplants into the outdoor garden bed.

Set Up

Once the garden beds are built and filled with soil, examine the soil to make sure it is free of debris. Sometimes unsifted soil will have nails, rocks, plastic or other garbage, which should be taken out before children are running their hands through it. Decide whether or not to use organic fertilizers.

Garden Rules

Before heading out to the garden it is important to have a discussion with the students about the rules of the garden. Students need to be aware that a part of taking care of the garden is respecting each other and the materials they will be using.

- Tools aren't toys and should be kept below the waist
- Students will need to take turns working in the garden
- No feet in the garden as it compacts the soil
- Be careful of delicate plants
- Helpful bugs should be left alone

Activities

- In order to decide where to have each of the plants in the garden you could map out the garden with the kids in the classroom on a big piece of paper and then take it out to the garden as your site plan.
- To make things easier mark off the garden with strings and stakes into the different areas where each plant or group of plants will be grown. This way it will be clear to the students where to put seeds and transplants.
- Instruct children how to plant seeds and talk about what seeds need in order to grow. Show them how to plant each of the transplants and ensure that they handle them with care, ensuring their roots stay in the shade.
- Remember to give out the seeds sparingly as most children will want to plant too many.
- Supervise to make sure plots are labeled correctly and that seeds and transplants are well planted.
- Allow plenty of time for clean up.

Follow up

Have the students water the seeds and transplants, and decide on a watering and weeding schedule. The first weeks are the most crucial so take extra care that the plants get well established and have plenty of water, nutrients and sun.

Materials Needed

- Garden with soil, compost and organic fertilizers
- Small gardening gloves
- Large sheets of paper and markers to design the garden before planting
- Transplants and seeds
- Safety plan
- A hose which can reach the garden and a tap key to unlock the outdoor tap
- String, stakes and waterproof pens for labeling the planting areas
- Small trowels
- A cloudy day - so the transplant's roots don't get burnt by the sun.

Discussion Themes

- How to care for the garden
- What gardens need to be healthy
- Plant identification and uses

HARVEST DAY LESSON PLAN

What is Harvest Day?

This is the time when you harvest a good part of the garden's produce and either plant new crops or a fall cover crop. This can be done at the end of the school year when you harvest the greens, herbs and vegetables that had time to grow before the end of June. It could also be in the fall, when you harvest all of the fruit of the summer. It is traditionally a time of celebration and a good time to incorporate a garden party.

Set Up

Walk through the garden and decide which plants should be harvested and what will be planted in their place. The survey can be done with students a few days before the actual harvest day. Obtain new seeds for the next planting if needed. Ensure that you have decided what will be done with the produce and have a good idea of how to split it up.

Activities

- This is an excellent time for celebration and reflection. In the garden talk to the students about their experience of gardening, what was learned and most importantly what was grown!
- You could plan a harvest celebration or just talk about what harvest has traditionally symbolized.
- Confirm what will be harvested and what will take its place.
- Have the children collect all the ripe fruit and veggies and divide them up according to your plan. If you are planting a new crop or a cover crop for fall and winter remind the students of how to plant seeds.
- After you clear the garden of edibles, you may want to amend the soil before you plant it.
- As always, allow plenty of time for clean up.

Follow Up:

If you planted more plant seeds, then take care to water, weed and thin them! If you planted a cover crop then it shouldn't need too much water once it is established. If some of the garden's harvest was donated to a charity then there could be some follow up on where the produce went and how it was used.

Materials Needed

- Trowels
- Two big containers, one for compost and one for edible harvest
- Compost
- Leaves
- Cover crop seeds such as rye
- Hose

Discussion Themes

- How to use or preserve the harvested food
- What happens to the garden in the fall and winter
- Preparation for spring planting
- Nutrition

OTHER WORKSHOPS AND EDUCATIONAL ACTIVITIES

Educational Activities

An enormous aid to making a successful school gardening program is involving the class curriculum into the garden. Gardens can be used as outdoor classrooms where children learn directly from contact with nature. Possibly the best way to encourage children to learn from nature is through activities that directly connect learning to natural processes occurring in the garden.

These activities can take the form of science experiments such as children growing seeds in different mediums to discover which best aids growth. Or the garden can be a place for personal growth and learning to work together for a common goal.

A garden can be a powerful tool to tie together many different subjects and provide a concrete example of the link between them. A school garden can be used as a basis for art as well as science, teamwork and dedication.

Other Workshop Ideas:

- A garden journal
- Worms and composting
- How plants grow in diverse conditions
- Graphing and charting the plant growth
- Where our food comes from - the importance of buying local

Roots and Resources



"Students awaken their senses,
eat well and gain a better sense of
personal and social responsibility
as well as stewardship of the land"

-Karen Olson, "The Edible Schoolyard," Utne Reader, 2000

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City Farmer, and British Columbia Nutrition Division. School Garden Guidelines:How to Teach Children about nutrition and The Environment. Vancouver, B.C. : B.C. Ministry of Health, 1988.

Cohen, Joy. Grow Lab: Activities for Growing Minds. Burlington, Vermont: National Gardening Association, 1990.

CRD. Here's the Dirt! A Guide to Organic Gardening. Victoria: CRD, 1998

Harmony Foundation of Canada. Guide to Organic Gardening. Victoria: Harmony Foundation, 1998.

Jaffe, Cadoux and Appel. The Growing Classroom: A Garden Based Science and Nutrition Curriculum for 2nd through 6th Grades. 3 Vols. Capitola: Life Lab Science Program, 1982.

Ocone, Lynn and Eve Pranis. Guide to Kids Gardening: A Complete Guide for Teachers, Parents and Youth Leaders. New York: John Wiley and Sons, Inc. 1990.

"The Promise of Gardening." Green Teacher Magazine May 1994:

Reilly, Ann. Gardening Naturally. Toronto: Stoddart Publishing Co, 1995

San Francisco's League of Urban Gardener's (SLUG): Breaking Ground: A Guide to School and Youth Gardening Programs By Debbie Eglit Tidd.

Tilgner, Linda. Let's Grow! 72 Gardening Adventures with Children. Pownal: Garden Way Publishing, 1998.

CONTACTS & ORGANIZATIONS

Aggie Horticulture Just For Kids

<http://aggie-horticulture.tamu.edu/kindergarden/index.html>

This kindergarten link on the Texas A&M University website includes sections about children's gardens, a fun page for kids, research on children's gardens and special tips for gardening with kids. The children's garden link offers a wealth of comprehensive knowledge.

Agriculture in The Classroom

<http://www.agf.gov.bc.ca/educate/classrm.htm>

This is a national program that assists teachers in bringing agriculture to students. B.C. Agriculture in the Classroom is a non-profit foundation providing resources, workshops, farm tours and a summer learning institute for educators (an opportunity for teachers to experience strategies based on the IRP's focused on agriculture, environment, economic and nutritional concepts).

Canadian Organic Certification Co-op

<http://www.cocert.ca>

The COCC provides certification services for organic crops and livestock in accordance with product certification guidelines based on ISO/IEC Guide 65. Producers, processors and handlers are inspected and certified mainly to the United States NOP and/or Canadian national organic standards.

Canadian Organic Growers

<http://www.cog.ca>

This is the national information network servicing organic growers, gardeners, and consumers. The organization supports various projects including organic conferences, in conjunction with other organizations for change, and a quarterly magazine with the latest organic news. They also have a free mail service library where you can borrow organic texts, periodicals and the latest publications.

Capital Regional District

<http://crd.bc.ca>

CityThis is the Victoria Capital Regional districts homepage that provides links to organisations, municipalities, and community relations.

City Farmer

<http://www.cityfarmer.org>

City Farmer is known as Canada's office of urban agriculture. It has been operating for 22 years as a non-profit organization. As well as programs they maintain a website called "Urban Agriculture Notes." This includes information on schoolyard gardening and indoor worm composting.

Evergreen Foundation

<http://www.evergreen.ca>

The Evergreen Foundation runs an extensive "Learning Grounds" program, which is working to transform schoolyards into "more livable, balanced, environments" through the planting of native plants and establishing food gardens.

Farm Folk / City Folk

<http://www.ffcf.bc.ca>

This organization is a source of current information and is involved in issues concerning food security in British Columbia. They have experience in implementing projects designed for specific groups such as women and immigrants.

Food Share Toronto

<http://www.foodshare.net/>

This is a well established food security organization that "works with communities to improve access to affordable, nutritious food." Programs include, promoting community gardening, schoolyard gardening and maintaining a brown box program called, "The Good Food Box." This organization has lots of information on school gardens and has helped establish numerous school gardens within the Toronto area.

CONTACTS & ORGANIZATIONS

LifeCycles Project Society

www.lifecyclesproject.ca

LifeCycles is a non-profit organisation dedicated to cultivating awareness and initiating action around food, health and urban sustainability in the global community. We have been working for the past 10 years in five core areas: Garden&Farm Creation, Education and Learning Resource Production, Green Mirco-Enterprise Creation, Food Security Network Development and Food Redistribution.

Life Lab Science Program

<http://lifelab.org/index.html>

This American organization's mission is to help teachers "learn how to transform your school site into a thriving indoor and outdoor living environment." The main site provides links to the garden classroom, professional development for educators, resource conservation, school gardens, and resources.

LifeSpin

<http://www.execulink.com/~life/>

LifeSpin has created a school garden program in London Ontario called "Pocket Sized Farms" (found under "our programs" and "food security"). They offer help with planning and organization, providing books for teachers, parents and children, and networking with other school gardens. A package to assist in developing "Pocket Sized Farms" is available.

The National Gardening Association

<http://www.kidsgardening.com>

This is a very expansive website from the United States which offers many informative sections for teachers, parents and children. Their mission includes: cultivating kids interest in living things, actively exploring life science concepts, and enriching environmental awareness and responsibility.

National Wildlife Federation

<http://www.nwf.org>

This organization started a Backyard Wildlife Habitat program in 1983 and in 1995 implemented the Schoolyard Habitats Program. This project was developed to assist schools, teachers, students, and community members in the use of the school grounds as a learning site for wildlife conservation and cross-cultural learning.

North American Association for Environmental Education

<http://www.naaee.org>

This organization promotes environmental education and supports environmental educators.

Seattle Tilth Association

<http://www.seattletilth.org>

This Seattle based organization focuses on organic gardening, urban ecology, composting, and recycling. The gardens at the Good Shepard Center in Seattle's Wallingford district are used as a model of urban organic gardening.

UBC Faculty of Agriculture

<http://www.agsci.ubc.ca>

This is primarily a website detailing programs for future students but it outlines the present educational routes in community and environment, nutrition, food and health, and global resources. The faculty has links to research work, and community sustainability.

University of Illinois Extension

<http://www.extension.uiuc.edu/>

The extension program of the university has a resource area, which includes 4-H youth development, Agriculture and Natural Resources, Horticulture and Home Garden, Nutrition, Family and Consumer Science and Urban Programs Resource Network.

CONTACTS & ORGANIZATIONS

University of Victoria

<http://www.uvic.ca>

University library catalogue can be accessed on line and among its many diverse resources offers part of the City Farmer curriculum in its curriculum lab. There is also a Center for Sustainable Development (250-721-7339), which has a variety of information on sustainable practices.

Greater Victoria Compost Education Center

www.compost.bc.ca

All of the information you will ever need on composting, including composting activities, games, plans for constructing composters, and advice on container types from a local organization.

Volunteer Victoria

<http://www.volunteervictoria.bc.ca/>

(250) 386-2269

Volunteer Victoria links up local non-profit organizations with volunteers, and provides a lending library for members with information on running non-profit groups. They also provide extensive materials on finding funding.

Urban Agriculture Notes. City Farmer, Canada's Office of Urban Agriculture.

<http://www.cityfarmer.org/schgard15.html>
(June 2004)

City Farmer has assisted in creating a model schoolyard food garden at Lord Roberts Elementary School in Vancouver in 1986 and from that experience they have published a 16 page booklet titled School Garden Guideline-How to teach children about Nutrition and the Environment

CURRICULUM RESOURCES

Agriculture in The Classroom. *Ministry of Agriculture, Food and Fisheries.*

<http://www.aitc.ca/bc/index.html> (2004)

The resources section provides a list of books and ordering information. Some of the topics include Put Your Money Where Your Mouth Is (Gr. 11 Social Studies); Soil Secrets (grades 4-8), and Beans and Their Buddies (grades K-3).

Curricula. *Life Lab Science Program.*

<http://Lifelab.org/> (2002)

Through experiential learning the curriculum intends to use science to teach about the natural world. Ordering information is located under, <http://www.letsgetgrowing.com/lifelab.html>

Excellence in Environmental Education: Guidelines for Learning (K-12) Executive Summary and Self-Assessment Tool. North American Association for Environmental Education.

<http://www.naaee.org/publications/index.php>

The Association offers its publications on-line (ordering info is available). They provide an extensive list of resources for K-12 teachers concerning environmental education topics.

GreenTeacher-Education for Planet Earth.

www.greenteacher.com

Provides information on the GreenTeacher magazine by and for teachers to enhance environmental and global education across the curriculum at all grade levels.

Growing With Plants.

Washington State University, WSU Cooperative Extension in Pierce County.

www.pierce.wsu.edu/Nutrition/GWP/

Growing With Plants is a nine-lesson series that reflects the 4-H experiential learning model: explore, reflect and apply (can be adopted to classroom teaching styles, scenarios). The nine lessons include topics that aim to teach about garden pests and friends, composting and soil, vitamins and minerals, fiber and carbohydrates and starting a garden.

Just For Kids. *University of Illinois Extension*

<http://www.urbanext.uiuc.edu/kids> (2002)

This website includes ***The Great Plant Escape*** and ***The Adventures of Herman the Worm***. These curriculums developed around characters involved in gardening offer unique, interdisciplinary lessons on plant life and composting.

LifeCycles Project Society

www.lifecyclesproject.ca

This website offers a Food Security Curriculum for BC K-12. ***Patterns Through the Seasons***, K-7, School Food Garden Curriculum, ***Where in the World Does Food Come From***, BC4-7, Global Food Security Curriculum, and ***Semilla A Mesa-From Seed to Table***, BC Secondary Global Food Security Curriculum.

Teachers Resource Room. *The national Gardening Association.*

<http://kidsgardening.com/teachers.asp> (Dec. 2000)

A search within the site can lead to classroom stories, activities, all about plants and FAQ's with listings of quality curricula and other materials which support investigative learning in gardens and other outdoor environments.

CURRICULUM RESOURCES

Kindergarden. *Aggie Horticulture Just For Kids*

<http://aggie-horticulture.tamu.edu/> (2004)

This site is a great resource and provides a step-by-step guide to building a school garden with considerations such as site preparation and garden design. Also included is an Ideas and Curricula link that is great for generating creativity through themes and garden activities.

Resources. *Evergreen Foundation.*

<http://www.evergreen.ca/en/resources/resources.html>
(2004)

This section of the Evergreen Foundation site includes links to ***The Tool Shed, Library and Events***, where books, videos, how to guides and stewardship manuals can be found to aid teachers in transforming school grounds.

Science:Agriculture. *The Educator's*

Reference Desk.

<http://eduref.org>

AskProvides high-quality resources and services to the educational community. Provides many lessons that teachers may utilize.

Seeds of Change Garden.

The Smithsonian Institutions National

Partners Initiative Presents

<http://www.mnh.si.edu/garden>

This educational site is focused on the cultural exchange that occurs between children through growing, cooking and eating food. Although some of the ideas and activities have American roots they can easily be adapted for Canadian teaching environments.

Sustainable Agriculture Curricula.

http://attra.ncat.org/attra_pub/PDF/K12.pdf

A Publication lists curriculum resources that are designed for teaching children about sustainable agriculture.

Teachers Resource Room. The National Gardening Association.

<http://kidsgardening.com/teachers.asp>

A search within the site can lead to classroom stories, activities, all about plants and FQA's with listings of quality curricula and other materials which support investigative learning in gardens and other outdoor environments.

FUNDING AGENCIES AND GRANT OPPORTUNITIES

The Bullitt Foundation

(206) 343-0807

<http://www.bullitt.org/>

Canadian applicants must have Canadian certificate of incorporation and charity registration documents. The Bullitt Foundation is committed to the protection and restoration of environment in the Pacific Northwest.

Community Partnership and Community Donations Programs

VanCity

www.vancity.com

(604) 877-8224

For projects in the Lower Mainland and Fraser River Valley the "Community Partnership Program" funds between \$500 - \$5000. There are application deadlines and the proposals must meet a certain set of criteria. Applications can be dropped off at Victoria Branches also.

EcoAction Environment Canada, Pacific and Yukon Region

(604) 664-9093

1-800-667-7779

<http://www.ec.gc.ca/ecoaction>

The maximum contribution by Environment Canada is \$100 000 but the average contribution is \$25 000, and each dollar must be matched by a non-government source. The funding is only available to non-profit organizations and the projects maximum allowable time cannot exceed two years. Given to hands-on on projects. Deadline November 1 each year.

EnviroFund

VanCity

www.vancity.com/community/community_programs/grants/envirofundgrants

(604) 877-7620

For larger projects funding is available up to \$15,000-\$40,000 from the Van City Enviro Fund.

Evergreen Foundation

(604) 689-0766

infoBC@evergreen.ca

sgn-bc@evergreen.ca

Apply for \$500-\$3,500 Learning Grounds funding for schools and \$500-\$2,000 for daycares. The grant is available to purchase trees and plant material indigenous to your region. This National Program has deadlines for application procedures.

Friends of the Environment Foundation

Canada Trust

Contact Local Canada Trust Branch

www.td.com/feoverview.jsp

To be considered for funding the project must meet at least one requirement of a list of criteria established by Friends of the Environment. Local chapters support local initiatives and more information can be acquired at the local branch. Can apply for funding online.

Habitat 2020

Canadian Wildlife Federation

1-613-599-9594

www.wildaboutgardening.org

Funding up to \$5000 per school is available for the purchase of supplies needed for Habitat 2020 projects. All projects funded must be related to wildlife habitat improvements.

Laidlaw Foundation

(416) 964-3614

<http://www.laidlawfdn.org>

The foundation's goals are to strengthen the environment for children, youth and families. Environment grants for food safety projects are available, in 2003 they awarded \$617,395 to environmental projects.

FUNDING AGENCIES AND GRANT OPPORTUNITIES

Real Estate Foundation of British Columbia

(604) 688-6800

www.landcentre.ca/foundation/

This funding source is interested in projects physically improving neighbourhoods and communities. There are certain criteria that the project must fulfil.

Tree Canada

1.877.666-1444

<http://treecanada.ca/en/programs/greening-canadas-school-grounds/>

Tree Canada provide to the selected schools: educational information, technical advice and financial support up to \$3,000 towards the transformation of their school grounds into environmentally enriched learning landscapes.

The Vancouver Foundation

(604) 688-2204

www.vancouverfoundation.bc.ca

The foundation funds activities that provide a direct service to the community. Applicants must be a registered society or have a taxable charity number (community schools).

The Victoria Foundation

(250) 381-5532

www.victoriafoundation.bc.ca

This foundation has a requirement for having charitable status or is a project in conjunction with a charitable organization also. The grants are issued in two cycles of the spring and fall.

***A NOTE ABOUT FUNDING AGENCIES**

* Be aware that most funding agencies have application deadlines and the funding possibilities are subject to annual changes. Remember also that although some funders require the applicant to be a non-profit society or charitable organization school gardens that are partnered with these organizations may apply for some of the grants by those means.

*Other possible leads on finding funding are B.C. Teachers Federation, Local City/Capital Regional Office, School Board Trustees and other organizations related to Nutrition/Health, Wildlife and Habitat and Community and School Gardening.

MEDIA CONTACTS

The Institute for Media, Policy and Civil Society (IMPACS)

Suite 910, 207 West Hastings Street
Vancouver, British Columbia, V6B 1H6
Tel: 1-604-682-1953

Fax: 1-604-682-4353

www.impacs.bc.ca

The Institute for Media, Policy and Civil Society is a non-profit organization based in Vancouver committed to the expansion and protection of democracy and the strengthening of civil society. They offer communications training and media education (such as writing press releases) to Canadian non-profit organizations.

***Try contacting your local radio or TV stations to get coverage in your area.**

Appendices



APPENDIX A: SAMPLE LETTER TO MAINTENANCE

A sample letter to maintenance:

Dear

Here is an update on our school (centre) garden project. As you know, the steering committee for (name of school/centre) garden met on (date of meeting) Thank you for taking the time to be there. (if not, include a copy of the minutes) For your records, other members of the committee are (names and responsibilities here). We have identified several possible garden sites, including one which is flat, has low foot traffic and is easily accessible, and would like to discuss this with you. Please get back to me at your earliest convenience.

Time frame:

Deadlines for this project are subject to the growing season. The present plan is to work with the children initially to plant seedlings in the classroom, but the raised beds should be ready for planting by the first or second week in May.

Maintenance Staff Involvement:

We understand that, due to union regulations, in the past district maintenance have been responsible for the construction of raised bed boxes on school grounds. We envision fairly small scale work, two or three raised beds, probable 3 x 8 feet. The labour involved in creating the beds would be:

- Building and installing the raised bed frames
- Filling them with soil.

For the continued success of the garden, a sense of ownership must be fostered among the students who will maintain the garden. The more exposure the children have to the entire process, the better. If students could play a part in the raised bed construction (watching? Helping?) It would instill a much fuller sense of ownership. I hope you can tell me how feasible the idea of student involvement during this process is.

Materials:

Our project has yet to determine a materials budget, therefore we would like to know what materials maintenance could provide, and their cost.

Site planning and design:

After establishing sites which are favorable to growing, and garden activities we would like a method to approve the site and ensure that it does not conflict with present maintenance activities (we were thinking in terms of moving and equipment access, but there are probably other concerns as well.) (For district:) would it be necessary for someone on your staff to look at our proposed site? How would we go about arranging this?

I hope this provides a good synopsis of how the project is going, and what our present concerns are. If you have any questions or advice, please give me a call, fax or e-mail. I appreciate your continued support and interest in the garden project.

Sincerely,

APPENDIX B: VICTORIA SCHOOL DISTRICT SCHOOL GARDEN APPLICATION

Facilities Department Guideline

Tree Planting, Landscaping, Equipment Placement

The Greater Victoria School District recognizes the value of providing school grounds that :

- support learning activities,
- support creative play,
- allow for physical activity and team sports,
- provide shade areas,
- provide opportunities for students and the community to interact with nature and to develop a responsible environmental ethic,
- are aesthetically pleasing.

The Greater Victoria School District supports in principle the enhancement of school sites and encourages student body involvement in tree planting and other landscaping projects on school grounds. All projects undertaken must recognize present and future fiscal frameworks.

The Greater Victoria School District encourages and values community support. Improvements will be undertaken as co-operative ventures between the Facilities Department and the school community.

The involvement of school Parent Advisory Councils or other community volunteers shall be in accordance with Board Policies and Regulations, departmental guidelines, and employee collective agreements.

The Facilities Department of the Greater Victoria School Board is responsible for the maintenance, repair and upgrading of all school district properties. Any changes, additions, plantings or proposed modification to any district site must receive the approval of the Facilities Department in accordance with this guideline.

Summary of Procedures

Prior to the outset of a project, the school principal must ensure that the proponents of the project are familiar with this Guideline, and the future commitments that the project may place upon the school or District.

1. Pre-planning Process

The proponents of every project shall complete Appendix A "**Initial Proposal**" and discuss their proposal with the school principal. The principal will ensure all school based stakeholders are aware of the project and invite a Facilities representative to meet on site to discuss the proposal. A rough estimate of costs will be provided by Facilities. Small projects may be deemed "minor" after consultation with the school Principal and Facilities. These projects will be addressed through the normal maintenance requisition system. All other projects require completion of all stages of this guideline.

2. Planning and Consultation Process

Project proponents shall provide specific details of the proposal to school administration with a site plan, including the nature of the project, and the specific details about the alterations, additions, and work required to achieve the desired outcome. Refer to Appendix B "**Planning Guide**" for planning considerations. All school and community stakeholders must be aware of the proposal and have been consulted. Completion of Appendix C "**Participation**" is also required to outline the proposed involvement of all persons and groups in the actual construction. Consultation requirements are outlined in Appendix D "**Consultation**".

3. Approval Process

The Facilities Department and school-based administration will consider the proposal in detail. If approved, Facilities staff will provide a final cost for the proposal on Appendix 'E' with actual project costs, future maintenance costs, and any necessary modifications to the plan required by Facilities.

4. Installation

The installation of all equipment, plants, shrubs, trees and/or any modification of the school site is the responsibility of the Facilities Department. CUPE staff shall perform the installation or supervision of the installation unless otherwise agreed upon with the Labour Management Committee. After time lines and funding sources have been mutually agreed upon with the Maintenance Department and the school principal, the project may proceed.

5. Maintenance

The maintenance of school grounds is the responsibility of the Facilities Department. A trust fund outlining funding sources to cover future maintenance costs of greening projects may be required by the Facilities Department. These costs will be detailed on Appendix E "**Project Costs**".

The maintenance of specific areas may be designated to the school community after agreement with the Labour Management committee. If the level of maintenance of community designated areas becomes unacceptable, Facilities staff will perform the maintenance and the school community will be responsible for the costs. The watering of newly planted trees, shrubs or plants shall be the responsibility of the school community, and shall remain so until the plants are established or as agreed with Labour Management.

6. Equipment, Trees, and Plants

Appendix F "**Equipment, Trees, and Plants**" outlines the requirements for equipment, trees, and plants.

Appendix 'A' Initial Proposal

Describe the proposal:

Describe equipment, plantings, trees, and materials required:

Outline the purpose and possible benefits for students, staff, and community at large:

School Administration comments:

Facilities comments:

Rough Estimate _____

PROCEED ? Yes No

MINOR ? Yes No

CANCEL ? Yes No

Reason for cancellation:

Principal _____

Date _____

Facilities _____

Date _____

Appendix 'B' Planning Guide

The planning process is the most important part of the project and is critical to the success of the project. The following points must be considered when planning a project.

- 1) Student input during the planning process and participation in the project where possible is essential.
- 2) Natural surface water routes or seasonal water routes shall not be obstructed.
- 3) Consider existing drainage of the proposed location during all seasons.
- 4) Tree roots must be well clear of footing and field drains.
- 5) Ideally, a minimum of six (6) meters should separate a sports field from adventure playgrounds, trees, planters, or other landscape areas.
- 6) The need for a water source for initial establishment of plants is essential. If an additional water source required, Facilities staff will do the installation and the cost will be the responsibility of the school community.
- 7) Fire and maintenance vehicle access to playfields, adventure playgrounds, and the school perimeter must not be impeded.
- 8) The proposal must not create or aggravate security problems.
- 9) Estimates for purchase of trees should be based on healthy specimens of sizes outlined later in this guideline.
- 10) Final site plans for new trees must show the full canopy outline of a mature specimen.
- 11) All costs associated with the purchase and installation of equipment, trees, and plants shall be the responsibility of the school community.
- 12) Future maintenance costs may be required.
- 13) Timelines for installation are dependent upon the workload and priorities of the Maintenance Department or time of year.
- 14) The planting of memorial trees or gardens is discouraged, as there is an expectation that they will be maintained in their original location in perpetuity. This can restrict future site development.

Proposals shall include a site plan, drawn to scale, showing the following:

- The exact location of the proposed project.
- Roads and adjacent residential or commercial properties.
- Asphalt or other sidewalks, pathways, driveways.
- Site access including access to playfields.
- Grass and/or playfield areas.
- Existing trees, shrubs, flower gardens, waterway, flood plain, ponds, adventure playgrounds or other existing distinct areas on the site.
- Existing footing and field drains and catch basins.
- Sewer, water supply, gas, underground hydro or other buried services.
- Underground irrigation, if present, and location of exterior water supply from school building.
- For new proposed tree plantings, the canopy of the mature species.
- All common and botanical names of all proposed trees, shrubs and plants.

NOTE: Existing site plans and information may be obtained from Facilities if readily available. Final approval for projects, including choice of equipment, plants and layout on the site shall be the responsibility of the Facilities Department.

Appendix 'C' Participation

The purpose of this appendix is to advise the school principal and the Facilities Department of the proposed participation and roles of all persons whom the project proponents would like to have participate during the actual installation of the project.

Describe the proposed involvement of persons within the following groups, outline their roles, and give reasons for their inclusion.

STUDENTS

TEACHING STAFF

OTHER STAFF

PARENT ADVISORY COUNCIL

COMMUNITY MEMBERS

FACILITIES STAFF

Present proposal to Labour Management? YES NO

By Whom ? _____
(Facilities will advise if this is required)

Appendix 'D' Consultation

Consultation may take many forms including but not limited to: group meetings, surveys, discussions with individuals, or formal correspondence with various agencies. To ensure the legitimacy of the consultation process, it is required that complete records of meetings and communications are kept. Keep records of date, time, attendance, voting, and conclusions. Record a summary of the consultation process on Form "D2".

Stakeholders for any proposal may vary depending on the nature and location of the project.

Each consultation process will include a presentation of the proposal, perception of benefits, and estimate of cost provided on Appendix 'A'. A formal response process providing an opportunity for written and oral support or concerns must be in place. For individuals or groups who wish to submit a written response, 'Form D 1' is provided for this purpose.

A. Stakeholders requiring formal presentation:

- Students
- School based administration
- All site teaching staff
- CUPE site staff (both Locals)
- Parents Advisory Council
- Facilities Department

B. Stakeholders who MAY also require consultation

- Immediate neighbours
- Police department
- Fire department
- Traffic commission
- Utility companies
- Municipality
- Others

Appendix 'E' Project Costs

(To be completed by Facilities)

1. Materials supplied by school or community

2. Materials supplied by Facilities

3. Labour supplied by Facilities

4. Contract Services by Others

Total anticipated cost of project (excluding maintenance)

The Facilities Department will assess the need for additional funding for ongoing maintenance. Where it is deemed necessary, and prior to the project proceeding, the school must agree to set up a trust fund to allow for future maintenance costs.

Should trees, plants or equipment installed under this guideline be vandalized beyond repair, the school shall decide if replacement will proceed. Replacement costs will be the responsibility of the school community.

Describe maintenance requirements:

Estimated annual cost of future maintenance

Appendix 'F' Equipment, Trees, and Plants

Adventure Playgrounds

The purchase and installation of adventure playground equipment is NOT covered by this guideline. Please refer to Facilities "Guideline For Playground and Site Equipment Acquisitions"

Other Equipment

Other equipment such as but not limited to basketball standards, soccer goals, bicycle racks, garbage containers, tables, and benches must be funded by the school community and supplied through the Maintenance Department. Written approval must be obtained from the Maintenance Department prior to purchasing from another source.

Plants and Trees

Preferably, plants should be nursery propagated and not collected from the wild. If plants are collected from the wild, written permission from the landowner must accompany the proposal. Plants and trees should be healthy and free of damage, disease or insects. Earth balls on trees must be intact and securely contained. Cracked or broken root balls will not be accepted.

Minimum sizes of freestanding trees are:

Coniferous trees	2m height and 40mm caliper
Deciduous trees	3.75m height and 65mm caliper
Ornamental trees	2.75 m height and 40 mm caliper

Minimum sizes for shrubs are:

Evergreen shrubs	min. 5 gal. Container grown
Deciduous shrubs	min. 2 gal. Container grown

Form 'D1' Consultation Feedback

Name _____ Position _____

How were you informed of the project?

Now that you are aware of the proposal and some of the details, are you in favour of the plan being implemented?

Other Comments

Date _____

Please submit this form to your school principal

FORM 'D2' Consultation Summary

Please provide a summary of the consultative process including dates, times attendees, votes, conclusions and any other pertinent information.

School _____

Project _____

Administrator _____

Summary:

APPENDIX C: AGENDA OF THE FIRST STEERING COMMITTEE MEETING

This is a template into which you can fit your particular needs. Naturally, you can adapt the format to best suit your group.

Preparation:

In the meeting space have chairs set up, and name tags and refreshments laid out. Snacks are good ice-breakers, and always help to get things going!

Other things to have on hand:

- Markers
- A flip chart (or chalk and a chalk board)
- A pad of paper to pass around for peoples names, phone numbers, e-mail addresses etc.
- Any documentation of the project up to now.

Choose someone who has strong knowledge of the project so far, and good organizational skills to facilitate the meeting. This will most likely be you.

1. **Welcome**
2. **Agenda overview**
3. **Introductions** - invite attendees to give their name and briefly state what their interest in the meeting is.
4. **History:** Outline the work that has been done so far and explain your basic vision. Start with the goals and objectives - discuss with them with the group. Ask everyone to come up with their own reasons for having a garden program. Divide into small groups if there are enough people. Some questions you could ask might be: What need is the garden fulfilling and How will the students be involved? Document responses on a flip chart. Try to isolate any common or reoccurring themes. You can then begin discussion on specifics of goals and objectives. Start with goals, and objectives may naturally spring from these. Be sure to make sure everyone's input is heard and valued.
5. **Be smart!**
Goals:
B - Broad
E - Encompassing
Objectives:
S - Specific
M - Measurable
A - Attainable
R - Results oriented
T - Time specific
6. **Dividing tasks** - Present an overview of the areas that need attention, and what work will be involved. Encourage people to take on some responsibility for things that they have past experience with, or where their interest lies. Who will be the contact person for maintenance staff, how much support there is from the maintenance staff, what possibilities there are for summer maintenance, and possible sources of funding are some important items that will need addressing.
7. **What next** - clarify what each team or person will do for the next meeting. Set a date for next meeting
8. **Closing** - Thank everyone for coming, and let them know how excited you are about the project.

APPENDIX D: FUNDING PROPOSAL LETTER*

The letter to a funding agency, should be written by the administrator, outlining the school community's support for the project.

Director,
(Funding Agencies name)

Dear Madam/Sir,

As the principal of Sample School, I fully endorse the school's garden project. The project has the full support of the teaching staff and of the Parent Advisory Committee executive. The ground maintenance department has agreed to a landscaping change in the area in the area of the proposed Outdoor Classroom.

The school community process of designing, building and caring for the project will have a positive social and environmental impact on our school climate.

I intend to remain informed of all aspects of the project. I can assure you that your funding, should it be forthcoming, will be well spent. The project committee will keep you informed of our progress and provide you with before and after photographs of the project. Sponsors will be named in all media communication about the project.

I look forward to hearing from you soon.

Yours truly,

Principal

Ph: Fax:

***Adapted from "Greening your School Ground: A Working Manual" by Linda George.**

APPENDIX E: BUDGET PLANNING TABLE

** NOTE: This General Example Garden Budget represents 3 8' x 3' raised box beds.*

General Example Garden Budget					
Item	Description	Budget for purchase	Provider	In-Kind Donation	Total
Soil Delivery	3 yards for raised beds \$20 without delivery or \$40 with delivery/yard	\$0	School District Maintenance or Community Business	\$120 from School District Maintenance	\$120
Compost	20 pounds	\$0	Community Business or Urban Farm	\$25 Community Business	\$25
*Organic Fertilizer	2 pound bag	\$0	local nursery	\$40 donation from nursery	\$40
Nails		\$0	School District Maintenance	\$4 School District maintenance	\$4
15 Varieties of Seeds	Valuing at approx. \$200	\$20	Community Businesses	\$10 donated from last years' seed companies and gardeners	\$30
Transplant Pots	2" pots @ \$0.19/each		Local nurseries and parents who are gardeners	\$15 from local gardener	\$15
60 Nursery Raised Transplants	Valued at approx. \$2.50	\$40	Local nurseries and community business sponsor	\$20 from a community sponsor	\$60
Seeding Flats	\$5/flat	\$0	Local nurseries and parents who are gardeners	\$15 from gardeners	\$15
Construction and wood for raised beds	\$300/3 raised box beds	\$100	School District maintenance	\$200 in-kind labour	\$300
Tools	25 Trowels	\$25	Local nursery	\$50 donation from nursery	\$75
	Wheelbarrow	\$0	Borrow from janitorial staff donation	Valued @ \$50 borrowed from janitorial staff	\$50
	Hose	\$0	Borrow from janitorial staff	Valued @ \$30 borrowed from janitorial staff	\$30
	3 large shovels	\$0	Local nursery or donation from community gardener	3 shovels valued at \$45 donated from community gardener	\$45
	5 watering cans	\$20	Local nursery		\$20
Signs	9" x 11" steel	\$0	School District maintenance	\$75 fundraised by garden salad greens sale	\$75
Total		\$205		\$699	\$904

APPENDIX F: SCHOOL GARDEN PLANTING GUIDELINES

This document has been created in order to develop the Growing Schools school food gardens to be increasingly child-friendly. Hence, guideline number one is as follows:

If it ain't fun (or funny looking), don't plant it!

These guidelines were created with the input and expertise of Sean Welby, Geoff Johnson, and the two gardening bibles: The Maritime NothWest Garden Guide by Seattle Tilth, and the West Coast Seeds Gardening Guide.

Main considerations in planning a child-friendly food garden:

- Fun and interesting foods
- Will the children actually be able to eat the food in the garden?
- Highly productive plants
- As much color and variety as possible
- Things they won't see in Safeway
- Food they don't have to cook to eat
- Things that grow really, really big!
- Anything that involves an adventure (e.g., digging for potatoes)
- The recognition that children will be more open to talk about food security (such as in global ed), when they have had some hands-on, fun and rewarding experience in the garden.
- Does the garden stimulate all the sense: smell, touch, taste, feel?

APPENDIX F: PLANT CHART GUIDE

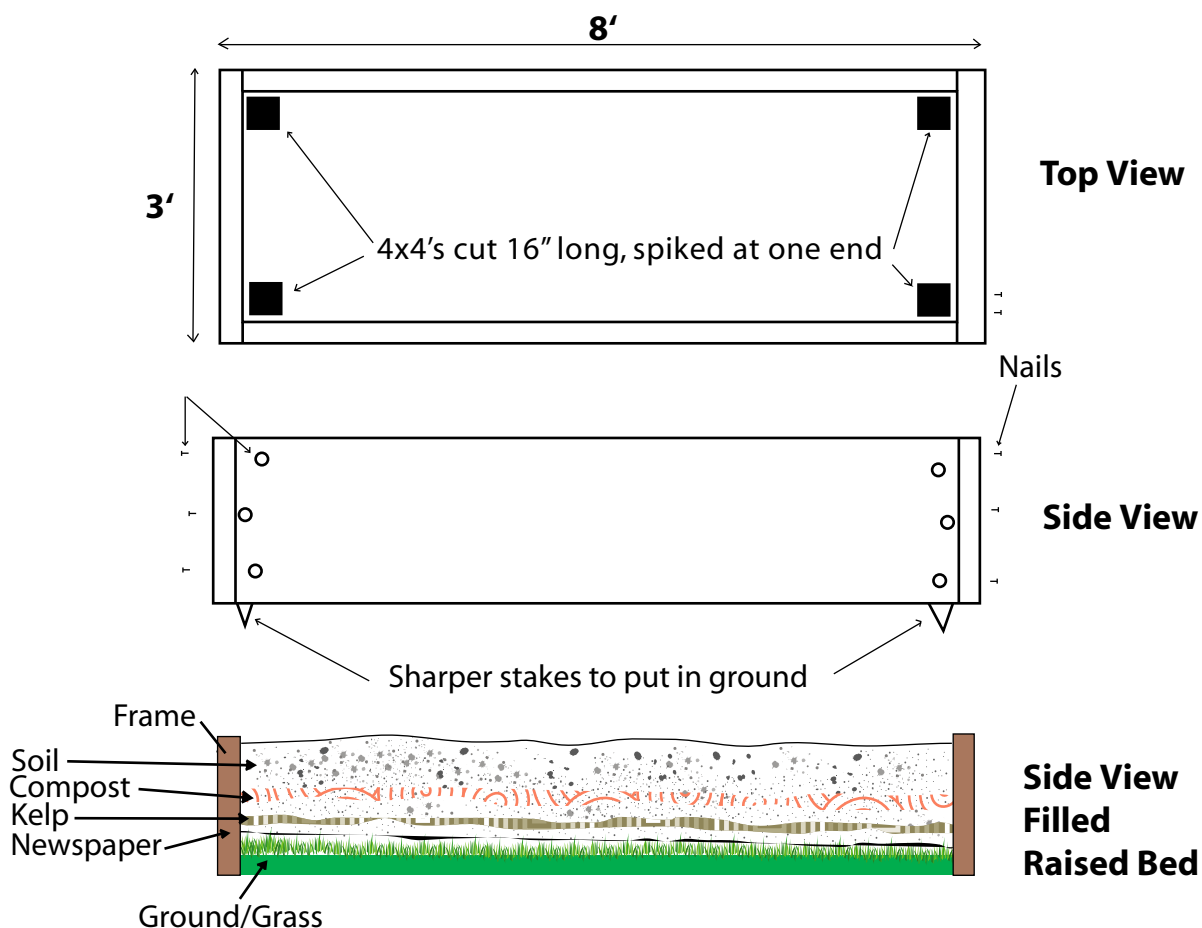
		Summer	Winter	
Family Name	Variety		Special Notes	
Night shades				
	Blue Russian potato	√		
	Purple potato	√		
	Peruvian blue	√		
	Tomatillos	√		Can get purple ones. Not susceptible to blight
	Cherry tomatoes (sweetie)	√		Very sweet and highly productive (early season tomatoes are recommended by Geoff)
Squash				
	Tomboncino	√		Vining squash, can be trellised for straight veggie, but if left, will produce funky, unique shapes. Great steamed, stir fried or pickled. Pick while still tender. Italian.
	Pumkins	√		Will be a huge hit in the gardens. Can be grown off the side of a bed for space, needs a very rich compost
	Zucchini (spacemiser)	√		The more water, the bigger they get, will be a good incentive for the class to be out watering! Spacemiser is good for small gardens and is highly productive
	Pattypan	√		They resemble UFO's. Sunburst has a great bright yellow color. Geoff recommends Benning's green tint, as they are excellent raw with a dip.
	Lemon Cucumber	√		Produces very cool veggie that is good for beginners. It is a vining plant that is very productive.
Brassicas (many brassicas attract beneficials, especially mustards)				
	Dinosaur kale (redbor or winterbor)	√	√	Both resemble the hairdo of Sideshow Bob from the Simpsons'
	Red Russian kale	√	√	Highly disease resistant. Good for beginners
	Lacinato kale	√	√	This too looks like Bob's hair and is easier to grow than the others
	Walking stick kale	√		Edible when younger, creates a great gift for the teacher
	Romanesco type broccoli	√		Only plant in small amounts; it needs lots of care
	Giant red mustard greens	√		Kids can put the leaves in their sandwiches
	Mibuna mustard	√		
	Mizuna mustard		√	
	Kohlrabi (kongo or supershmeltz)	√		Delicious when eaten raw. Geoff recommends the kongo as it takes up less space in the garden.
	Kolhrabi (rapid)		√	
	Radishes (easter-egg II)	√	√	Cool colors! Red, purple, white.

	Radishes (dakon)	√	√	Grows really big
	Purple sprouting broccoli		√	Produces more than one head; good for snacking with many little mouths. overwintering
	Red rubine brussel sprouts		√	
Onion Family				
	chives			Plant in a corner
	leeks	√	√	Fun to dig up; there is much more under the soil than we can see
Beet Family				
	Chioggia	√		Very sweet with pink and white rings
	Winter keeper		√	Bed needs to be covered in winter to prevent freezing
	Rainbow chard (bright lights)	√	√	Not the best for overwintering
	Fordhook Giant Chard		√	Very cold-hardy
	Early winter tall top	√		Perfect for making stamps and the greens are excellent to trim for salads
Beans (runner, bush, pole and dry)				
	Scarlet runner bean	√		Runner beans require pollination from bees! Beautiful red flowers, harvest when small for sweetest taste. Grow with bamboo, can even make a bean tunnel (perfect at Craigflower). Plant north a week or two before south. Or make a chicken wire tunnel with peas.
	Fava beans (broad)	√	√	Really productive and the ant/aphid relationship can be a wonderful educational opportunity. Aquadulce produces the biggest. Great for winter cover crop
	Orca beans (ying yang)	√		Dry beans, perfect for art...also perfect for doing seed saving in the fall!
	Dragon Tongue (bush)	√		Very cool design...can also be left to produce dry beans
	Montezuma red beans	√		These beans date back to the Aztecs, wonderful history lesson potential!
	Fava beans (broad)		√	Really productive and the ant/aphid and ladybug/aphid relationship can be a wonderful educational opportunity. Aquadulce produces the biggest. Note: all broad beans are good for winter gardens
Lettuce and greens				
	Super gourmet salad	√		A mix of five lettuces, will add variety and mystery to the gardens
	Revolution	√		Beautiful red color, great name to start kids getting used to and is highly bolt resistant
	Little Leprechaun	√	√	A great looking red romaine that is big in size. Good for overwintering

	Arugula	√	√	Edible flowers
	Corn Salad (Valgros or Vit)	√	√	Both types are good for winter gardening
	Sorrel (French)	√		Delicious leaves, is a perennial
HERBS	Cilantro	√	√	Will be perfect for making a garden salsa and or pizza, also good for salads. Can overwinter. Great for attracting beneficials
Peas				
	Snap peas (Oregon spring)	√		Kids will LOVE them. Sugar sweet, like candy. Good for Beneficial insects.
Carrots (the favorite!!!)				
	Bolero	√		All carrots need dandy loam with low nitrogen
	Merida	√		overwintering
	Fly Away	√		Good against the carrot rust fly
	Thumbelina	√		Baby carrots
	Parsnips	√		Recommended by Geoff as they are so easy to grow
Flowers (and a couple veggies)....that don't just look pretty but that taste good too, and might even attract a bug or two! Remember, we need a pest or two to attract the predators!				
	Amaranth			
	Bachelor Buttons			edible
	Calendula			edible
	Gem marigolds			edible
	Nasturtiums			edible
	Pansy			edible
	Viola			edible
	Monarda			Also referred to as bee balm
	Dwarf bees		Humming birds	A bush runner bean with scarlet flowers
	Butterfly Weed		Ladybugs and butterflys	"I'm not a bug, I'm a beetle!"
	Yarrow		ladybugs	Raspberry colored blooms
	Marigold	a		Edible. Keeps away those bad nematodes, also used as a cover crop
Best for nectar	Sunflowers	a	All bugs	Must get "Teddy bear" variety
	Sunflower Blends	a	All bugs	Tall and short blends available from west coast seeds
	Buckwheat	a	Hover flies and braconid wasps	Eat when just sprouting, also used as a cover crop.

	Lavender	p		Good for beneficials and for gifts for mothers/teachers.
Bee Seed Pack				
	Cosmos	ha	Bees and Hummingbirds	
HERB	St. John's wort	p		Note: most herbs are good for beneficials but are also perennials
	Phacelia	ha		Also called bee's friend. Can be used as a cover crop, blooms over time
HERB	Oregano	p		Edible.
	Borage			Edible. Leaves smell like cucumber
	Snapdragon	ha		
	Purple mallow			
	Calendula	ha		Edible.
	Alyssum	ha	Lace wings and lady bugs	Snow cloth is white and attracts other beneficials
	Hollyhock			
	Echinacea	perennial		
And for those kids who still might not get excited about the food, they will undoubtedly be into the insects....				
	Worms	By far the favorite!!! How many hearts does the earthworm have?		
	Bees	Plant flowers for the bees and give them their own bee house to take home		
	Beetles	Piles of rocks and brick that provide habitat for the beneficials as well as hours of bug hunting		
	Butterflys	Plant flowers, or take them to the butterfly garden		
	Slugs	What has one foot, 4 tentacles and more teeth than a shark and is as equally valuable as a worm in fertilizing the garden.		
	All bugs	Challenge the kids to a bug hunting (or perhaps 'bug exploration' is more appropriate), contest, see how many different kinds they can find and if they can identify them		

APPENDIX G: HOW TO BUILD A RAISED BED



Materials	
26' 2x10	construction grade wood
6' 4x4	construction grade wood
24	large nails
1.5 cubic yards	soil
.5 cubic yards	compost and newspare or corrugated cardboard

Soil - Should be sifted and mixed with compost

Compost and Kelp - are optional but very helpful

Newspaper or corrugated cardboard - Color free, a thick layer to prevent grass from growing back up

Ground/Grass - Levelled some what or built up if necessary to prevent soil from leaving through cracks

APPENDIX H: FOOD PLANTING GUIDE AND CARE TABLE

<i>*S/I = Seed Indoors *S/O = Seed Outdoors *T = Transplant</i>					
Plant Care Table					
Plant	Conditions	Dates	S/I	S/O	T
Broccoli	Broccoli is one of the most easily grown of the brassica family. Soil should be well limed. Spring transplants can withstand light frost	Summer harvest: Start in March. Plant out in May. Fall harvest: Start indoors in July		*	*
Cabbage	Space well - leave 1' per plant	Plant out end May (or two weeks after last frost.)			*
Beans	Available in bush and pole varieties. Plant in sunny location when all danger of frost is past. thin seedlings to 6" apart	Seed two weeks after last frost. End of May		*	
Lettuce	Need to be planted in light shade	Seed as soon as soil can be worked -April/early May. Repeat seed at two week intervals until Sept.		*	
Peas	Plant in well drained soil. Need to have frame for support. Plant in light to full sun.	Seed as soon as soil can be worked -April/early May. Repeat seed at two week intervals until spring		*	
Radish	Plant in rows, approx. 2" apart. Sow in well amended soil. Produces early and is relatively easy to grow.	April/Early May. Repeat sow through summer.		*	
Carrot	Keep moist, and don't allow soil to crust before seedlings emerge. Plant in rows in full light, sun.	May		*	
Garlic	Keep weeded. Cut off any flower heads to channel energy to the bulbs.	Plant bulbs between Sept. 1st and March 15th		*	
Potato	Planting of 2 or 3 potatoes, with manure, can yield as many as 20 new growth potatoes. Don't over water - likes sandy soil. Build up soil around stem as plant grows.	Plant in mid- May, ready to harvest in early fall.		*	
Onions	Keep soil well drained. Good pest repellant.	Seed indoor in March, or plant outdoor mid-May			*

APPENDIX I: COMPANION PLANTING GUIDE FOR PEST MANAGEMENT

Adapted from Gardening Naturally by Ann Reilly. Pgs. 78-79.

Plant	Repels
Anise	Aphids, cabbage worms
Beans, Green	Colorado potato beetle
Borage	Tomato hornworm
Calendula	Nematodes
Catnip	Cabbage moth, Colorado potato beetle, cucumber beetle, flea beetle, squash bug
Celery	Cabbage moth
Chives	Aphids, mites, rabbits
Coriander	Aphids, Colorado Potato Beetle
Dahlia	Nematodes
Dill	Tomato Hornworm
Flax	Colorado Potato beetle
Garlic	Aphids, borers, Japanese beetle, mites
Geranium	Leaf Hopper
Horse Radish	Colorado potato beetle
Marigold	Aphids, Colorado potato beetle, nematodes, Mexican bean beetle, tomato hornworm, whitefly
Mint	Cabbage Maggot, cabbage moth, flea beetles
Mustard	Aphids
Nasturtium	Cabbage moths, Colorado potato beetle, squash Bug, whitefly Borers, mites
Onion	Ants, aphids
Pennyroyal	Leaf hopper, Mexican bean beetle
Petunia	Mexican bean beetle
Potato	Cucumber beetle
Radish	Cabbage maggot, Mexican bean beetle
Rosemary	Japanese beetle
Rue	Cabbage maggot, cabbage moth
Sage	Nematodes
Salvia	Chinch bug
Soy Beans	Ants, aphids
Spearmint	Ants, aphids, borers, Colorado potato beetle, cucumber beetle, cutworm,
Tansy	Japanese beetle, squash bug Cabbage moth
Thyme	Asparagus beetle, cabbage maggot, fly beetle

APPENDIX J: PEST CONTROL

Get rid of garden pests naturally

You can make your own insecticidal soap with 3 simple ingredients — Just follow the instructions below.

Here's a quick, easy and non-toxic way to put an end to nasty pests like aphids, white flies, mealy bugs, and other soft-bodied insects that infest your plants year-round.

Using a little soap, vegetable oil and water, you can make an organic soap spray that controls pests on all types of indoor and outdoor plants without harsh or toxic chemicals.

To prepare this soap spray you'll need the following ingredients:

Pure, white soap	Use Oatmeal Soap or a store brand like Ivory. Make sure the soap has no dyes or fragrances since they can damage plant foliage. Also <i>do not</i> use detergents such as liquid dish soap. Unlike soap, which is organic, detergents are chemical cleaners and are toxic to most plants.
Light vegetable oil	Canola, corn, and safflower are all good examples of a light vegetable oil. It's important to make sure that it's a light vegetable oil, and not a heavy one such as peanut to ensure that the oil evaporates from the plant's leaves before they're smothered.
Water	Plain old tap water will do.
Spray bottle or garden sprayer	To apply the soap spray.

Making the soap spray

Drop the bar of white soap into a container such as a small bowl and add two cups of water. Allow the soap to sit in the water overnight or until enough of the soap has dissolved to make the water white and cloudy.

Once enough soap has dissolved, remove the soap bar from the water and pour the soap solution into your spray bottle or garden sprayer. Add 1/4 cup of vegetable oil, seal the sprayer and shake well.

Application

You can use the soap spray on all types of indoor or outdoor plants, including vegetables. Spray the infested plant well enough to thoroughly wet the leaf, making sure to get both the top and the bottom.

For light infestations a single application should be enough. For heavier infestations (especially on outdoor plants and trees), apply the soap spray every day for three days then, once a week to control re-infestations.

How does the soap spray work?

Soft-bodied insects, such as aphids, breathe through openings in the sides of their body. Pure white soap contains large molecules of fatty acids and glycerin that will clog those openings and essentially suffocate the pest. The vegetable oil is used as a sticking agent that allows more of the spray to stay on the leaf without dripping off. The soap spray that does drip off decomposes in the soil without affecting the plant. The spray that remains on the leaf evaporates after a day or two.

Spray bottle cures: Non-toxic pesticide sprays that can be made from ingredients readily available in the home.

Recipe 1	All-purpose- Take an empty spray bottle and fill about 3/4 of the way with water, then add a few drops of Ivory liquid soap, some hot peppers or hot pepper sauce and some garlic. This works well, but needs to be reapplied after a storm and every couple of weeks.
Recipe 2	All-purpose- Grind together three hot peppers, three large onions and one whole bunch of garlic. Cover mash with water and place in a covered container. Let container stand over night. Strain mixture through cheesecloth or a fine strainer and add enough water to make a gallon of spray.
Recipe 3	All-purpose- Mix 2 1/2 tablespoons of a mild dish washing detergent plus the same amount of a vegetable cooking oil with one gallon of water. This can be sprayed on all plants. Remember to spray both the top and the underside of the leaves.
Recipe 4	All-purpose- Finely chop 10 to 15 garlic cloves and soak in 1 pint of mineral oil for 24 hours. Strain and spray as is, or add a few drops of soap for extra stickiness.
Recipe 5	All-purpose- Blend 1/2 cup of hot peppers with 2 cups of water. Strain and spray.
Recipe 6	All-purpose- Combine 1 to 2 cups of rubbing alcohol with 1 quart of water. Test spray and let stand overnight to see if damage occurs to plant.
Recipe 7	Orange trees and rosebushes- Soak macerated tomato leaves in water and apply as spray onto leaves and branches.
Recipe 8	Red spider mites, spiders, cabbage worms and weeds- An ounce of table salt to a gallon of water has been shown to stop these pests. Use a tablespoon of salt to two gallons of water for the worms. Straight salt, especially in non-garden areas can stop weeds.
Recipe 9	Snails- Setting out a tray of beer or any other yeasty, fermented liquid will attract snails from all around your garden.
Recipe 10	Species specific- Collect 1/2 cup of a specific pest and mash well. Mix this with two cups of water and strain. Mix 1/4 cup of this "bug juice" with 2 cups of water and a few drops of soap and spray.

Common Vegetable Garden Pests



Blister beetle



Colorado potato beetle



Cowpea curculio



Spotted cucumber beetle



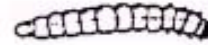
Flea beetle



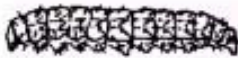
White grub



Leaf beetle



Wireworm



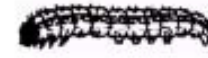
Armyworm



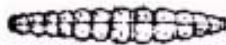
Cabbage looper



Cutworm



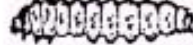
Corn earworm



Melonworm



Saltmarsh caterpillar



Squash vine borer



Tomato hornworm



Mole cricket



Aphid



Fleahopper



Leafhopper



Plant bug



Squash bug



Stink bug



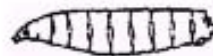
Whitefly



Fungus gnat



Leaf miner



Maggot



Thrips



Spider mite



Millipede



Slug



Sowbug

Additional Resources:

- www.bestgardening.com
- http://supak.com/organic_gardening/organic.htm
- <http://www.urbangreenery.com/organic.php>

APPENDIX K: SAMPLE LETTER HOME TO PARENTS

Dear Parent/Guardian,

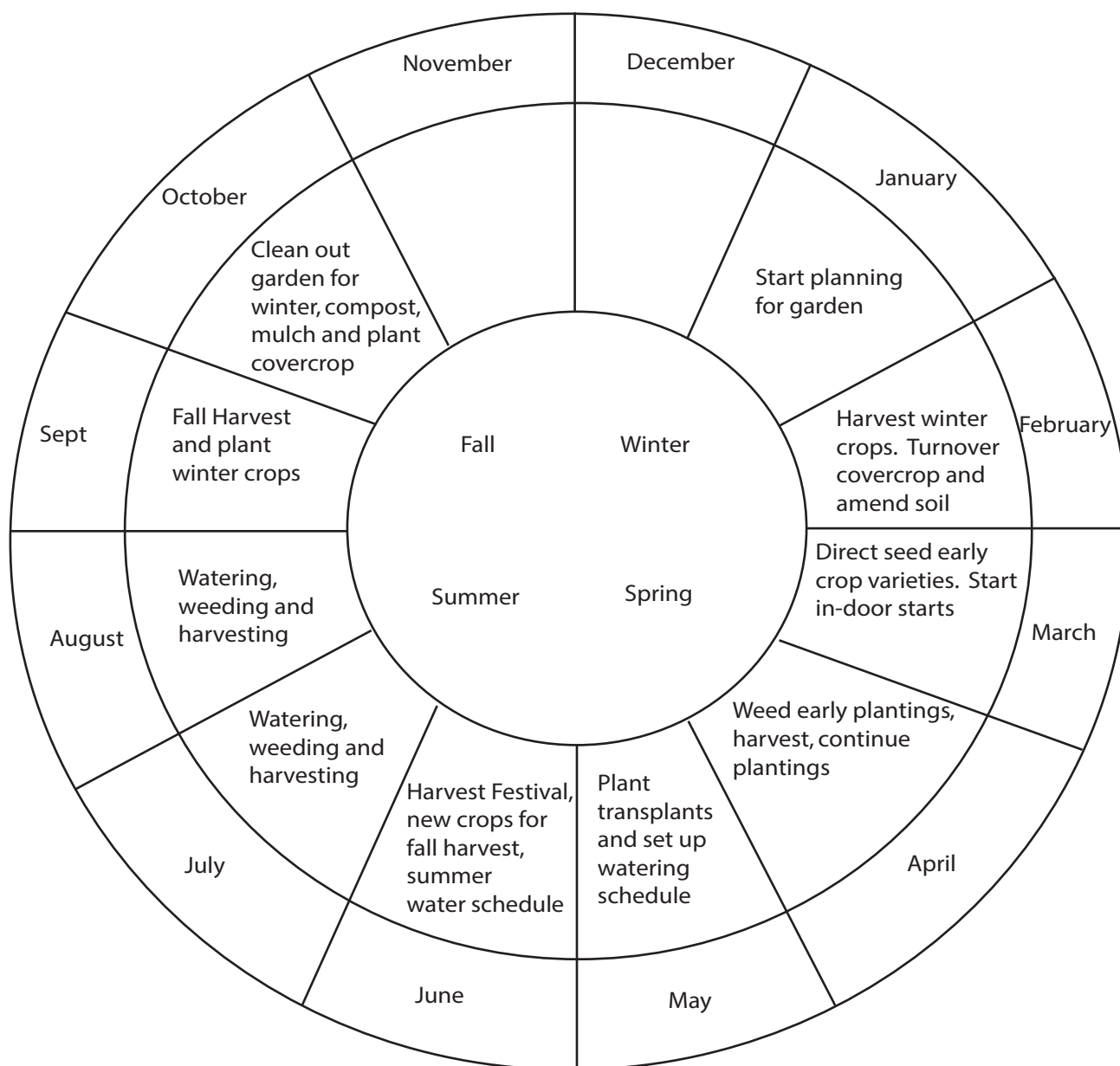
On _____, our class will be participating in the school's gardening project. We'll be planting some new seeds into the outdoor beds as well as transplanting some of the seedlings the students started in the class room earlier this spring. Just a reminder that students need to come to school in clothes that are weather appropriate and that can get a little dirty. If you agree to your child's picture being taken for documentation of our garden's progress please sign and fill out the attached form. The pictures may be used in the future for the promotion of our garden.

Thanks for your cooperation,

.....
I _____, give my child _____ permission to be photographed during
Parent/Guardian Name Child's Name
the School Garden Project activities.

Parent/ Guardian Signature: _____ Date: _____
.....

APPENDIX L: YEAR ROUND GARDEN PLAN





All resources are available at LifeCycles joint initiative GroundWorks, a public learning centre that provides resources and training for creating healthy communities. To order, check resources, and return this form to LifeCycles, Mailing address: #2-625 Hillside Avenue, V8T 1Z1 Phone: (250) 383-5800 or 383-5800, Fax: (250) 386-3449, Email: info@lifecyclesproject.ca
LifeCycles accepts cash, cheque or visa. Make all cheques payable to LifeCycles

Available Resource List		Price
Produced by LifeCycles and GroundWorks		
Creating an OutDoor Classroom - How to Implement a School Garden Manual, new edition, 2005		\$20.00
Where in the World does your food come from...new edition 2005, Grade 4-7 Global Food Security Curriculum		\$20.00
Semilla A Mesa Toolkit, 2005, Secondary Global Food Security Curriculum		\$35.00
Semilla A Mesa 12mins Video and Guide		\$15.00
Harvesting the Abundance-How to Start a Fruit Tree Project		\$20.00
Good Food Close to Home Directory, featuring 400+ Vancouver Island and Gulf Islands local food listings		\$20.00
How to Run a Youth Entrepreneur Program		\$20.00
Produced in partnership		
Biodivers-City Handbook, West Coast Ecological Youth Alliance/LifeCycles, 1996		free
Urban Agriculture Handbook, West Coast Ecological Youth Alliance/LifeCycles, 1996		free
Patterns Through the Seasons - A Year of School Food Garden Activities, K-7 Curriculum, Meets BC Ministry of Education Integrated Resource Plan, 2003, LifeCycles and Evergreen		\$15.00
Sustainable Farm Apprenticeships - A Resource Manual for Farmers and Apprentices, 2005, SOIL and LifeCycles		\$20.00
Mapping Food Matters-A Resource on Place Based Food System Mapping, Common Ground		free
The Community Green Map of Victoria and Region		Suggested donation \$5.00
The Victoria Community Green Story Book-Success Stories of efforts to create healthy communities by the people in our neighbourhoods, Common Ground, 2005		Suggested donation \$5.00
Produced by our partners		
The Garden City Handbook - How to Create and Protect Community Gardens in Greater Victoria, POLIS Project on Ecological Governance, UVIC, 2002.		free
Seeds of Success - Growing Healthy Communities Through Community Gardening, POLIS Project on Ecological Governance, UVIC, 2002.		free
Pesticide Free Naturally! Your Guide to Healthy Gardening, City Green		free
Mapping Our Common Ground-Activities & Resources for Community Mapping, Common Ground, 2001		\$10.00
Capital Food Resource Directory, 2003		free
A Baseline Assessment Food Security in British Columbia's Capital Region, Emily MacNair, CRFAIR, 2004		free
FarmFresh-The Southern Vancouver Island Growers Guide		free
Subtotal Amount:		
Shipping and Handling:		\$10.00 within CAN
Total Amount:		
Name:	Address:	Phone:
Amount:	Cheque Enclosed:	Requesting a receipt:
Visa #:	Expiry Date:	Signature:



Stone soup

1 stone, big enough that it won't get lost in the soup
1 tbsp. butter or vegetable oil
1 medium onion, chopped
2 celery stalks, trimmed and chopped fine
1 large carrot, cut into coins
3 medium red-skinned potatoes (unpeeled, halves)
1/2 sweet red pepper, chopped
1 large garlic clove, pressed
6 cups chicken broth (or a combination of broth and water)
1 medium zucchini, diced large
1 medium yellow squash, diced large
1/2 cup corn kernels, fresh or frozen
2 cups cooked pasta (optional)
Salt and freshly ground black pepper to taste
Grated Parmesan cheese
Croutons

Get students to scrub and wash the stone thoroughly. For an extra cleaning, drop the stone in a pot of boiling water while you prepare the rest of the soup. In a large pot, melt the butter or heat the oil, then sauté the onion for 2 to 4 minutes. Stir in the celery, carrot, potatoes and red pepper, sautéing for 6 to 8 minutes. Add the garlic and sauté for 30 seconds, then add in the broth. Add the stone to the soup and bring to a boil. Add the zucchini, squash, corn and pasta, cooking another 8 minutes or until the zucchini reaches desired softness. Season to taste with the salt and pepper. Before serving, sprinkle on the cheese and croutons.

Serves 6 to 8.