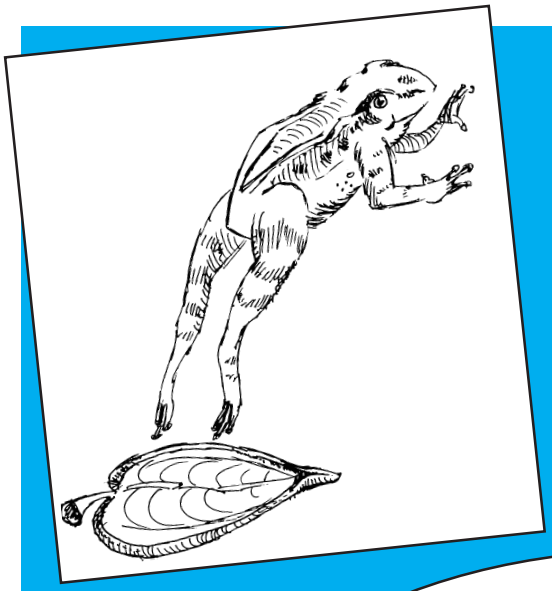
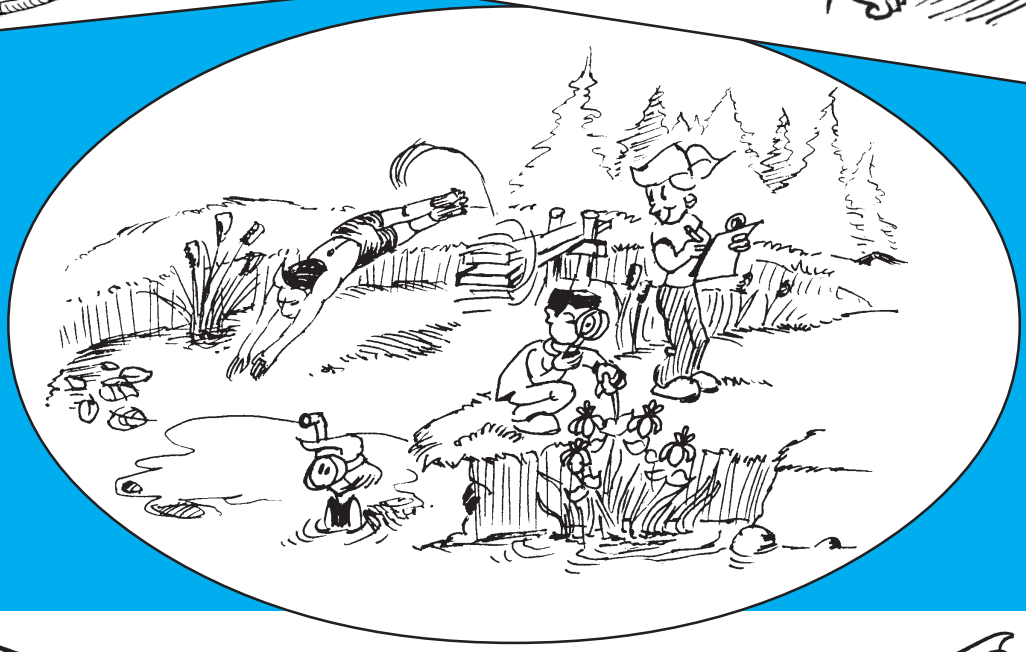
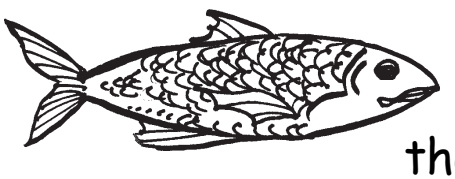
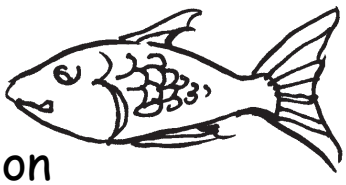
Leap Into Action!

Simple Steps to Environmental Action









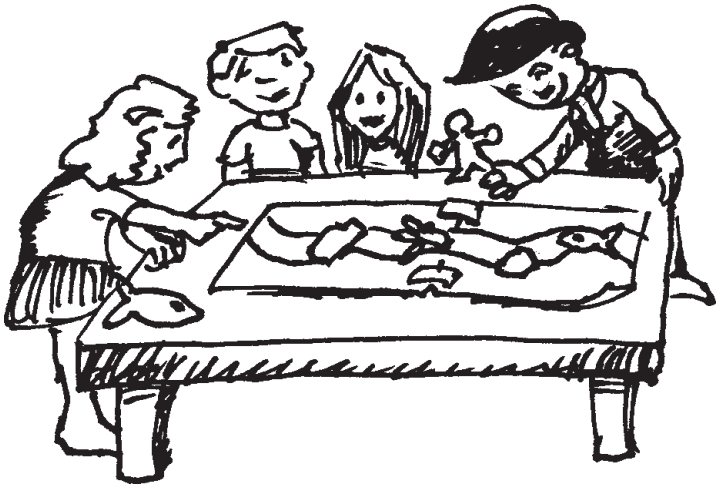
A Project of
the BC Conservation Foundation
and Wild BC

By Susan Staniforth

Leap Into Action!

Simple Steps to Environmental Action

A Project of the BC Conservation Foundation and Wild BC



Leap Into Action! is designed for Grades 4-8 students, but may easily be extended for younger and older students.

Writing – Susan Staniforth

Illustrations – Dale Adams

Layout – Susan Gage

Leap Into Action! is produced by the BC Conservation Foundation and Wild BC. We also gratefully acknowledge the financial assistance of the Georgia Basin Ecosystem Initiative, the BC Ministry of Water, Land and Air Protection, and the Natural Sciences and Engineering Research Council of Canada (NSERC).

Staniforth, Susan Jean

Leap into action! : simple steps to environmental action / writing, Susan Staniforth ; illustrations, Dale Adams.

"A project of the BC Conservation Foundation and Wild BC."
Includes bibliographical references.
ISBN 0-9735945-0-0

1. Conservation of natural resources—Study and teaching (Elementary)—British Columbia. 2. Environmental protection—Study and teaching (Elementary)—British Columbia. I. BC Conservation Foundation. II. Wild BC. III. Title.

GE77.S25 2004 372.35'7 C2004-904554-7

Acknowledgements

We would like to thank those who provided information, case studies and feedback:

Peter Ballin, Vancouver Community College
Kim Fulton, Armstrong, BC
Gord Fyfe, Royston Elementary School
Susan Gage, LearningWorks
Deborah Gibson, Executive Director, BCCF
Laurel Gurnsey, Buckingham School, Burnaby
Dr. Bill Hammond, Florida Gulf Coast University
Farheen HaQ, Off Ramp Coordinator, BEST
Dawn Jones, Victoria, BC
Dr. Rick Kool, Environmental Education & Communication Program, Royal Roads University
Kristine Lampa, Stanley Park Ecology Society
Josha MacNab, Program Supervisor for Eco Education British Columbia
Reed Osler, Education Coordinator, Galiano Conservancy Association
Margaret Phelan, Georgia Basin Ecosystem Initiative
Lenny Ross, Strawberry Vale Elementary School, Victoria
Diane Schartner, Boundary Community School, North Vancouver
Shaugn Schwartz, Evergreen
Eve Simon, ForEd BC Education Coordinator
Gareth Thomson, Education Director, Canadian Parks and Wilderness Society
Nikki Wright, Seachange Marine Conservation Society

BC Conservation Foundation © 2003
#206 - 17564 56A Avenue
Surrey, BC V3S 1G3
Phone: (604) 576-1432 (x304)
Fax: (604) 576-1482
Email: eco_education@bccf.com

Contents

Introduction for the Teacher 1

Welcome to the World of Action Projects! 1

This Guide - Who's Involved? 1

Learning Outcome Connections 3

Section 1 (Teacher): Background on Action Education 5

What is an Environmental Action Education Project? 5

Why Do Action Education? 5

What Motivates People to Take Action? 7

The Teacher's Role in an Action Project 8

A Balanced Action Program: The Action Learning Triangle 9

Action for All Ages 11

Action Project Trouble-shooting Tips 13

Teaching Controversial Issues: A Framework for Educators 16

Evaluating Action Projects: Ways to Measure Success 19

Section 2 (Student): Student Action Activities 21

Notes to the Teacher 21

Activity 1: Action Projects Gallery 23

Activity 2: Get On The Case 29

Activity 3: Let's Choose Our Issue! 30

Activity 4: Issue Detectives! 32

Activity 5: Goals, Teams and Maps! 34

Activity 6: Reflecting on Action: Swimming Upstream! 38

Activity 7: Reflecting on Action: How Are You Doing? 40

Evaluation Forms 42

Field Trip Form 44

Photograph Release Form 44

Section 3 (Student): Action Project Tool Kit 45

Action Sheet 1: Write a Letter! 46

Action Sheet 2: Pick Up the Phone 48

Action Sheet 3: Sign on the Line - Build Support with a Petition 50

Action Sheet 4: Just Ask! Do a Survey 51

Action Sheet 5: Use the Media for Fame AND Good Marks! 53
— Write a Media Release

Action Sheet 6: Fund Raising Action Projects 55

Action Sheet 7: Annual Environmental Celebrations and Events 56

Section 4 (Student): Case Studies 57

1 - Bow Valley Wildlife Crossing 59

2 - Floating Islands in Stanley Park 60

3 - Strawberry Vale Native Plant Garden 61

4 - Galiano Water Habitat Restoration 62

5 - Buckingham School Garden 63

6 - Colquitz Watershed Stewardship 64

7 - Galiano Eelgrass Project 65

8 - Mount Doug Transportation Project 66

9 - Royston Salmon Fry Project 67

10 - Highlands Butterfly Garden 68

11 - Westridge Juice Box Recycling Program 69

12 - K.B. Woodward Gardens 70

13 - Armstrong Litter-a-thon 71

14 - Vernon Streamside Planting 72

Section 5 (Teacher): Resources 73

Environmental Organizations & Websites 73

Funding Sources 79

Action Learning Resources 81

Motivational Resources 82

Welcome to the World of Action Projects!

This guide has been created for teachers and students to prepare, inspire and support them in conducting environmental action projects. It provides a project development process, activities, tools and real-life case studies that students, teachers, and other groups can use to conduct effective, engaging environmental action projects.

The target audience is students in Grades 4-8, but the activities are easily adapted for both primary and secondary students. *Leap Into Action!* is divided into 5 sections:

Section 1 – **Background on Action Education** – informs, motivates, and supports you, the teacher, as you help your students plan, implement and celebrate effective action projects.

Section 2 – **Student Action Activities** – is a series of activities to move your students through the process of discovering, choosing, researching and planning a project.

Section 3 – **Action Project Tool Kit** – provides skill-building activities to help students practice the skills they need to be effective in their projects.

Section 4 – **Case Studies** – is a selection of real life student action projects to instruct and inspire.

Section 5 – **Resources** – directs you to reference materials on action learning and a list of organizations that can support you and your students.

This Guide – Who's Involved?

Leap Into Action! is a collaboration between the British Columbia Conservation Foundation (BCCF) and WILD BC. It grew out of the Eco Education program administered by the BCCF, and is an important tool that will help maintain the legacy of Eco Education while building on the professional development delivery model of Wild BC.

INTRODUCTION
For the Teacher

LEAP INTO ACTION!

SIMPLE STEPS TO ENVIRONMENTAL ACTION

Making Connections

Check ***Resources***, p. 73, to get contact information on any of these organizations.

Leap Into Action! Partners

Leap Into Action! was created through a partnership:

BC Conservation Foundation (BCCF) is dedicated to the conservation and stewardship of British Columbia's ecosystems and species. They undertake projects in fish, wildlife habitat inventories, research, enhancement, restoration, resource stewardship and environmental education.

Wild BC is a BC government-sponsored education program that receives its base funding from our main partner, the Habitat Conservation Trust Fund. Wild BC provides quality environmental education programs and resource materials to teachers and other educators across BC through professional development workshops. This "train-the-trainer" strategy has built a successful network of educators across the province who can use their teaching skills and knowledge to create a broader understanding of the natural world.

Other Supporters

Funding for this guide was also provided by:

- The Georgia Basin Ecosystem Initiative, a federal and provincial government initiative that is actively working through partnerships to achieve clean air and clean water, protect habitat and species and promote sustainable communities.
- BC Ministry of Water, Land and Air Protection
- Natural Sciences and Engineering Research Council of Canada (NSERC)

Keep in Touch!

Good luck with your action projects, and please contact us at Eco Education BC to let us know how they turn out. Your project may serve as a model for other classes and groups to get active!

Eco Education BC
c/o B.C. Conservation Foundation
#206 - 17564 56A Avenue
Surrey, BC V3S 1G3
Phone: (604)576-1432 (x304)
Fax: (604)576-1482
Email: eco_education@bccf.com

Learning Outcomes Connections

British Columbia Prescribed Learning Outcomes, Grades 4 – 8

The guide's activities are adaptable to all secondary grades, with specific relevance to Science, Social Studies, Science and Technology and Biology.

What follows are learning outcomes specific to Grades 4-8 that are most applicable to action learning projects. Many other learning outcomes can be met that are specific to your project's activities.

Science

Students will:

- Use a variety of media to present information (Gr. 4)
- Demonstrate responsible action when using the scientific information and skills they have developed (Gr. 4)
- Differentiate between relevant and irrelevant information (Gr. 5)
- Identify ways science is used responsibly in their communities (Gr. 5)
- Describe the known and potential environmental impacts of using BC's living resources (Gr. 5)
- Describe / assess the environmental impacts of using renewable / non-renewable resources (Gr. 5-8)
- Organize and interpret / analyze information in table / graphs (Gr. 6-8)
- Compare ways of solving problems and finding explanations (Gr. 6)
- Propose and compare options / conclusions when making decisions or taking action (Gr. 7-8)
- Analyze costs and benefits of alternative scientific choices related to a community problem (Gr. 7)
- Determine the limiting factors for local ecosystems (Gr. 7)
- Outline the stages of recovery of a damaged local ecosystem (Gr. 7)
- Critique information presented in a variety of media (Gr. 8)
- Analyze the costs and benefits of making alternative choices that impact on a global problem (Gr. 8)
- Relate the extraction and harvest of earth's resources to sustainability and reduction of waste (Gr. 8)

Career and Personal Planning

Students will:

- Use a goal-setting process to set short-term, long-term, and group goals (Gr. 4)
- Analyse factors that could influence personal / group goals (Gr. 4-6)
- Explain the concepts / relationships among planning, time management, and goal achievement (Gr. 4, 5)
- Outline their progress in meeting short- and long-term goals (Gr. 6)
- Identify and apply the steps in a decision-making process (Gr. 5)
- Use time management and planning strategies that are personally relevant (Gr. 6)
- Predict possible problems associated with particular situations or courses of action (Gr. 6)
- Take the steps necessary to carry out their plans (Gr. 7)
- Adjust their goals as necessary in response to change (Gr. 7)
- Use time management strategies to achieve their goals (Gr. 7)
- Practise responsible decision making (Gr. 7)
- Compile / describe changes to / modify & extend an inventory of their own attributes, skills, and successes (Gr. 4 – 6)
- Relate work habits to / identify / describe development of / transferable skills that are developed through school, cultural, and recreational activities (Gr. 5-7)

Applied SkillsTechnology Education

Students will:

- Demonstrate risk taking and perseverance / confidence and positive attitudes throughout the problem-solving process (Gr. 4-8)
- Organize / manage work & resources to improve management of materials, time and resources (Gr. 4-6)
- Solve problems / apply innovative thought and actions, independently and in groups (Gr. 5-8)
- Organize activities to make the best use of time, materials, and resources (Gr. 7)
- Identify practical problems involving technology in a variety of contexts (Gr. 8)

Social Studies

Students will:

- Identify and clarify a problem, issue or inquiry (Gr. 4-8)
- Gather and record a body of information from a variety of primary and secondary sources, including current technology, and organize it into a structured presentation (Gr. 4 – 8)
- Assess / evaluate / justify credibility and reliability of various sources (Gr. 4 – 8)
- Assess / defend / evaluate a position on an issue (local / national / global) in light of alternative perspectives (Gr. 4-7)
- Design and implement / assess strategies to address school / community / national / global problems or projects (Gr. 4-7)
- Co-operatively plan and implement a course of action that addresses the problem, issue or inquiry initially identified (Gr. 8)
- Assess a variety of positions on controversial issues (Gr. 8)

Language Arts / English

Students will:

- Formulate pertinent questions that are relevant to specific audiences and purposes / topics (Gr. 5-8)
- Manage and organize / Select and shape information appropriately for specific audiences and purposes (Gr. 4-5)
- Locate, gather, select, and record information for specific purposes from various sources (Gr. 6-8)
- Identify the purpose, audience, and form for their communications (Gr. 6-8)
- Use expository and persuasive styles to shape and structure language in stories, character sketches, posters, and other forms of communication (Gr. 7,8)
- Demonstrate pride and satisfaction in using language to express their thoughts, ideas, and feelings in various written, oral, visual, and electronic forms (Gr. 4-7)
- Create a variety of communications, including written and oral stories, poems, explanations and descriptions; informal oral reports and dramatics; brief factual reports including to entertain, persuade, or inform (Gr. 4-8)
- Apply the basic rules and conventions of writing / speaking for the forms of communication they select (Gr. 4-8)
- Assume a variety of roles when communicating / interacting in groups (Gr. 4-6)
- Review / assess / use established & student-developed criteria to evaluate their contributions and communications within the group (Gr. 4-8)
- Share responsibility for effective functioning of groups / evaluate group process and their contributions to them (Gr. 7-8)
- Develop strategies for resolving conflict and solving problems / build consensus (Gr. 7-8)

What is an Environmental Action Education Project?

Environmental action projects involve students in tackling an environmental issue or problem, or working to improve an environmental setting. The term "environment" here is used holistically, and includes the many social, cultural, and economic contexts we all work and live in. Therefore, environmental action projects can include health issues like access to safe drinking water , social justice issues such as fair trade, and global issues like sustainable agriculture.

An action project can be as simple or as complex as you want to make it: from making and maintaining a community notice board of environmental events to developing and implementing a plan for walking school buses. Action projects are often most successful when focused at the local community level, where contacts, issues and efforts usually have the most relevance.

Why Do Action Education?

Environmental education includes three critical components: developing *awareness and appreciation* for the environment, leading to *knowledge and understanding* of environmental, social and economic systems, which in turn creates the potential and capacity for *appropriate actions*.

As educators, we nurture awareness of the environment, and teach students about ecological systems, habitats, biodiversity, interdependence and cultural connections. Yet what of the action component – does having knowledge about an issue lead directly to taking action? Do we really prepare students to critically analyze and address real-world problems? Environmental issues and problems are not problems of the environment, but the results of social and economic organizations, systems and actions. To be effective in taking appropriate action, one must be able to understand these systems.

SECTION 1
For the Teacher

BACKGROUND ON ACTION EDUCATION

Contents

What is an Environmental Action Education Project? .. 5

Why Do Action Education? 5

What Motivates People to Take Action? 7

Key Components for Successful Action Projects 8

A Balanced Action Program: The Action Learning Triangle 10

Action for All Ages 12

Action Project Trouble-shooting Tips 13

Teaching Controversial Issues: A Framework for Educators ... 16

Evaluating Action Projects: Ways to Measure Success 19

Schools are traditionally seen as places for learning *about* things, rather than *how to do* things. Action projects provide venues for skills development, practice and field-testing, and support students in actually taking responsible action on issues and problems that affect them and their community.

Action learning is an important part of education because it:

- **helps students develop control over their lives**
  Too often students are left feeling overwhelmed at the enormity of environmental problems, and disconnected from "the system" and society as a whole. Through taking action on a problem, students begin to understand that they have the power to bring about positive and significant change. (Hammond, 1993)
- **enhances creative and critical thinking skills by making learning relevant, alive and real**
  Students have opportunities to practice skills of enquiry, values analysis, clarification and problem-solving in relevant, real life situations.
- **facilitates the development of knowledge, understanding and wisdom**
  Action projects move students beyond information acquisition as they learn to apply skills and information in new contexts and demonstrate transfer of familiar principles and procedures. (Emmons, 1997)
- **integrates diverse subject areas**
  Science, social studies and language arts are at the core of many environmental issues. Students who work to save a wetland area may study the plants and animals that live there, apply geography and mapping skills to chart the area, research and write articles about the human impacts that threaten the area, and create murals of indigenous peoples' historical and present use of wetlands.
- **connects students to the broader community**
  When students develop more community perspective and commitment they become "bonded" to their communities and enhance their sense of place, of belonging to something beyond their families and school. (Hoose, 1993)
- **provides opportunities to develop citizenship skills**
  Many programs have demonstrated that if students learn basic action skills and play a positive role in solving problems that are of personal importance to them, they will act within the democratic system as responsible citizens, in school and after graduation.
- **provides opportunities for students to build teamwork and cooperative learning skills**
  Action projects often depend on working effectively in

"The principle goal of education is to create people who are capable of doing new things, not simply repeating what other generations have done – people who are creative, inventive and discoverers. … So we need pupils who are active, who learn early to find out by themselves, who learn early to tell what is verifiable and what is simply the first idea to come to them."

—Piaget

groups, skills that will serve students for the rest of their lives. Also, having students interact in groups enables them to focus on tasks that use their natural strengths and learning styles. Artistic students may draw publicity posters, confident speakers may interview community members and those with good interpersonal skills might do some fund-raising.

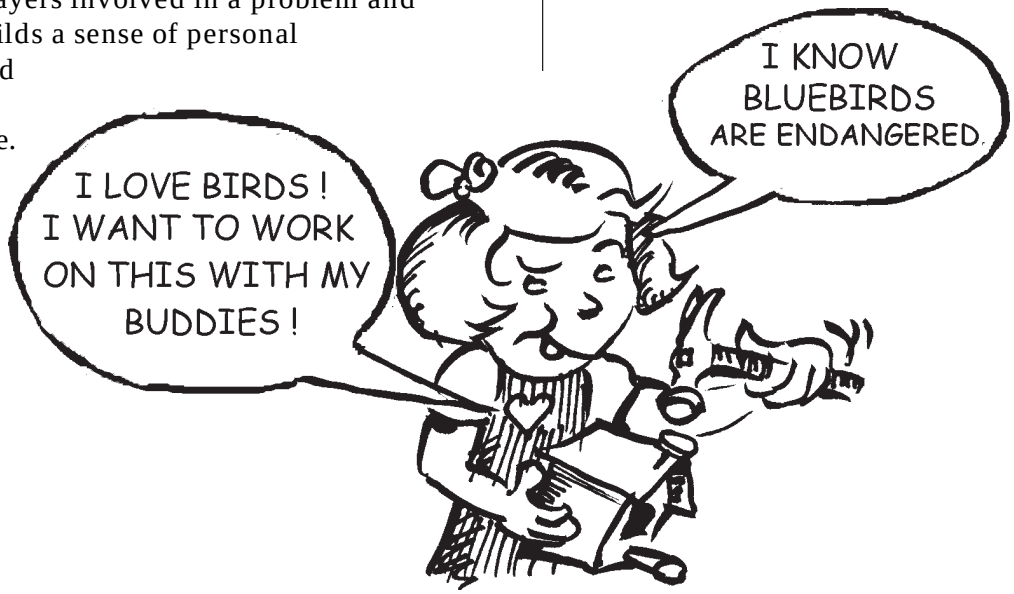
Action projects often depend on working effectively in groups, skills that will serve students for the rest of their lives. Also, having students interact in groups enables them to focus on tasks that use their natural strengths and learning styles. Artistic students may draw publicity posters, confident speakers may interview community members and those with good interpersonal skills might do some fund-raising.

What Motivates People to Take Action?

It's important to consider factors that influence people to act when thinking about involvement in an action project. Different things motivate different people. Many people act from an *emotional* rather than from a purely rational stimulus. People's belief systems, personal experiences and personality traits affect their actions. For someone with a strong environmental ethic, simply knowing about an environmental problem may be enough to elicit a behavior change or become involved in an action project. For other people, simply *knowing* about an environmental issue may not be enough to motivate them. Social or peer pressures may encourage them to join a project or activity. For example, participating in something that "everyone else" is doing, or that someone they admire is doing, is often important. People may also help with a project because of health, family, religious or community values.

> *Nobody makes a greater mistake than he who did nothing because he could only do a little.*
>
> *— Edmund Burke, British statesman*

Firsthand, contextual experience motivates many learners. Personally meeting key players involved in a problem and actively collecting data builds a sense of personal connection to the issue, and makes the student a stakeholder in the outcome. Most people have a desire to be part of a team, and to understand, debate and solve important, real-life issues. Ensuring that students are directly involved in choosing a project that is of relevance and interest to them is a most important motivating factor.



Key Components for Successful Action Projects

Write it all Down! The Importance of Case Studies

Case studies are important tools that increase students' exposure to multiple instances of problems and solutions. Research tells us that having students (and teachers) read about and discuss case studies about what others have done to solve environmental problems are important strategies for success in action projects (Monroe and Kaplan, 1988). This is one reason we have included case studies and review activities in this handbook.

So, keep a record of your projects' progress, timelines, successes and challenges. The day-to-day specifics of action projects, like how much money was raised through particular fundraising efforts, how long an event took to organize, and what strategies worked and didn't work are *invaluable* information for others to benefit from and get inspired by. Also, classes in subsequent years can choose to pick up well-documented projects and continue them, building on past student work and furthering the end goals.

The Teacher's Role in an Action Project

Your role in an action project changes from being the main conveyer of information to being a facilitator for action skills development, a contact for information sources, and a coach in student decision-making and implementation of proposed solutions. Your first step is to help students select the problem they feel is important to address. One of Bill Hammond's rules is that an action project should not be a pet cause or interest of the teacher – it must come from the students themselves. Action projects must come from the learners themselves, in order to have relevance and meaning. However, the teacher must guide the process and set limits based on appropriateness and feasibility.

Make a Plan, Identify Realistic Stages

Planning a project sounds obvious, but its importance cannot be over-emphasized. One of your most critical roles is to coach students to plan in a manner that breaks their "end goal vision" into a subset of realistic steps or milestones. In this way, if time constraints delay attaining the ultimate goal (and projects always seem to take longer than we think), students will still have a positive sense of accomplishment. Remind students that an environmental problem that took years to form cannot be solved in days or weeks.

Teach and Practice Action Skills

Action education researchers such as Hammond (1993) and McClaren (1995) have identified a basic set of **action skills** that can be learned and must be taught, practiced and applied. These include:

- identifying, researching and investigating the selected problem or issue
- communication (letter writing, phone calling, public speaking) and lobbying skills
- presentation skills
- leadership and group organization skills
- conflict resolution skills
- ability to determine support and opposition, and select appropriate methods, strategies and tactics for implementing action,
- an understanding of alternative strategies and capacity for project sustainability and continuity.

You know your students best. Assess what action skills they have and what they might need to learn or practice in order to be successful in their action projects. Sending students out to do surveys, collect data, write letters, and make presentations, *without adequate training* and practice is irresponsible and potentially disastrous. Section Three includes an *Action Project Tool Kit* that helps students develop and practice action skills through activities and simulations.

Curriculum Integration

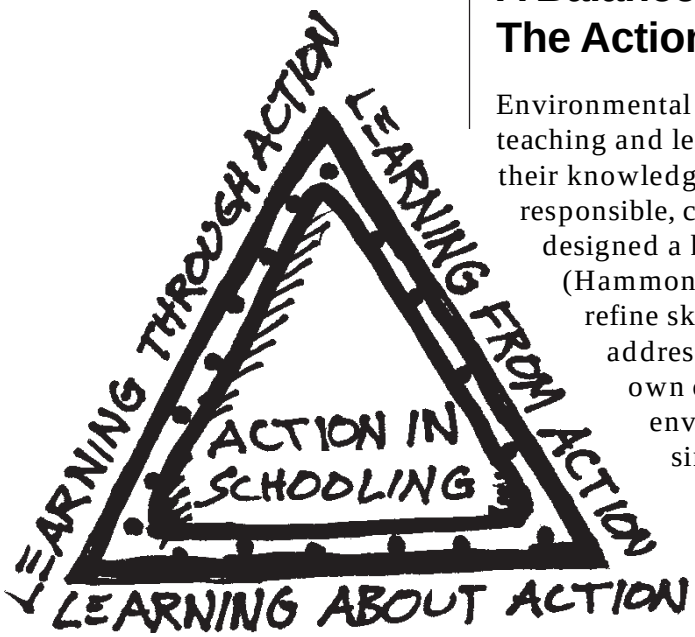
Action projects are an excellent example of activities that successfully integrate many subject areas, thereby meeting a wide range of curriculum requirements. Furthermore, the ability of action projects to integrate student learning enables projects to create complex learning systems that address several learning areas: action skills and procedures, empowerment and ownership, environmental concepts, and sensitivity and attitudes (Emmons, 1997). Therefore as a teacher, you are not adding something new to your teaching load, but using an action project to successfully integrate curriculum requirements. See also page 14, *I Have No Time to do an Action Project*.

Program Support Equals Success

Look for support for your action project – seek out help from parents, community members, service groups and local clubs. An action project is a great way to build relationships between neighbouring schools, involving more parents and community members. Also, older students can get involved in peer teaching and mentoring roles. See page 13 for more ideas, and Section 5 for a list of organizations and resources.

Fame! Document Your Project and Send it to Us!!!

Gain some important recognition for your work! Eco Education BC has a section of their website dedicated to profiling environmental action projects in BC and elsewhere. Get noticed and get on the web! For details contact the BC Conservation Foundation, *www.bccf.com*.



A Balanced Action Program: The Action Learning Triangle

Environmental educator Bill Hammond offers a community teaching and learning model that encourages students to use their knowledge and skills to move from "awareness to action" in responsible, caring and thorough ways. Hammond has designed a high school environmental education action guide (Hammond, 1993) whose goal is to help students learn and refine skills through direct, practical experience in addressing significant environmental problems in their own community. Hammond's "Monday Group" environmental seminar classes have been running since 1962, and have won numerous awards.

Action projects have an important role to play in the educational development of students. Bill Hammond's action triangle (Hammond, 1997) describes three aspects of action learning: learning *about* action, *through* action and *from* action. These are very distinct domains of learning, each with its' own skill set and context.

1. Learning *about* action -

This side of the triangle represents the learning of action skills and strategies, and the history of action projects. Teaching methods may include case studies, simulations, role-plays, and presentations from people who have successfully done action projects.

2. Learning *through* action -

This side of the Action Triangle entails involvement in a real action project. When students select, plan, implement and evaluate a project, they have an opportunity to develop an enhanced sense of personal competence, apply their learning to "real world" problems, and increase the relevance and meaning of the school curriculum.

3. Learning *from* action -

This aspect of the triangle happens when students evaluate the success and significance of the action project's outcomes and processes. Students need to reflect on the significance of the action to themselves and their communities.

The Action Learning Triangle – Some Examples

Example #1 –Wetlands Action

Learning About Action:

Students plan a field trip to a local wetland, acquire background knowledge about wetland ecosystems and skills for observing, sampling and measuring.

Learning Through Action:

Students directly experience the wetland and document what they learn. Students choose, plan and implement an action project relating to wetland conservation.

The class learns and practices action skills of research, observation, public speaking, and letter writing and initiates the action project.

Learning From Action:

Students reflect on why the actions were necessary in the first place, and whether or not they addressed root causes with their project. They brainstorm future ideas and projects to sustain their efforts, and celebrate their progress with a community Wetlands Awareness Day.

Example #2 – Greening the Schoolground

Learning About Action:

Students unhappy with their concrete schoolyard decide to green their school-grounds and find some community partners. Students research and plan their garden project, become experts on native plants.

Learning Through Action:

Students fund-raise for equipment and supplies, work with partners to landscape and plant the garden, create educational signage, and invite the community to an open house celebration.

Learning From Action:

Students document their learning, reflect on the project's impacts on themselves, their school and the wider community, and decide to engage the community further through an annual open house and plant sale. Eventually, members of the school's garden club hire themselves out as native gardening consultants to businesses, homeowners, etc.

Action for All Ages

David Sobel and other researchers (1995) make a convincing argument that education in general and action projects specifically need to correspond to students' developmental stages. Sobel suggests a maxim of *"No tragedies before fourth grade"*, tragedies being big, complex problems beyond the conceptual and geographic scope of young children. Action projects that focus on environmental problems will be more successful when tackled in the fourth grade and beyond, focused on local problems where children can make a real difference. That said, children from kindergarten up can also get involved in relevant action projects within their realm of experience. Not until children are thinking abstractly and logically should we embark on complex and remote issues like tropical rainforest preservation or climate change. There are three stages of development generally recognized in elementary education: Early Childhood, the Elementary years, and Early Adolescence. Action projects should respect these developmental levels.

Early Childhood, Ages 3-7, Grades K-2: Empathy and Direct Experience

In a child's early years, the "here and now" should be the basis for teaching units, and action projects: local themes and issues they can relate to and actively participate in. Young children's geographical range focuses on their homes, backyards and local play areas. This is the time for students to develop emotional empathy with the natural world through direct experiences in local environments: provide early opportunities for children to actively bond with and experience the natural world.

Action projects could include exploring the school yard, parks and the local community and making simple maps of favourite areas, cultivating relationships with animals and creating posters to raise awareness of threatened species, planting flowers for butterflies and hummingbirds, feeding and observing birds, putting up nest boxes.

Elementary Years, Ages 8–11, Grades 3-5: Exploration

Action activities could include creating special places, using a compass to map favorite areas, cleaning up streams and paths, gardening, building bird houses, fund raising for specific causes through walk-a-thons, bike rallies, etc, and teaching younger students.

Early Adolescence, Ages 11–14, Grades 6-8: Social Action

Adolescents need opportunities to work on problems in their local communities. This age group wants to be seen to be making

a difference working with their peers. Managing school recycling programs, planning school trips, creating and staging popular theatre presentations on issues, designing poster competitions, setting up displays at malls, attending city council meetings, researching and presenting local problems, and peer teaching are all appropriate activities for this age group.

Young Adults, Ages 15 – 18, Grades 9-12

Local issues that are relevant and tangible are still a significant focus at this age, especially as being able to effect change and be recognized for their efforts is important. Students are able to tackle actions that require more sophisticated skill sets such as political organizing around a cause – meeting with councilors, business owners and union leaders, doing media work, organizing educational and protest rallies. They are also more physically able to work at the "hands on" stuff like trail building or clean-up projects. More long term actions that involve strategies for sustaining commitment are possible, such as habitat protection, changing school board policy, and establishing a school energy conservation or recycling program.

"The vision must be followed by the venture. It is not enough to stare up the steps; we must step up the stairs."

—Vince Havner

Action Project Trouble-shooting Tips*

Action projects are worthwhile and wonderful activities, but have their own set of challenges. We asked experienced educators for their ideas about barriers and solutions to action projects, and share some of them below.

I Want to Do an Action Project But Lack Support

Jump on a Moving Bandwagon. Don't reinvent the wheel – there are dozens of environmental groups, community service groups and youth advocacy groups that may be working on your issue of choice (see *Resources,* p. 73). Contact groups for information, ideas and potential partnership opportunities, or have students research a variety of them and make a presentation to their peers as part of the research phase of their project development.

Use Those Parents. Put out a request for who and what you are looking for to parents – you may be surprised to find you have experts close at hand who are willing to come and help further their students' education. Use your parent network to find other contacts, too: most people are busy, but if a project matches a passion or work issue for them, they may get hooked. Be sure to give volunteers a clear idea of what is expected of them, and hold *short* meetings at times that suit their schedules.

* *Thanks to those who contributed ideas to this list: Peter Ballin, Dr. Bill Hammond, Kim Fulton, Kristine Lampa, Josha MacNab, Margaret Phelan, Lenny Ross, Diane Schartner, Gareth Thomson*

Start a Mentoring Program. Create an *'adopt a classroom'* program where committed adults visit a classroom to help out – these could be parents, seniors, garden club members, etc. For older students, include a coaching component as part of your action program, where students' experiences can lead to them being mentors down the road.

Investigate Service Learning Opportunities. Many groups already exist that encourage service learning. Consider action-based projects that allow you to partner with community service groups, 4-H clubs, Girl Guides, Boy Scouts, youth corps, etc. Take advantage of pre-existing courses in which students are required to engage in service learning, such as Career and Personal Planning, so you are meeting these learning outcomes at the same time. See *Resources,* p. 73, for other ideas.

I Have No Time To Do an Action Project

Action Projects Integrate Learning and Curriculum Requirements. Review *Learning Outcomes Connections* to reinforce that your action project *can* meet many of your curriculum requirements. This can help alleviate stress — you're not necessarily adding something "new" to your overflowing time table, but using an action project to integrate many subject areas and learning outcomes. Your students will benefit the most: check out the 1998 Report from the *State Education and Environment Round Table* called **"Closing the Achievement Gap**: **Using the Environment as an Integrating Context for Learning."** This study looked at 40 successful education programs using the environment as the integrating theme. Results showed a 90% in improvement in student learning in *all* subjects and levels tested. (Download the summary from their website: www.seer.org.)

Reject the bell. Effective action projects take time; this is true. Build into the program ways in which you give the gift of your time – and encourage students to give that gift right back. You'll be pleasantly surprised when they do!

Look for ways to extend student action out of the classroom and the structured 'periods' of a typical school day. The creation of a 'Green Team' or 'Enviro-Club' concept allows you to meet at noon, after school, or even on weekends. This is where volunteers can really help, too.

Draft Timelines. Break the work up into bite-sized chunks. Set students up for success by helping them identify specific sections of their project, develop work teams, create timelines for each section, and celebrate the achievement of each of these sections.

Don't reinvent the wheel. Groups like Worm Watch are there to support you and your students.

I Can't Organize Something This Complex

Don't reinvent the wheel. There are a lot of ongoing projects out there that you can plug into, such as Frog Watch, Plant Watch, Worm Watch, Globe and Shore Keepers (see *Resources,* p. 73). These programs have students follow science-based protocols and collect data that then becomes part of a meaningful regional study. Furthermore, these "real world" experiences are valuable, as participants become "part" of a larger organization, and experience that their contributions and actions *can* make a difference.

Enlist Wild BC facilitators. Wild BC has a province-wide network of environmental education facilitators who can help find you information and resources in your community. Check out the website at www.hctf.ca, or call Phone 1-800-387-9858; (in Victoria , (250) 356-7111) to find the facilitators nearest you.

DFO Advisors

You can also enlist DFO (Department of Fisheries and Oceans) Community Advisors and Regional Education Coordinators. Check their website:

www.pac.dfo-mpo.gc.ca

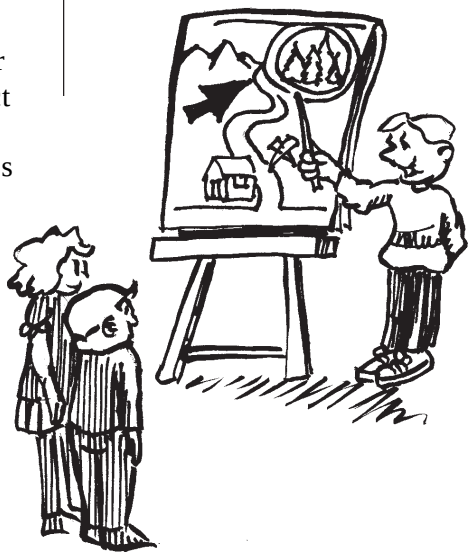
Click on the directory link to Education Materials.

I Won't be able to Meet All My Students' Needs

Reward Different Learning Styles. Action projects enable a variety of learning styles to be accommodated, providing a range of opportunities for students to excel. Experiential, discovery-based, imaginative and concrete learners can benefit greatly from opportunities to learn in ways that are often difficult to provide in a typical classroom setting. The "real life" aspect of action projects is also invaluable as a motivator. Assignments contribute to something real and relevant, and students see and experience the results of their work.

Build Job and Life Skills. Create simulation activities in which students get a chance to practice conducting telephone interviews, surveys and public presentations. Show them how to weed, plant trees, test water quality, compost, read a compass, identify insects, map a stream-bed. These skills will benefit students long after the action project is completed.

Participating in an action project has led to many future jobs for students, through community and organization contacts, project experience and skills-building. Name your action program as a class, and think about further formalizing it through such things as certificates that recognize achievement within the program. This not only helps 'generate a buzz,' but also helps students build their resumes.



Encourage student presentations. To teach is to learn. Look for ways to get students presenting to younger students or to community members (see the comment on ***Mentoring*** above). This allows students to develop higher-level thinking skills and allows their work to be recognized and celebrated by younger students and their peers. It's also a good way to get some action happening in other classes!

Give them recognition. Never forget the importance of celebration and recognition as you and the students communicate your findings and your accomplishments. Rewards may include such things as certificates, badges, T-shirts, prizes, trips, a special dinner together, and bursaries. Involve the media. Kids love to be on TV, radio and in the newspaper (the media love this too), and a good experience can be very motivating for students and other community participants to do more.

I Worry I Won't Meet My Curriculum Requirements

See ***Learning Outcomes Connections***, p. 3. Because of their integrative nature, action projects enable many learning outcomes to be met across a range of subject areas.

See "I Have No Time to do an Action Project," p. 14.

I Won't Be Able to Assess What My Students Learned

Develop an Evaluation Plan. Have an evaluation plan in place before you proceed, and make sure it includes both formative ('as you go') and summative ('at the end') components. See the *Evaluation* Section, p. 19 for ideas and tools. Make sure your evaluation instruments go beyond measuring "easy" things (such as 'number of students contacted') to more difficult things such as changes in students' values and behaviours, and positive action that occurs as a result of the program. Set goals that are measurable at the outset. Share results with students and other participants to show them that improvement is an important part of the program.

Teaching Controversial Issues: A Framework For Educators

"Most of the important things in the world have been accomplished by people who have kept on trying when there seemed to be no hope at all."

—Dale Carnegie

Controversial issues are all around us. Sometimes, students will choose to work on an environmental action project that is controversial in your community, such as questioning the development of a mall on a nearby wetland, or raising awareness of conserving the temperate rainforest in a logging community. These environmental issues can be especially challenging, as they are often scientifically complex, hotly contested, and value-laden.

So why should we teach them?

- They are relevant to students. These issues are what students are often already talking about. Allowing them to choose an issue of concern and focus on it in the classroom is a powerful hook to engage and motivate them: truly bringing learning alive.

- Investigating environmental issues of concern supports students in developing and practicing critical thinking, analysis, systems thinking and media literacy skills. These are increasingly becoming "survival skills" needed to evaluate the burgeoning amount of information, infomercials, media byproducts, events and interpretations students encounter daily.

- Exploring controversial issues provides a venue for students to realize that they have a world view that is not universally shared. Investigating an action project helps them develop receptivity to other perspectives.

How should I teach them? A Framework for Teaching Controversial Issues (Clarke, 1993)

Pat Clarke, a long time teacher and global educator, devised a 4-step strategy that provides a way to make sense of a complex and confusing issue through critical inquiry. Facilitate a class discussion using this process once students have chosen their action project to help them analyze their issue.

E.g. Students are upset to discover that a nearby Garry oak meadow is to be cleared to build a housing development. The housing development includes some much-needed housing for low-income people.

1. What is the issue about?

This stage provides a way to begin analyzing the controversial issue by defining the key questions at its heart. There are three types of questions to ask:

- Those relating to **values**: What should be? What is best?

- Those relating to **information**: What is the truth? What is the case?

- Those relating to **concepts**: What does this mean? How should this be defined?

2. What are the arguments?

This is an analytical step where students scrutinize what is presented by both sides of the issue. This gives students some criteria to use to make judgments in a clearer, systematic way. Most controversial issues are about values and we must examine their criteria. There are basically two types:

E.g. After some discussion, the students come down to this question: *Is it more important to provide housing for people, or to preserve an endangered species?* They try to figure out the criteria involved.

- **moral** criteria: based on concern for how all people will be affected: the "common good"

- **prudential criteria:** concerned with how me or my group will be affected: a special interest group

Other questions to ask are of the **"golden rule" variety** - *"How would you like that done to you"? "What if everybody did that"?*

E.g. Students solicit views from a range of stakeholders: the local environmental group that is trying to stop the felling of the Garry oaks, a Garry oak research scientist, the developer, members of the municipal council, and members of an anti-poverty organization concerned with social housing.

E.g. Students collect media reports and analyze them. They note the way in which the environmental activists and development proponents are portrayed, and the amount of coverage they receive. At this stage, they may try to answer the question: *Whose viewpoint is being heard the most? Whose is being left out?* They may try to decide if they have a role in raising awareness of an alternative voice that hasn't been heard.

3. What is assumed?

There are two parts to getting to the assumptions of an issue:

1) What are the assumptions behind the arguments?

A critical aspect of this process is that there is no value relativity: it is not true that any position is acceptable or legitimate. So, if an assumption behind an argument is based on racism or prejudice, these are grounds for criticism and they reduce the legitimacy of the argument.

2) Who is the voice of the argument - who is saying this and why?

Are they "insiders" or "outsiders"? Insiders may have better information and give the argument more validity, but outsiders may have the advantage of no special interests. A good way to test the assumptions is to hear the views of both.

4. How are the arguments presented?

The final step examines how an issue is presented: basically a media literacy activity. By examining information from the perspectives of *source*: e.g. who said it, what are their interests in the issue, what reasons do they have for taking their position; students can see how information can be selectively ignored or emphasized. This helps students understand how *information* can be used to influence opinion.

A key question to ask is: *How can the media both reflect and create reality?*

Information reliability, or *Who is to be believed?* is often just as big an issue as the values question: *Is there a right answer?*

Summary: Finding A Just Solution

A final step for students could be to compile and analyze their research and responses to the 4-step framework, and work in groups to develop a positive solution to promote. Encourage students to come up with reasonable and just solutions to the issue. Describe the options of "win-win"(both groups get what they want), a compromise solution (both groups get some, but not necessarily all, of what they want), or win-lose (one group gets what they want at the expense of the other group's wishes). For example, in the case of the Garry oak meadow vs. social housing, there might be compromises that would work: the development might be limited or moved to another site; some of the Garry oak meadow might be saved; the landscaping around the development could limit lawns and incorporate the trees and their habitat needs; the government could organize a land swap to retain the meadow as a park and provide another site for the housing.

Evaluating Action Projects: Ways to Measure Success

Student Reflection and Revision, in Progress and at the End of the Project

Evaluating something as multifaceted as an action project can be a major challenge for educators. How do you assess what your students are learning / have learned? How can you tell if they have been successful? A main benefit of action projects is their ability to integrate areas of learning for students to create a complex learning system, yet this is also perhaps the hardest element to evaluate. The other feature of action projects is their circularity or reciprocity: students grow and learn as they carry out an action project, building on past knowledge and experience and honing action skills. Positive environmental action is a formative process as much as a final goal (Emmons, 1997).

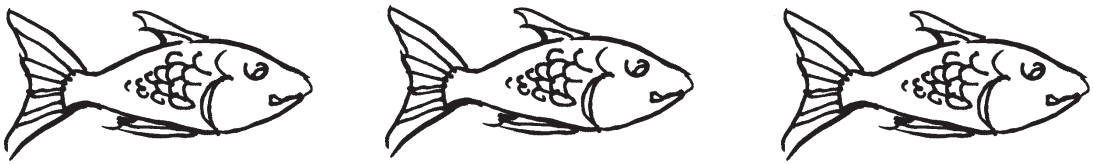
Student Self-Assessment

One assessment method that is recommended to capture both learning in progress and summative learning is **student self-assessment** that occurs several times during the course of the action project. Student self-evaluation is especially important, as successful action projects are initiated and planned by the students themselves. See *Activity 7*, p. 40, for a process and tools for student self-assessment.

Taking the time to reflect on their action project's progress as it is underway helps students assess how their group process, individual decisions, problem-solving strategies and goal setting are making headway. It also helps identify for students what they've accomplished so far, what has and has not worked, and what they still have to do to reach their goal, in case they need to adjust their course of action. A final self-evaluation at the completion of the project enables a summation of decisions made and procedures carried out, the impacts of those decisions for better or for worse, a reflection on the student's personal growth and empowerment, and an extension of learning within and beyond the issue studied.

Project Journals as Evaluation Tools

Student journals can also be excellent records of an action project's impact and its ability to engage and educate. Documentation of the steps and stages of an action project are important, and having individual students capture reflections, ideas and responses in their journals allows an *inside look* into how the project affected them. Activity assignments, team tasks, individual student research, photos and drawings can be compiled in the journal to track progress. Specific journal questions from the "*What Did You Learn?*" section of some of the activities can be assigned, as can stories, essays and artwork depictions.



Ideas for measuring Success

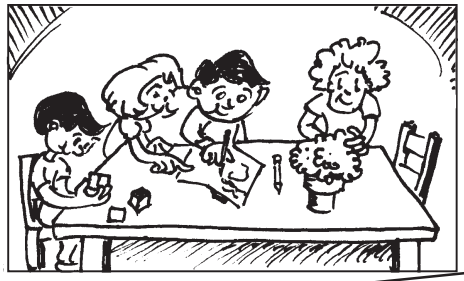
Assessing Student Knowledge:

- Document! Keep a video or photo log of project highlights. Collect memorabilia (articles about the project, photos, planning schedules, and so on) to create an action project scrapbook that students can sign and write comments in.
- Have students keep a journal about any changes in their thinking or behaviors as a result of the project. Have them make entries weekly.
- Have students evaluate other members of their group, as well as themselves. Before they do, give students pointers on positive constructive feedback and focus the session on specific points, such as contribution to the project, effort, team work, conflict resolution approach, and so on.
- Have community members who were involved in the project assess student performances. Give them 2-3 criteria to follow as a guide.

Assessing Project Success:

- Have students describe how well they think their project accomplished the objectives they outlined at the start. (See *How are We Doing?* and *How Did We Do?* forms, pp. 42-43.)
- Have students conduct surveys, field studies, or interviews to assess the success of their completed project. What worked? What didn't and why?
- Evaluate how the students planned for ongoing maintenance and sustainability of the project.
- Have community members, parents and others who were involved in the project assess project outcome.

(From Taking Action/ Project WILD , 1995)



SECTION 2
For the Student

STUDENT ACTION ACTIVITIES

Activities to Lead Students through a Step-by-Step Project Planning Process

Contents

Student Action Activities

Notes to the Teacher 21
Activity 1: Action Projects Gallery 23
Activity 2: Get On The Case 29
Activity 3: Let's Choose Our Issue! 30
Activity 4: Issue Detectives! 32
Activity 5: Goals, Teams and Maps! 34
Activity 6: Reflecting on Action: Swimming Upstream! 38
Activity 7: Reflecting on Action: How Are You Doing? 40

Notes to the Teacher

The student package contains activities and tools for students to help them choose, research, plan and implement an action project that is relevant and interesting to them. This section is written specifically to the students, as action projects should be chosen and initiated by students in order for them to be truly successful.

Encourage students to develop an action project journal where they can keep student handouts and research information, track their activities, and chart their team and class's progress.

The student-directed activities will gear up your students, prepare them with background information and skills, and head them down the road to a successful project conclusion. Work through the activities in sequence, as they provide a process by which students become familiar with action projects, categorize different types, examine their own beliefs for why people should get active, research appropriate project topics, set goals and objectives, and divide up into teams.

- **Activity 1 - Action Projects Gallery**, introduces students to action projects by having them review and categorize different case studies. Current research shows that students gain a great deal of knowledge and decision-making skills from reviewing real case studies, as well as inspiration and a range of ideas for tackling an issue. (Page 23)

- **Activity 2 - Get on the Case**, has students exploring and presenting a detailed case study of an actual documented action project (See the collection of case studies in Section 4). This allows students to carry out a deeper assessment of an action project, developing problem-solving, comparison, role-playing and analysis skills. (Page 29)

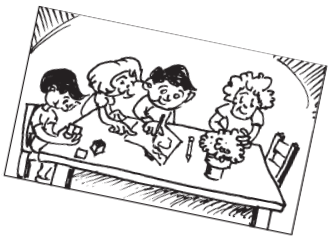
- How do you choose an action project from the endless possibilities out there? *The first and most important step is to choose an issue that students really care about*. In **Activity 3 - Let's Choose Our Issue!,** students think about reasons why they should get active, work in groups to brainstorm a list of issues that interest them, and apply a checklist to select an action project. Personal values exploration, brainstorming, group work and critical thinking skills are used to facilitate choosing an action project. (Page 30)

- **Activity 4 - Issue Detectives!** has students researching and documenting the timeline and history of their chosen issue, and identifying resources, potential organizations and groups who might be able to help, and any expertise. (Page 32)

- **Activity 5 - Goals, Teams and Maps!** helps students set specific goals for their project and divide up the work to be done into specific teams. The *Mapping Your Action Project* form and *Team Form: Making it Happen* are useful tools to organize project information and aid strategic planning and task delegation. Working through these steps helps ensure student ownership and buy-in to the action project, and ensures a solid foundation. (Page 34)

- **Activity 6 - Reflecting on Action: Swimming Upstream!** engages students in a specific process of documenting and reflecting on the progress of their action project through building a "stream" as a metaphor. This allows students to concretely identify barriers to the action process, things they have going for them, and opportunities and resources to overcome the barriers and plan for future action. This is also a useful evaluation tool for assessing students insights, depth of thought and ability to analyze and apply their learning. (Page 38)

- **Activity 7 - Reflecting on Action: How Are We Doing?** helps students evaluate how they are progressing towards their goals during the course of the project, and also to evaluate their project at its completion. (Page 40)



Action Projects Gallery

Description

This activity will get you thinking about the range of action project ideas. Reading the Action Project Cards and categorizing them will give you a good overview of many types of action projects.

Key Ideas

There is a wide range of action projects to choose from.

Reviewing and categorizing many types of action projects helps provide inspiration, options and ideas.

You'll Need

- Copies of Student Sheets: *Types of Action Projects* (p. 24) and *Action Project Cards* (p. 25)
- Chart paper

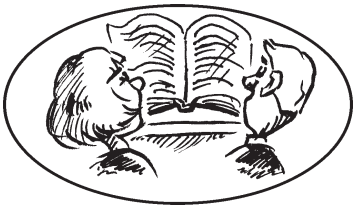
Do It!

1. In your group, check out the Read This! sheet called **Types of Action Projects**. Now read through the **Action Project Cards** and sort them by type of action project, using the headings on the sheet (*Educate and Inform, Political Action*, etc.). If you've been involved in action projects, know of others, or have an idea for one you'd like to do, make a card and add it to your sorted pile.

2. Now, pick a project that seems most interesting to your group and be ready to share it and describe why you chose it. Post each groups' selected cards under headings on a piece of chart paper to create a class display of possible projects.

What did you learn?

- What category of action projects did you like the most? Why?
- Which project surprised you the most?
- Can you think of different ways to tackle some of the environmental problems presented in the case studies?



Read This!

Types of Action Projects

1. Educate and Inform

Projects that teach other people about an issue. Examples include writing newspaper articles, pamphlets, plays, poems and songs, making posters, murals and advertisements, and hosting school celebrations (e.g. Earth Day, Rivers Day).

2. Shopping Habits

Look hard at what you buy/eat/wear everyday, and try to change your shopping habits. Try to cut down on what you buy, and support local farmers and businesses. By first changing your behaviour, you can be a model for others to change.

3. Consumer Action

Investigating stores and business to see how their products can be more environmentally friendly, and making suggestions for change. For example, stocking local organic produce, recycled paper products, giving credit for people who bring their own bags, etc.

4. Political Action

Create a class government, and learn how to organize at a classroom level. Try to create change in your school by approaching the school government (or, if none exists, create one). Then you're prepared to work at a community level, meeting with local government people about issues, speaking at public meetings, developing and passing around petitions, and writing letters, doing media releases, etc.

5. "Get Down and Dirty" Projects

These action projects make direct changes to the environment, like greening your schoolyard, raising salmon eggs, tree planting, stream cleanups, gardening, etc.

6. Lifestyles Choices

Encouraging and supporting environmentally-sound decisions like: walking, biking, using proper trails, taking public transport over taking a car, consuming less, recycling more, choosing "low-impact" recreation like hiking and canoeing.

7. Other?!

Your call – anything that doesn't fit into the above categories!

Adapted from Project WILD (1995) and Learning for a Sustainable Future (2002)

Action Project Cards

True Stories of Student Environmental Projects that Worked

1 Make a Stand for Tailed Frogs!

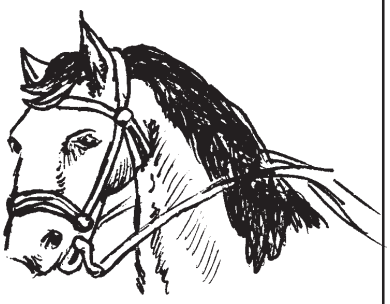
When a group of kids in West Vancouver discovered that a prime piece of Tailed Frog habitat was about to be turned into a housing development, they got active! Tailed frogs are on the Blue List of threatened species, and these kids found that McDonald Creek, a fast-flowing mountain stream, had a dense tailed frog population. After doing research into the frogs' habitat needs, students contacted the Ministry of Environment and made presentations at West Vancouver City Council meetings. They met with people from the development company and got on the radio and TV. The result of their work: the creek and trees around it were made into a protected park and the development company is doing a 5-year monitoring study on the tailed frogs. (West Vancouver, BC)

2 VIP's Make a Difference!

Students attending a middle school near a regional park in Surrey became concerned about vandalism in the park. Some students from the middle school and a neighbouring high school were part of the problem, and both schools were getting a bad reputation with the local community. Working with parks staff, Grade 8 students formed a *VIP* or Volunteers in Parks team: students who regularly hung out or biked in the park received training, formed teams and designed special VIP armbands to wear on informal park patrol. Interest in the VIP teams was high, attracting many students from both schools. The student patrols got recognition and status, and their presence in the park dramatically reduced the vandalism problems. (Surrey, BC)

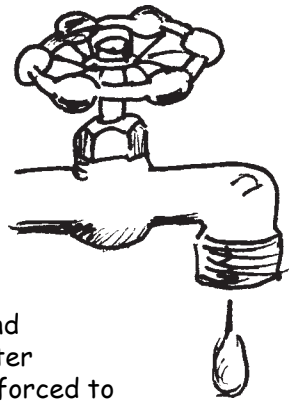
3 Talking Horse Sense

Langley elementary school students used a nearby regional park as a short cut to get to school, and a favorite spot for science projects and after-school gatherings. Local horseback riders often strayed off the horse trails, damaging the walking trails and stream edges, and making them so muddy as to be unusable. Parks staff could not patrol the park all the time to keep riders on the proper trails, and signs didn't seem to be working. The kids took matters into their own hands. A Grade Five class formed a *Friends of the Park* group and made posters, pamphlets and presentations to the local riding club members. Riders listened to the students' needs and everyone benefited, especially the park! (Langley, BC)



4 Taking the Water Board to Task

High school students in Australia were concerned about their water quality, because the local water reservoir was also used for wind surfing. The students conducted water quality tests and discovered a high coliform count – their water really wasn't healthy to drink.. The local water utility refused to act, so the students went to the press with their data. When people learned about the problem in newspaper articles and TV programs, the water treatment plant was forced to upgrade its facility. (Australia)



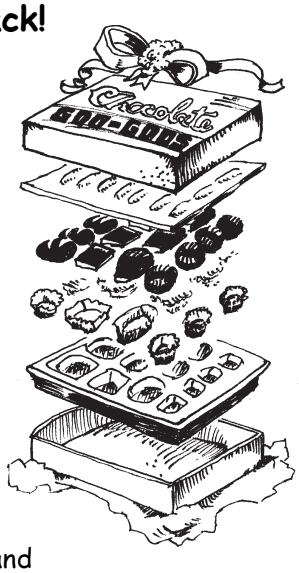
5 Community Wildflower Garden

Partnering with businesses, community members, and service clubs, several schools worked to change a grassy field into a beautiful wildflower and butterfly garden that everyone can enjoy. Nurseries donated trees and shrubs, students grew many plants from seed, and service clubs funded benches and walking/wheelchair paths for seniors who lived in a nearby residence. Some of the seniors became key consultants, lending their gardening and landscaping expertise to the project. (Surrey, BC).

6 Let's Talk Tortoise

After hearing that their state reptile, the desert tortoise, was endangered because of loss of habitat and respiratory problems, grade 6 students launched a major public education campaign. They designed posters for display at area businesses, submitted articles to the local newspapers and developed a video. They also raised funds through T-shirt sales, and "tortoise cans" to collect donations at local merchants. Finally, the class developed a proposal for the local government suggesting an "open-use" area for off-road, all-terrain vehicles so the ATV's wouldn't further damage the desert tortoises' habitat. (California)

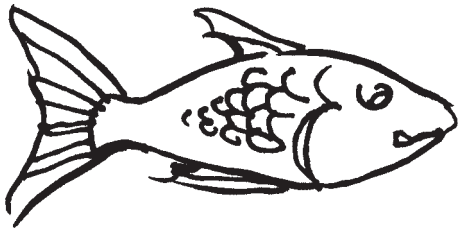
7 Over-Packaging Attack!



Grade Four students near Kelowna went on a field trip to their local grocery store. They were recycling in their classroom, and noticed that a lot of the food sold at the store was over-packaged, especially fruits, vegetables and cookies. The class decided to write to the store with their concerns, and collected samples of the excess packaging material to send along with their letters. The store manager personally visited the class and discussed ways that the packaging could be reduced, which the store eventually put into practice. (Kelowna, BC)

8 Yellow Fish Road

Elementary students in Delta, BC wanted to let people know that that whatever they put into their storm sewers flows directly into local streams. With the help of Trout Unlimited Canada, they painted yellow fish beside storm sewer entrance drains, and hung yellow fish-shaped information pamphlets on neighbourhood door handles. (Delta, BC)



9 It's a Rat's Life

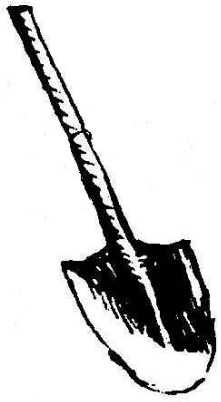
Grade 8 students in California were concerned that more and more housing developments were being built, ruining the habit of the endangered Stephens Kangaroo Rat. They created a puppet show and a study sheet to inform others about the plight of the rat. They also sponsored a kangaroo rat art contest, wrote songs, poems, and essays about various threats facing the kangaroo rat population, and designed a trail guide for a local wildlife preserve. (California)

10 *Way to Go!* Bike Path Partners

Middle school students developed a petition to lobby their municipal government for a bike path on a busy road near their school. Assisted by the *Way to Go!* Program run by ICBC, they partnered with an elementary and secondary school located close by, and organized students from all three schools to circulate the petition. City council asked the students to make a presentation and have considered budgeting for the bike path in the next planning year. (Victoria, BC).

11 Get Out the Trowels

Elementary school students from General Gordon Elementary in Vancouver, with the help of Eco Education BC staff created an outdoor classroom with butterfly and bird habitats, a grassy meadow and a place for kids to play in the shade of trees. An information board in the schoolyard provides information about the project, tips on how to green urban backyards, and facts about the plants and animals that share the space with the students. (Vancouver, BC)



12

Earth Day Celebration

As a special Earth Day Celebration, students at Beach Grove Elementary in Delta, BC developed and hosted a special *Embracing Our Environment* conference. In preparation for the event, students created art work, poster displays and information packages. Students invited Simon Jackson as their keynote speaker, a young activist who has been instrumental in raising awareness about the future of the Kermode "Spirit Bear". Each class attended two workshops on such subjects as eco-activism, ecological footprints, wetland 'critters' and creative recycling. Guests from municipal, provincial and federal governments helped host workshops and participated in the conference.

Nine community businesses and the municipality were involved in donating trees, gifts, prizes and organizational support. (Delta, BC)

13

Water, water everywhere...

In culmination of a school-wide study of water, students invited the Eco-Education BC's water crew to Discovery Elementary School in Surrey, BC. Workshops were held for all K – 7 students on water use and conservation actions. Primary students went home able to make and install a toilet water saver from a pop bottle. Intermediate students studied precipitation and learned ways to reduce water use in gardens through mulching, allowing grass to grow a little longer, and growing native plants. Each class had a native plant donated to them from the T. Buck Suzuki Foundation, which they planted on their school grounds to create a native plant garden of their own. This may serve as a reminder to students for years to come of why we need to conserve and take care of our water! (Surrey, BC)

14

Take Back the Wetlands!

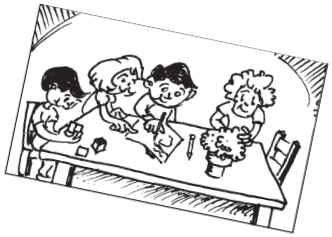
Black Mountain Elementary School in Kelowna sits on the hills overlooking Okanagan Lake and right next to the Gopher Creek wetland. In Spring 2000, the grade 6 class participated in a wetland stewardship project. The students and their teacher, Reg Volk, restored wetland habitat by planting about 100 native riparian shrubs and trees including willow, alder, saskatoon berry and birch. They also hung birdhouses around the area. Funding for the project was provided by the City of Kelowna and the Canadian Wildlife Fund. Now the wetland is used as an outdoor classroom to introduce students to the world of pond life using magnifying glasses and microscopes. (Kelowna, BC)

15

Other Action Projects

Activity 2

Get on the Case



Description

Read all about it! In this activity you'll review a real live environmental action case study and discuss what students did, how and why they did it, and things they could have done differently. Then you'll present it to the class as a skit, poem, cartoon: you name it!

Key Ideas

Reviewing and analyzing action project case studies helps provide inspiration and ideas for action projects, and develops problem-solving and planning skills.

Role-playing and simulation are important action learning skills.

You'll Need

- Copies of an Action Project Case Study (pp. 59-70)
- Chart paper & markers
- Journals or notebooks.

Do it!

The Case:

Your teacher will hand out copies of an environmental action project case study to your group. Read it carefully. Once everyone in your group is finished, discuss it together.

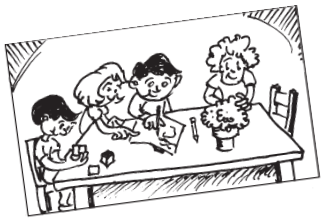
Answer these questions on a piece of chart paper:

- What was the main issue chosen by the students?
- What grade were the students in? Where are they from?
- Why do you think the students chose the issue they did?
- What was the main action or event they carried out?
- What happened: what was the result of their action?
- Can you think of things that you might do differently?

The Presentation:

Now the fun begins. With your group, decide how you'd like to present your case study to the rest of the class. Get creative and use the talents of your group members! You may want to act out the case as a skit or play, with everyone taking on different roles. Maybe you'd prefer to present it as a radio or TV interview: one person can be the reporter and the rest of the group can be students, teachers and other case members. If you're into art, develop and present your case as a comic strip! Write a rap song about the case study and perform it to music! It's up to you: once you decide on your type of presentation, run it by your teacher.

Once everyone has presented, discuss your favorite case study as a class. What makes your chosen case study the best?



Activity 3

Let's Choose Our Issue!

Description

Now that you have decided to do an action project, how do you choose one? The first and most important step is to choose an issue that you really care about. Here is a process that will help.This activity helps you put all your project ideas on the table and select ones that'll work for your class.

Key Ideas

An environmental action project must be important and interesting to students, and chosen by them.

Personal beliefs play an important role in motivating people to act.

You'll Need

- Copies of the Read This! sheet *So Why Should I Get Involved?*, p. 31
- Chart paper & markers

Do it!

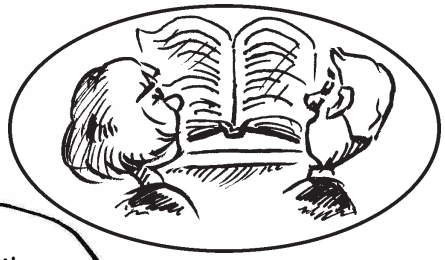
1. Read the "So Why Should I Get Involved?" Read This! page on your own.
2. Working with your group, write down a list of environmental issues that inspire or interest you, and share it. Try to find topics that you'd like to research.
3. Write up your lists of interesting issues on pieces of chart paper, and share them with the class.
4. Once everyone has presented, look at the *Choose Your Issue Checklist*. Discuss as a class.
5. Apply the checklist to all the issues listed, and narrow the list down to your top three. Get agreement or vote on the issue of choice.

Choose Your Issue Checklist

- ❑ We are interested in this issue.
- ❑ This issue is important to us.
- ❑ This issue is a real problem in the community
- ❑ We can take action on it.
- ❑ There is available information and resources.
- ❑ We can finish this project or make contributions within our time limits.
- ❑ There are people, organizations and/or experts available who can help us on this issue.

(adapted from Stapp, W. et al, (1996)

Read This!



Make Decisions!

You have a right to make some decisions about what you think is important and worthwhile – so do it! As 12-year old Toronto child labour activist Craig Kielburger said, "As young people, it is both our right and our responsibility to use our talents to help find solutions to problems affecting our world".

Do it because it counts!

It doesn't matter where you live or how old you are - each one of us has the potential to make a difference. Ten-year-old Justin fixes up old bikes and gives them to homeless kids. Andrew, a 12-year-old student, helped protect three endangered species by saving their habitats from a developer. Lara, a Grade One student, helped start a group that turned an old parking lot into a park. These people didn't save the world, but they changed what they could. And if enough people change what they can, we can build a better future.

Work for change you believe in

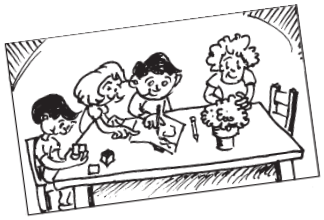
When you try to change something that you truly believe is wrong, or help someone or something else, it's exciting. "Being part of this action project is more satisfying than spending my time at the mall, or watching TV. I have a lot of responsibility. I'm learning how to deal with money, how to raise funds, how to put my ideas across. It makes me think." Sarah, age 12.

What do you have better to do?

What do ***you*** want to do with your life? You have the chance to use your energy and years to make this a better place. *"My future is now,"* says 9-year-old Bonnie, a peace activist. *" I'm living my life to the fullest right now. It all counts".*

Why Get Active?
What Do YOU Think?

(adapted from Hoose, 1993)



Activity 4

Issue Detectives!

Description

This activity gets you up close and personal with an issue, helps you collect as much background information as possible, figure out the specifics of what to work on, and develop your action project plan.

Key Ideas

Careful research, planning and goal-setting is key to an action project's success.

Environmental issues are usually large and complex, and need to be broken down to figure out where your actions can do the most good.

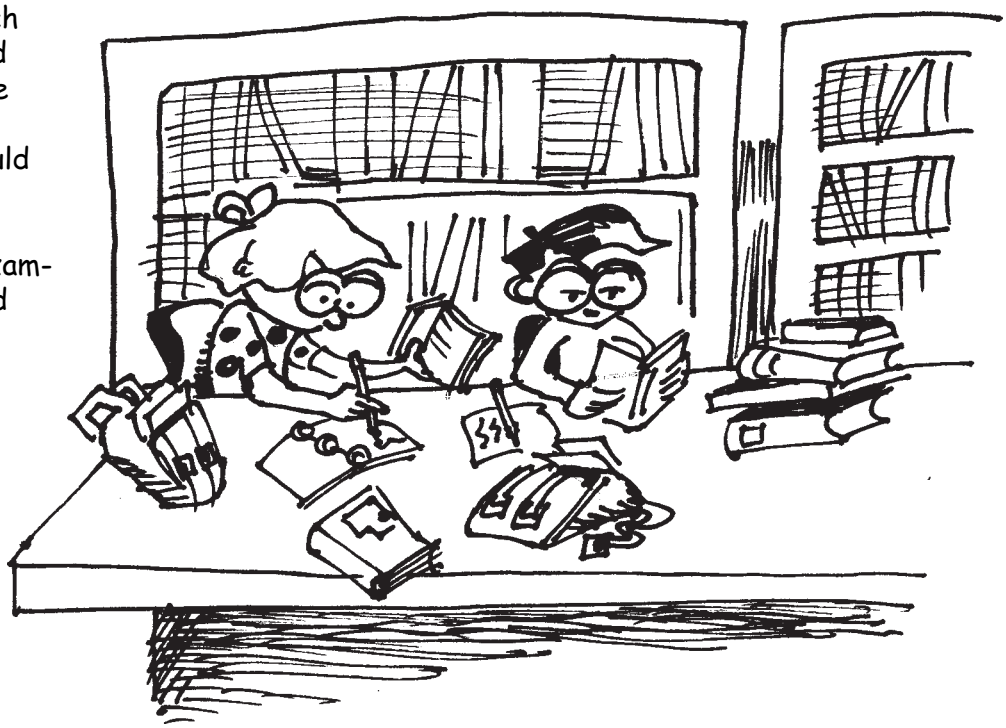
You'll need

- Notebooks or journals
- Resources and contact lists concerning the issue (see the Resources List for suggestions, p.73)
- Copies of *Mapping Your Action Project* forms, p. 36

Do It!

Become experts! This research phase is very important for laying the groundwork and building a support network for your action project.

1. Work in groups to choose and research the background and history of the issue you have chosen. Student groups could focus on collecting different types of information. For example: one group could look for newspaper articles, one group could check out environmental groups for help, another could contact the local municipal hall for information, etc.



Research Outline

Name of issue or problem

Why is it important to you?

History of the issue

Background information: i.e.

What is the problem / issue?

Why is it happening?

Who is involved?

Newspaper articles about the issue

Good books, articles and web sites about the issue

Names and contact information of people who know about the issue

Ideas for how you can make a difference on this issue:

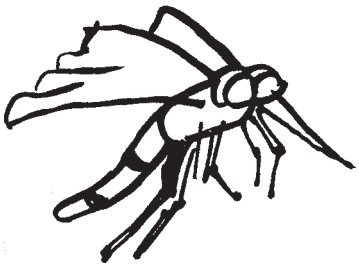
Sources to Check Out

- Books, magazines and newspaper articles.
- People involved in the issue. (Find out what groups or individuals have been involved? What are their interests?)
- Environmental groups in your community
- Resource people who know about your issue (e.g. park interpreters, naturalists, bicycle clubs, municipal workers, teachers). Check out if interviews, guest visits and field trips can be arranged.
- Internet information and good websites
- Other schools that have done similar projects

2. Gather your data as a group, and present it to the class. Make sure you list all the books, websites and sources you use when collecting your research. Everyone's information will be compiled and used to help fill out a *Mapping Your Action Project* Form.

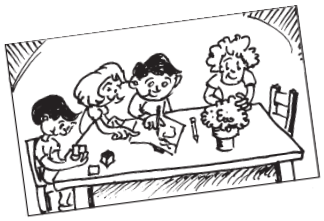
What Did You Learn?

Summarize your group's research for the class and write it up as a report for your teacher.



"If you think you're too small to be effective, you have never been in bed with a mosquito."

—Bette Reese



Activity 5

Goals, Teams and Maps!

Description

It's time to make a project plan, including reading about what other classes have done, deciding on your goal, making and joining work teams and mapping out actions.

Key Idea

Careful planning and goal-setting are key to an action project's success.

You'll need

- Chart paper & markers
- Notebooks or journals
- A calendar
- Copies of *Mapping Your Action Project*, p. 36, and *Team Form: Making It Happen,* p. 37.

Do It!

1. As a class, think about the goal of your project and write your ideas on the chart paper: what exactly is it that you want to achieve? A tip: think of action verbs, like *change, educate, stop, and create*, and then add a few words to create a goal statement, like:

   "Educate our community about preserving wetlands"

   "Stop cars idling in our schoolyard"

   "Reduce the amount of energy our school uses each year."

2. Time to choose a strategy: What's a good way to reach your goal that will be successful? Get creative and brainstorm with the class, writing down all your ideas. For example, to stop cars idling in the schoolyard; "We will create signs, posters and a parent newsletter", or "Write a play that includes songs and perform it." Note: One good way to get ideas is to read about what other students have done. Your teacher may give you some case studies to read through for inspiration.

3. Now, with the class, work through the *Mapping Your Action Project* form and fill it out as best you can. It'll take more time and research to fill out the form totally but you can make a good start on it now.

4. Team work Rules! Time to divide up into teams and figure out what jobs need to be done. Reviewing the *Mapping Your Action Project* form will help. As a class, figure out what teams you'll need for your action project and write them up on the board.

Examples might include:

Research: Keeping up on the latest information about your issue, making a handout about your issue

Media: Contacting local newspapers and radio stations to publicize your event, or making announcements over the school PA

Special Events: Coordinating and scheduling any events that need to happen, putting together an issue timeline of what happened / will happen, inviting speakers

Logistics: Getting refreshments, tools, materials, figuring out who needs to be at events when, organizing clean-up

Budget: Dealing with fund-raising, keeping track of things you buy and need, balancing the books

Letters: Writing and sending out letters and email, answering the mail, writing thank-you notes

5. Sign up for a team that interests you the most, meet with your team members, choose a new team name if you want, and fill out the Team Form: Making It Happen! (Note: If the project is a long one, you may decide to change everyone's jobs part way through so people don't get tired of doing the same thing.)

Mapping Your Action Project Form

School _____

Class _____

1. What environmental issue will your project focus on? _____

   _____

2. Describe the goal of your project: what exactly is it that you want to achieve?

   _____

   _____

3. Choose a strategy that will get you to your goal. _____

   _____

4. What are the specific steps that will help you reach your goal?

   _____

   _____

   _____

5. What are your available resources (people, things, funds)?

   _____

6. Map out actions on a calendar – make sure you give yourself enough time to plan each step well.

7. Getting the word out: How will you create greater awareness of the issue?

   _____

8. Who and what will benefit from this project (the environment, the community, the economy, students, others?)?

   _____

9. Describe how you will measure your success.

   _____

10. Is funding required? Make a budget and list some fund-raising and publicity ideas.

    _____

Student Form

Team Form: Making It Happen!

Class: _____

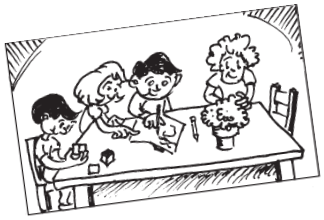
Action Project Name: _____

Team Name: _____

Date _____

How will the Team's work be completed?:

Task	Who	How	Resources	Deadline	Done √



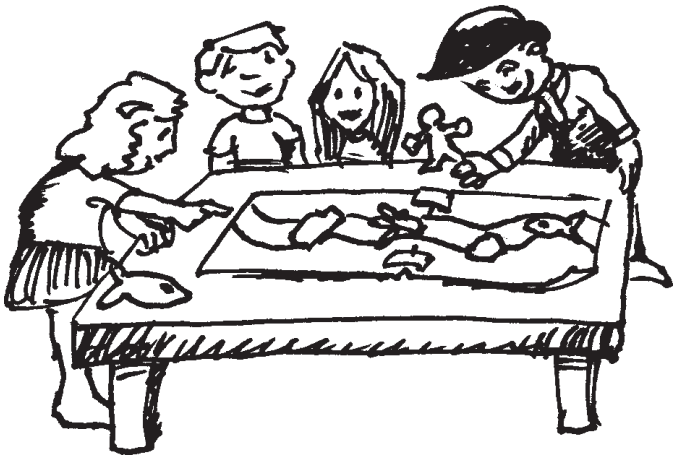
Activity 6

Reflecting on Action: Swimming Upstream!

Description

In this activity you build a stream as a metaphor or model of your action project! The start of your action project journey is one end of two pieces of chart paper taped together lengthwise. The successful end of your action project journey is the other end of the paper. On the way, you (the **fish**, the projects' strengths) will meet **boulders** (barriers) that you need to navigate around, **food** (the stream insects - material resources or things you need, like money, tools, donations), and **humans** (people who have helped and could help in the future, like experts, group members, parents).

Through creating a *"stream model"* of your action project, you'll identify barriers, strengths, opportunities and resources to overcome the barriers and move ahead.



Key Idea

It is important to take time to stop and look back at a projects' development, reflect on its progress and plan for the future.

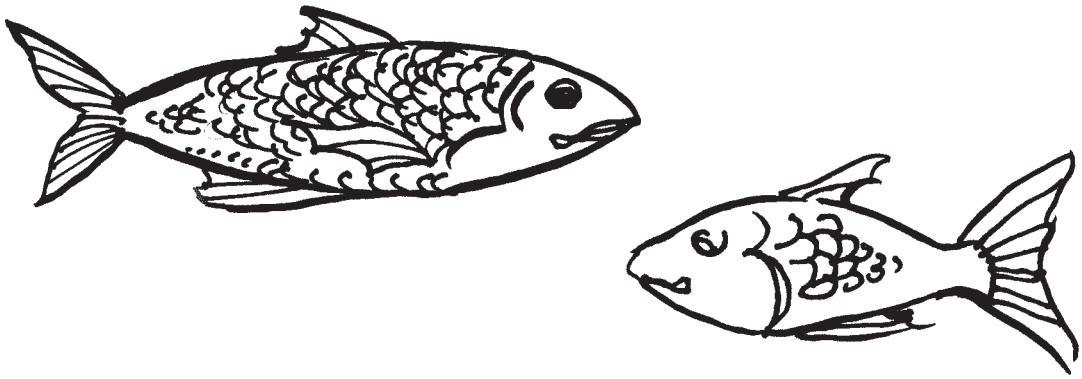
You'll Need

- Chart paper & markers
- Four colours of construction paper cut out in the shape of boulders (brown) fish (pink), stream insects (green) and humans (yellow), masking tape.

Do It!

1. In groups of 3-5, brainstorm barriers that you have encountered so far on developing your action project. Write each barrier down with a marker on a brown boulder (one per boulder). Tape your barriers onto the chart paper, trying to group them into categories as you go: E.g. "Lack of time" could go beside "Too many other commitments". When you have identified all the current barriers, see if you can think of future barriers that you can see coming up. Include these, too.

2. On the pink fish paper, brainstorm and write down all the things that your group has going for you that could help you overcome the barriers - one item per fish. For example: "Lots of energy", "Good artists", " Good organizer", "Good cooks".



3. Now tape the fish onto your "stream" chart paper. If you can, tape them near the barrier that they can help address. E.g. "Good organizer" could go near "Lack of time". Talk about all the things you have going for you as a class.

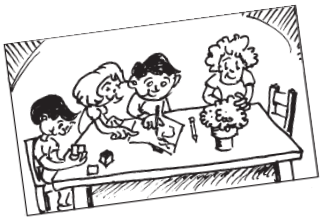
4. Next, identify the physical and human resources that have helped your project along and write them down on the green food insects and the yellow humans. E.g. a bake sale that raised $100, a local garden expert. Tape these resources up on your stream. See if you can also identify some future resources that you haven't tapped yet, and include these in your stream mural.

5. Look over your stream picture and see if it gives you any inspirations about the future direction of your project. Discuss the question: "Where do we go from here"? Have one group member write down everyone's ideas into a list.

6. In your groups, share your "streams" with the rest of the class, describing all the different parts and your list of future ideas.

What did you Learn?

(adapted from a Learning for a Sustainable Future activity, 2001)



Activity 7

Reflecting On Action: How Are We Doing??

Description

With all the different things going on in an environmental action project, how do you know if you have made the right decisions, set realistic goals and plotted the right course for success? Check in while it's happening and at the end of the project to see for yourself, by using a self-evaluation form and some guidelines developed by other students.

Key Ideas

Reflecting on the progress of an action project helps you identify what you've accomplished, what has and has not worked, what you still have to do to reach your goal in case you need to change course, and how it all turned out.

Self evaluation is an important way to assess action projects, as they are planned and carried out by the students themselves.

You'll Need:

- Copies of these sheets:
- Read This! *Guidelines for Action* Sheet
- *How Are We Doing* or *How Did We Do?* forms
- Notebooks or journals

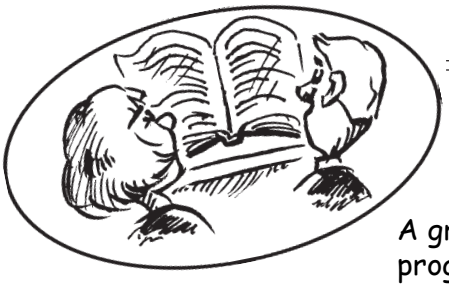
Do it!

For an evaluation session *during* your action project:

1. In your teams, read the *Guidelines for Action* sheet and discuss the eight points.
2. Discuss how your team rates on each of the guidelines. Look back at your completed *Mapping Your Action Project* and *Team Form: Making It Happen* if you filled them out, to help you remember project details.
3. Put a tick next to the guidelines that your team has done well on, write n/a ("not applicable") next to any guidelines that don't apply to your project, and put a * next to the guidelines that you could do better on. Spend some time discussing how you could improve on these. Now read through the *How are We Doing? Self-Evaluation as You Go* form and discuss and answer the questions with your team.

For an evaluation session *at the end of* your action project:

1. Read through the Guidelines for Action again, and see where your team has done well, and where you could do better if you were doing the project over again.
2. Read through the *How Did We Do? Self-Evaluation at Project End* form, and answer the questions with your project team.



Guidelines for Action

A group of high school students in the Florida Lee County Schools program developed these guidelines for doing action projects. Think about adapting them for your project, or come up with your own set!

1. Take Only Positive Positions

Instead of saying what you're against, think of what you are FOR. If you're against something, you must be for something else as the solution.

2. Do Your Homework

Be prepared. Complete your research - study the issue and all its different elements and viewpoints. Become an expert on your topic. Know that what you are saying is based on evidence and facts.

3. Know Your Community

Be aware of all the people and their positions on the issue. Know who's for, neutral, or against your position. Interview those for and against your position. Know how to defend your group's position and when and how you could accept some parts of other peoples' positions.

4. Listen to All Peoples' Views

Attempt to see all sides of the issue. Focus on the good in others, the good in yourself and the good you are doing. Maintain an open mind and listen actively to what others have to say. Treat every person as you would like to be treated, with respect and consideration.

5. Avoid Stereotyping.

It is easy to lump individuals into a category or group, like "All developers care about is making money." Stereotyping is misleading, often blocking solutions rather than building bridges among people or groups. Recognize that each person holds his or her own identity within a group.

6. Accept Responsibility

Never blame anyone or anything else for your lack of success. Accept responsibility and move on - look to what you could have done better.

When you encounter a block, back off, reconsider your options and directions, then try another route. Never let failure be an endpoint rather than a new beginning: use what you have learned.

7. Be Persistent

Hang in there! Environmental problems are complex and usually take years to develop. Look at the big picture and don't let small obstacles get you down. Think long term — but break your plan into smaller projects and monitor progress on these as you go. Recycle your efforts. You know far more the second time through the process — do it again.

8. Celebrate!

Hold a celebration when the project is completed or when you've reached a milestone. Hooray for all you have done so far!

(adapted from Hammond, 1993)

How are We Doing?
Self-Evaluation as You Go

Note: *If you need more room, use another sheet of paper.*

Class _____

Group/Team _____

1. What is the goal of your project? _____

   _____

2. What has your group done so far to accomplish its goal? List the main steps that you have been through, and describe each one briefly.

   _____

   _____

   _____

   _____

3. What has worked really well? Why?

   _____

   _____

4. What hasn't gone very well, and why?

   _____

   _____

5. How is the teamwork going? How could your team be more effective?

   _____

   _____

6. What further steps are needed to complete your project? How can you use what you have learned so far to make these steps successful?

   _____

   _____

How Did We Do?
Self-Evaluation at Project End

Note: *If you need more room, use another sheet of paper.*

Class _____

Group/Team _____

1. What was the goal of your project? _____

2. How did your group accomplish its goal? List the main steps that you went through, and describe each one briefly.

3. What was the most successful or positive part of your project? Why?

4. If you did the project over again, what (if anything) would you differently, and why?

5. How well did you work as a team? How could your team be more effective next time?

6. What did you learn doing this project that you'll be able to use in other situations?

Field Trip / School Activity Consent Form

School: _____ Supervising Adult(s): _____

Destination: _____ Cost to student: _____

Departure date/ time: _____ Return: _____

Transportation: Parent / adult driven vehicles School bus Other: _____

Activities: _____

Name of Student: _____

- I have been provided with information about the planned field trip(including educational objectives, agenda, itinerary, level of supervision, safety concerns, fund raining, mode of transportation, etc.)
- I have ensured that the above names student will carry a piece of personal identification on the field trip.
- I feel that I have received sufficient information and give my consent.

Signature of parent or guardian: _____ Date: _____

OR

- NO I do not give my consent for the following reasons (on back of form.)

Photograph Release Form

School: _____

Date: _____

Re: Release for Student Photograph

I give permission for photographs of _____, taken during school activities, to be included in media, including print, video, CD-ROM and educational websites. Unless further permission is granted, student names will not be used.

I understand that these materials will be for educational use, or for promoting educational programs.

Signature of parent or guardian: _____ Date: _____

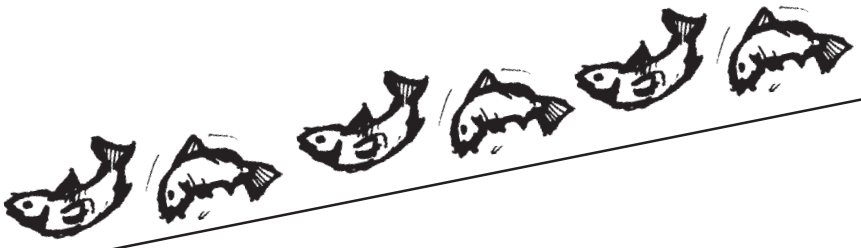
OR

- NO I do not give my consent for the following reasons (on back of form.)

SECTION 3
For the Student

ACTION PROJECT TOOL KIT

Skill-Developing Activities to Help Students Do Action Projects



To the Teacher:

Here are some great tools to help make things happen. Activities and tips on each sheet will help students develop and practice some of the skills that they will need to do an action project. Use these as needed, depending on the type of project selected by the students.

This section contains five Student Action Sheets on the following topics:

Action Sheet 1: Write a Letter! 46

Action Sheet 2: Pick Up the Phone 48

Action Sheet 3: Sign on the Line - Build Support with a Petition 50

Action Sheet 4: Just Ask! Do a Survey 51

Action Sheet 5: Use the Media for Fame AND Good Marks! — Write a Media Release 53

Action Sheet 6: "Now How Will We Buy That Wheel-barrow...?" — Fund Raising Action Projects 55

Action Sheet 7: Choose Your Date Wisely: Annual Environmental Celebrations and Events 56

Note: When planning many of these action projects, make sure you get parental permission first. See sample Parent Permission Form on the preceding page.

"We must become the change we want to see."

— Gandhi

Write a Letter!

The price of a stamp can buy a lot of action! Writing letters is a good way to let people know what you think, ask for information or support, work with people in organizations or government, or thank those who have helped you.

How To Do It

- Put the date at the top, plus your name and address, so the person you're writing to can reply.
- Make it neat – you don't have to type it as long as it's tidy.
- Be personal – say who you are, what school you go to, and why you care.
- Get right to the point and say what you want. Keep it short and address only one issue in each letter.
- Don't try to sound like an adult – just be yourself.
- Address it to a specific person. Often that's someone local who has the power and the contacts to do what you need done.
- Be accurate. If you have statistics or can describe the problem in detail, do so.
- Say exactly what you want that person to do. Be polite and stick to the facts.
- Be informative: State your own views and support them with your knowledge.
- Close the letter with "Sincerely" and sign your name.
- Keep a copy of your letter – put it in a file to keep track of what you asked for when.

Sample

Green Valley Middle School
Prince George, BC V2S 3Z1
May 2, ____

Ms. Betty Broccoli, Manager
Super Shop Groceries
21 Mega Mall Drive
Prince George, BC

Dear Ms. Broccoli,

We are seventh grade students from the Green Valley Middle School. We are writing to urge Super Shop not to sell items that contain too much packaging. We are working on a class project on sustainability. Last Wednesday we took a field trip to your store, and counted 63 products that had at least four layers of packaging. We have attached a list of these products. Some packages had hardly any food in them. For example, *Sweetie Pie Cookies* come in an outside plastic package, a cardboard box, a plastic tray with three rows inside and there are only 3 cookies in each row. As you may know, most of this packaging ends up in our landfill, taking up space that we need. We want you not to sell over-packaged products. We would like to meet with you to discuss ways to solve this problem, and will call soon to set up a meeting. Thank you for your time. We look forward to meeting with you.

Sincerely,

(27 students)

Practice!

Now, write a sample letter about any issue you choose; e.g. a letter to an elected official, a letter asking for information from an organization, a thank you letter to a company who donated equipment for a project. Make sure your letter includes:

1. The full mailing address and proper title of the person (if you know it).
2. A clear statement of the issue or problem that you want to write about.
3. Your position on the issue or problem, clearly explained, or a request for the specific information you need.
4. Good reasons or supporting information for your position to show you have solid background knowledge of the issue. Are there opinions, survey data, or statistics you could include?

Pick Up the Phone

You're probably an expert when it comes to using the telephone to talk with friends, family or order pizza, but did you know that phones are also great tools for action projects? You can use telephones to interview people, get information about the issue you are working on, or talk to government people about your concerns. It is important to learn and practice telephone skills before calling organizations and government offices.

How to Do It

Get Ready - Find the Number

Phone books are great places to start. Most directories have white, yellow and blue sections. The **white pages** list the phone numbers of people as well as groups and companies in alphabetical order. Look up the last name of the person or the first name of the company or organization. The **Yellow Pages ™** list phone numbers of businesses, organizations and professionals in alphabetical order, by specific categories. The **blue pages** contain government phone numbers. Federal, provincial and municipal governments each have their own section, so you need to know what level of government you need to speak to. For example, if you need information about garbage pick-up, you'll need to contact your municipal or regional government. The BC provincial government has a free number to call for help in finding the program, service or person you need to speak with: Call **Enquiry BC** at 1-800-663-7867 (in Victoria call 387-6121). There are also websites that list online phone books – search the Web for listings in your area.

Get Set - Prepare for the Call

Get permission to use the phone at home or school. Never make long distance calls without asking. Sometimes calling people in government or organizations can make you nervous. So it's a good idea to **Practice!!** – Review these guidelines and do the practice activity before making a "real" call!

Get organized and make a list before you pick up the phone. Write down the name of your contact, the reason for your call – what you want to ask and say, your address and phone number to give to the person at the end of the call, and space to record information your contact gives you. Do your homework: explore the organization's website if they have one to make sure you are not asking questions that are answered on the website.

Go! - Make that Call

Make sure your phone location is quiet. When someone answers, speak clearly and tell them your full name and school. If you don't have a contact name, briefly state what kind of information you are looking for and ask to be put in touch with the appropriate person. Prepare for "roadblocks" with answers like: "Could you suggest a time I might call back?" "Could you suggest someone else who might be able to help me?" "Be ready to leave a clear message if you get directed to a voice mailbox. Don't give up if you don't get a call back right away. Call back in a few days until you get the information you need. Be polite and calm. When you reach your contact, get their correct name, title, address, phone number and email address. Make sure they know how to get in touch with you too. Be sure to say "thanks".

Keep Records

Review your notes and add anything else you can remember from your conversation. Rewrite your notes and contact information in your journal or notebook. Write down your next steps.

Practice!

Practice will make you a phone pro. Read through the How to Do It section. Now work in groups of three to conduct practice phone situations. One person can "make" the call, another can receive it and the third person can observe. Make three phone calls from the Phone Call Ideas list below, switching roles each time. Tape record the calls, or make cardboard phone receivers for fun.

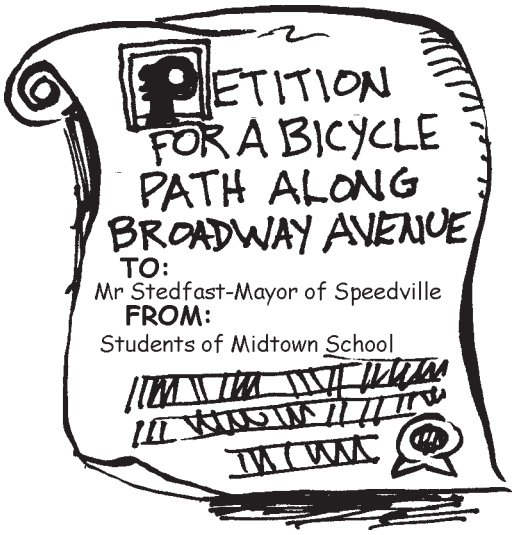
1. Select roles and phone call ideas.
2. Take a few minutes for each person to prepare statements, questions and answers.
3. The callers should sit back to back, the observer should write notes.
4. Review the discussions that developed, identify strong and weak points, areas of confusion, and ways to improve.
5. Rotate roles and repeat steps 1-4. Do at least one "public" round in front of the whole class to become "phone certified": classmates can support and critique one another.

Phone Call Ideas

1. Call the city / town bylaw officer to see if there are any rules around idling vehicles.
2. Call your provincial Member of Parliament to discuss ideas on reducing global warming in your province.
3. Call the police department to discuss ideas for working together to reduce littering and vandalism in a local ravine.
4. Call the water treatment plant to talk about your findings based on water quality tests you completed, which suggested that there is a high level of organic matter coming from the plant.
5. Call Ducks Unlimited (an environmental organization) to ask for information about working together on a wetland rehabilitation project.
6. Call your local grocery store to check out their claims of selling organic, local produce.

(Adapted from activities developed by William F. Hammond, Ph.D. Florida Gulf Coast University, and the Lee District School System, Florida. 2000)

Sign on the Line - Build Support with a Petition



What's a petition? It's basically a statement of your position on an issue that is signed by people who agree with you. It lets decision-makers know that a lot of people are concerned about a specific issue, and asks them to take action.

How To Do It

- Give your petition a title that sums up the issue in a few words.
- Identify your group: Your school / class / Grade.
- State your purpose –the reason for the petition and facts to support your cause.
- Make a request. What do you want the person receiving the petition to do to solve the problem?
- Make sure the petition asks the people who sign it to give their names, addresses, and phone numbers. That way you know how to reach them if you need their support later, or want to send them information.
- Petitions are great for interesting the media about your cause or issue. Call reporters when you deliver your petition to the decision-makers.
- Make a copy and file it somewhere safe. Don't give away your only copy.

Tip: If there's more than one page to your petition, you must rewrite the purpose and request at the top of each page.

Sample

Petition for a Bicycle Path along Broadway Avenue

To: Mr. Stedfast, Mayor of Speedville

From: Students of Mid Town Middle School

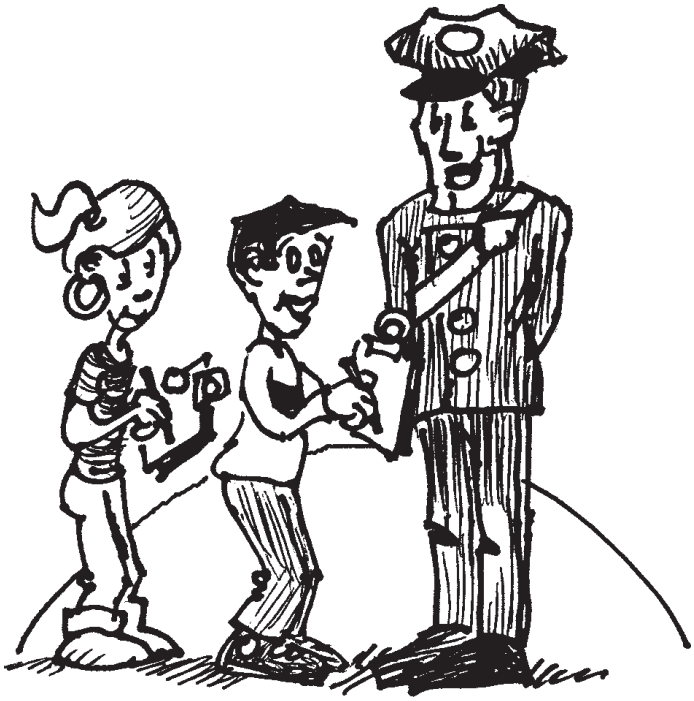
We, the students of Mid-Town Middle School, would like a bicycle path to be built along Broadway Avenue, from Oak Street to Main Street. We would like to be able to bike and roller blade to school safely. Our Grade Eight students are hosting *Bike To School Days* every Wednesday this fall. Biking to school reduces the number of cars that travel to school, keeping our school safer, our environment cleaner and our air fresher. Our school is located on Broadway Avenue, a busy traffic area. It is dangerous to ride a bike on this street. We believe that a bicycle path would be much safer and healthier for students and community members.

Name(Print)	Signature	Grade	Address	Phone

Practice!

With a partner, decide on a change that you both would like to see in your school. Then create a petition.

Just Ask!
Do a Survey



A survey is a great tool for figuring out what people think about an issue or idea. Surveys can also help you raise awareness in your community about an issue. For example, you might want to know how many people are affected by a problem in your community, like air pollution, and how they feel about a solution your class has come up with. So go ask them! To make sure you get the right information in an organized way, follow these steps for a super survey.

How To Do It

Step 1 Decide: Is a Survey What You Need?

First of all, you need to figure out if you really do need to do a survey. Do you need specific information from other students, parents, or community members to work on your environmental issue? Maybe there's another way – e.g., through research – that you can get the information you need. Once you figure out what you want to know, write down the issue (like wanting a bike path by your school) and then write down the things you need to know *before* you do your survey (e.g. Where exactly do you want the bike path to be? What bike paths already exist? Are there city or municipal rules about bike paths? How much do bike paths cost? Where will the money come from?). Doing your homework is important: you might find out that the city is already planning to build the bike path you want!

Step 2 Figure Out Your Questions

OK – so you think you need to ask some questions. Think about the people who'll be answering your questions. Do you want to just ask students about how they feel about your school grounds and what they'd like to change? Do you want to ask people from your town if they think air pollution is a serious problem in your community, and if they know about the laws that limit pollution? Write down all the things you want to know. E.g., Do people think air pollution is a problem? Do they know about laws that exist? Do people think there should be laws, like anti-idling laws for cars and busses?

Step 3 Keep it Short and Sweet

More people will be willing to answer your questions if your survey isn't too long. Make up a maximum of 5 questions that can be answered by a *yes, no* or *not sure*. Questions that can be answered "yes" or "no" are the easiest for people to answer and are also simple to add up and figure out. For example: "Do you think air pollution is a serious problem in our town?" "Do you have any breathing problems?" "Do you know about any laws that limit air pollution that exist in our community?" "Do you think there should be laws about air pollution?"

Step 4 Create Your Survey

Write the title of the survey at the top. Remember to introduce yourself and say why you are doing the survey. Start with something like: *Greetings! My name is _____. I am a Grade ___ student at _____ School. I am doing a class project on air pollution.*

Do you mind answering a few questions?

Now list your five questions, with spaces for answers.

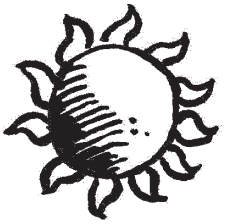
E.g. "Do you think there should be laws about air pollution"?

___ Yes ___ No ___ Not Sure

Step 5 Go Out and Ask – Conduct your Survey

Surveys can be done by phone, by mail, or in person. The best way to do a survey is face-to-face, as it is the most direct way to get the information you want. You can do surveys in public places like your school, community center, or park, but you may have to get permission, and have a teacher or parent there to supervise. Always work in pairs, and remember to be friendly and polite. Take lots of copies of your survey and plenty of pens! It's helpful to have clipboards, too. You can make a clipboard with a piece of wood or cardboard and an alligator clip.

Step 6 Publicize Your Findings



Now it's time to organize the information you collected. Work in groups to add up the answers from your surveys, and write the total numbers up on the board. Now think of ways to display your information: make a chart, graph or diagram from the class's information to illustrate what you found out.

It's important to let other people know the results of your survey. Put together a display on a school bulletin board that shows what you found out. You could even write a story for the local paper about your research!

Practice!

Try it out: Follow the steps to create a survey about a topic that you are concerned about. Ask a partner to answer your questions, and then answer their survey. Talk about any problems you might have had understanding or answering questions, and work to make your surveys better.

"The horizon leans forward, offering you space to place new steps of change."

—Maya Angelou

Use the Media for Fame AND Good Marks! — Write a Media Release

Are you planning a big fund raiser to raise money for your school garden, or a River's Day celebration to get information on the importance of rivers out to your whole school? Is your class working on a stream clean-up project? You could spend a month giving speeches about your environmental action project and maybe reach 1,000 people. Or, you could reach the same number of people and perhaps many more, by giving an interview on your local TV or radio station, or getting an article in the newspaper. You'll get valuable free publicity if the media picks up your story.

A good way to get the media interested is to send them a media release — a short outline that gives specific information about the event or project your are working on.

How to Do It

1. Answer the five W's – the "journalists' rundown":

   Who?
   What?
   When?
   Where?
   Why?

   It's no good telling people about an event and then forgetting to tell them when it's happening and where it'll be held.

2. Don't forget the "H" – **How?** Provide some information on how it all began or how you got interested in the issue in the first place. This helps people understand how the event came about.

3. Keep your descriptions short and to the point, and remember to include the contact name of a student and a teacher from your class, and the school phone number.

4. Follow up with a phone call. Make sure your media release has reached the right person, and find out how they intend to publicize it. See whether they'd like any more information.

Sample

* * * MEDIA RELEASE * * *

November 3, ____

Students Sling Spaghetti to Save Swampland!

1. **WHAT?** Describe your event or the issue you are working on with an interesting, catchy first sentence. Think of ways you can make your event different and special, so you can get the attention of the reader.

   E.g. Grade Five students from Soggy Bottom Elementary School are hosting a Fantastic Italian Feast and Fiesta! Superb spaghetti, great garlic bread, wonderful wine (for the adults!), jazzy juices and marvelous music will be served up by costumed students for only $10.00 a person! Mama mia what a deal!

2. **WHO?** (Say who you are – your school, grade, club, etc.

3. **WHEN, WHERE?** Location, Times, Dates – when and where will the event take place

4. **WHY?** Other details, like the goal for your event, the amount of money you hope to raise, if anyone famous will be attending.

   E.g. Money raised will go towards our goal of raising $5,000 to buy part of Soggy Bottom Swamp to be used as an outdoor learning center. Mayor Wanda Wetly and her family will attend and lead the dancing!

5. **HOW?** What got you interested in this project, how did it all begin?

5. **END** – Write the word "END" so they know there is no more to come. Keep it short and sweet – it should not be more than one page long.

6. **WHO TO CONTACT FOR MORE INFO?**
   Contact student's names (two maximum)
   Teachers name
   Full School address, postal code
   Telephone and fax numbers
   Email address (if you have one)

Practice!

With a partner, make up an event that you'd like to advertise, and write a 1-page media release following the steps above.

"Now How Will We Buy That Wheelbarrow…?" Fund Raising Action Projects

Action Projects, like many other things, usually require some extra cash to make them happen. In this era of tight budgets and school district cutbacks, students and teachers have to be pretty creative in finding the funds to make their projects go. One route is to request funds from granting agencies (see list of Funding Sources, p. 79). Or, you may decide on a community fundraiser. Here are some tried and true tips for raising some cash and having fun doing it: call it *"Fun Raising"* instead!

The fund-raising event(s) can be thought of as a separate action project in itself, with its own benefits: getting the project funded, teamwork skills, financial management planning skills, fiscal responsibility practice, making connections in the community, and organizational, public speaking/ writing/ promotions skills development. This way, fund-raising becomes its own FUN process, and not another add-on that takes extra time and energy.

Draw Up a Plan

First of all, make a plan together, and write it down, complete with a budget for your project, ideas for raising funds, who will do what, and a timeline - when you need the money. This will help keep you organized and make sure that ten students don't all descend on the same shopkeeper in one week! All good fund raising plans have one thing in common: they have a variety of sources for their income. In other words – get support from as broad a base of people as you can. If possible, go beyond the parents into workplaces, local businesses, clubs, and organizations.

Ask for Stuff

Ask stores for direct donations of things you might need: for example, if you need a wheelbarrow or plants, a local hardware store or nursery might give them to you. Make sure the store is recognized for their donations, in school newsletters, signs and any media that's produced.

Use Your Skills

Poll your class to find out who can do what: are there dog lovers who could offer dog walking to raise money? cooks who could whip up gourmet meals? students with gardens who could sell some of their produce? people who could give pottery lessons?

Host a Garage Sale

Hold a garage sale at the school and ask parents for donations to sell – most people have things they'd like to get rid of!

Host a Pasta Feast!

Have a spaghetti dinner at a church or union hall or other big room with a large kitchen. Charge $10 per person and feed them lots of pasta, sauce, salad and bread. Grocery stores might even donate the food!

Have a Food Tasting Event

Ask a local orchard or fruit grower/ ice cream producer / cheese-maker to donate some of their produce and host a tasting event: charge admission and advertise the companies' products for them.

Hold a Spare Change Drive

Ask people to put all their spare change into big jars at the school every week for 1-3 months. Hold a money-rolling contest to see how fast students can roll up the coins!

Good luck with your Fun-Raising!

(Reference: "The Board of Directors", a publication of the Grassroots Fundraising Journal, Chardon Press, copyright 1996, 2000. Check out more ideas at www.grassrootsfundraising.org/titles/55ways.html)

Choose Your Date Wisely: Annual Environmental Celebrations and Events

January

New Year's Environmental Resolutions ..... Jan. 1 onward

February

World Wetland Day ..... Feb. 2
Great Backyard Bird Count ..... Feb. 16-19

March

World Poetry Day ..... March 21
World Day for Water ..... March 22
World Meteorological Day ..... March 23

April

World Health Day ..... April 7
National Wildlife Week ..... 2nd week in April
Earth Day ..... April 22
Day of Forests ..... April 23

May

National Composting Month ..... May
National Forestry Month ..... May
National Forest Week ..... 1st week in May
International School Grounds Day ..... May 1
Celebrate our Watershed Week ..... 1st week in May
National Drinking Water Week ..... early May
Emergency Preparedness Week ..... May 7-13
International Day for Biological Diversity ..... May 22

June

Bike Month ..... June
World Environment Day ..... June 5
Clean Air Day ..... June 6
Canadian Environment Week... 1st week in June
World Environment Day ..... June 5
World Oceans Day ..... June 8
National Transportation Week ..... early June
World Day to Combat Desertification and Drought ..... June 17

July

World Population Day ..... July 11
Canada Parks Day ..... July 19

August

International Day of Indigenous People ..... August 9
International Youth Day ..... August 12

September

International Ozone Day ..... September 16
International Day of Peace ..... September 21
BC Rivers Day ..... September 28

October

World Habitat Day ..... October 6
World Rainforest Day ..... October 12
World Food Day ..... October 16
Day of Action to Save Endangered Species ..... October 18
United Nations Day ..... October 24
Waste Reduction Week ..... Mid October
National Science & Technology Week ..... Mid-October

November

Buy Nothing Day ..... November 28

December

World AIDS Day ..... December 1
Human Rights Day ..... December 10
Christmas Bird Count ..... end of December

SECTION 4
For the Student

CASE STUDIES

A Selection of Student Action Projects that Really Worked

These success stories come from students, teachers and community groups across BC, with one from Alberta. They are full of ideas, tips, challenges and solutions that will help you plan and carry out your own environmental action project. The stories are also inspiring and motivating models for how students "just did it" – and what they accomplished.

Contents

1 - Bow Valley Wildlife Crossing 59
2 - Floating Islands in Stanley Park 60
3 - Strawberry Vale Native Plant Garden 61
4 - Galiano Water Habitat Restoration 62
5 - Buckingham School Garden 63
6 - Colquitz Watershed Stewardship 64
7 - Galiano Eelgrass Project 65
8 - Mount Doug Transportation Project 66
9 - Royston Salmon Fry Project 67
10 - Highlands Butterfly Garden 68
11 - Westridge Juice Box Recycling Program 69
12 - K.B. Woodward Gardens 70
13 - Armstrong Litter-a-thon 71
14 - Vernon Streamside Planting 72

Teacher Laurel Gurnsey and students from Buckingham School, Burnaby, beside their Earth School banner. (Case Study 5)

Royston Elementary students, under the direction of teacher Gord Fyfe, remove eggs from an adult coho. (Case Study 9)

Students from Strawberry Vale School, Victoria, go gardening. (Case Study 3)

1 - Bow Valley Wildlife Crossing

Minister of Canadian Heritage Sheila Copps recognizes student action on the environment

Choosing the Issue

Kids in the Bow Valley, just outside Alberta's Banff National Park, care a lot about wildlife. In September 2000 students from Canmore's Laurence Grassi Middle School invited Gareth Thomson, Education Director of the Canadian Parks and Wilderness Society, to talk to their classes about wild animals and how to help them.

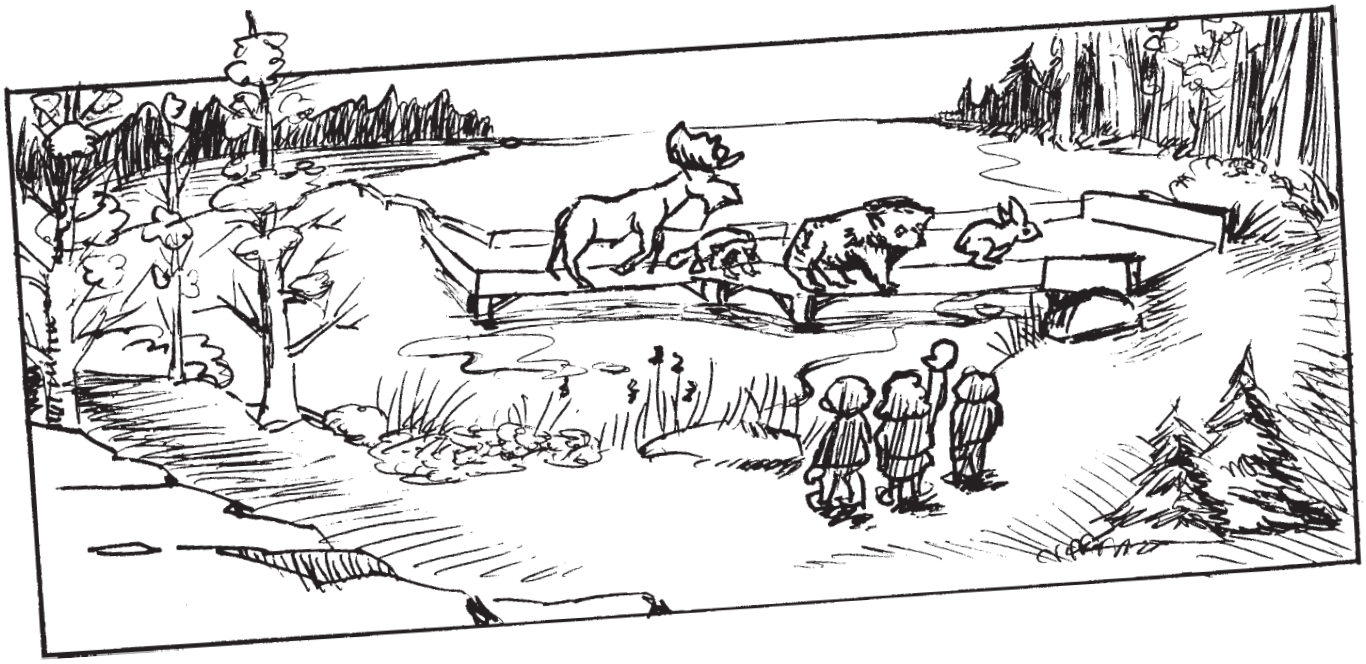
What They Did

Following his presentation they focused on a goal: persuading all stakeholders to build an engineered wildlife crossing structure over the Rundle Forbay, a man-made lake that interrupts a major wildlife corridor.

With the help of teachers Brenda Davison and Wendy Allsopp, the students used local media to raise this issue within their community, and made presentations to hundreds of elementary students, who sent posters, postcards and letters to local decision makers...

What Happened?

In June of 2002, the Honorable Sheila Copps, Minister of Canadian Heritage, announced that the federal government and its partners would build a crossing structure, as part of the federal governments' 'G8 Legacy,' a commitment designed to help improve the quality of the local environment. During the Minister's speech in Canmore, the longest and loudest applause was reserved for the students, who were told in no uncertain terms by the Minister: "Today, it is clear to everyone in this room that your actions have made a difference."



2 - Floating Islands in Stanley Park

Grade 6 Students Create Floating Island Habitats for Animals

Choosing the Issue:

Grade 6 students and teachers from five Vancouver schools decided to explore their own communities and see how they could make a difference.

What They Did:

Students found partners in the community: scientists and environmental leaders. The Stanley Park Ecology Society helped them find the perfect project — creating floating island habitats for animals in the park. Vancouver Park Board staff donated time and resources to help launch the Islands on Lost Lagoon. Five classes collaborated on a stewardship project to create a refuge for waterfowl in Stanley Park. Kids were involved in all aspects of creating the Islands— including the digging!

What Happened?

The floating island habitats will become a legacy in Stanley Park. They have been created to offer the wildlife of the lagoon ecosystem refuge from predators and human traffic and pets. It is anticipated that there will be numerous additional benefits to the Lost Lagoon ecosystem, including:

- Secluded nesting location for waterfowl and other birds.
- Water filtration; vegetation on and beneath the floating islands may filter pollutants from the water, similar to the wetland on the north-east corner of the Lost Lagoon.
- Public education and awareness about the problems associated with feeding and approaching wildlife.

3 - Strawberry Vale Native Plant Garden

Working with the community, students create a native plant garden and wetland for their school.

Choosing the Issue:

Students, staff, parents and members of the community came together to design a native plant garden for Strawberry Vale School in Saanich, under the leadership of teacher Lenny Ross. The garden contains varieties of native plants from the endangered Garry Oak ecosystem.

What They Did:

This project, which has been in progress for the past six years, involves three components: 1) the native plant garden; 2) a wetlands area where all the on-site water collects to be biologically cleansed before being released into the local watershed; and 3) outdoor teaching areas. Students raised funds in various ways: they organized a pledge system, and held bottle drives and garage sales. Members of the community pledged funding and provided donations in kind, including help from a municipal crew with the placement of large trees, large rocks from one company, and cedar chips from another.

Students, in partnership with the grounds crew, laid gravel and cedar chips to build a trail from the playground, through the garden, into the wetlands. After the ground was prepared students planted and cared for the native plant species. Finally a gazebo by the garden and a dock in the seasonal pond have been added as outdoor teaching areas.

What Happened?

- Students now have a place to relax or play quietly during their free time, and teachers in the school have a great outdoor teaching facility.
- Wildlife habitat has improved and butterflies and sparrows enjoy the garden while ducks and tadpoles paddle in the pond. Students enjoy exploring 'wild' thickets or donning rubber wading boots as they study macro-invertebrates and aquatic plants.
- A permanent connection with the broader community has been developed through the garden path that connects the school to a municipal trail system.

4 - Galiano Water Habitat Restoration

Senior elementary school students work to restore water habitats in their area.

Choosing the Issue:

As part of a program called "From the Forest to the Sea Watershed Education", the Galiano Conservancy and the SeaChange Marine Conservation Society developed a restoration project with teachers at the Galiano Community School. It was designed around the interests of students in grades six to eight.

What They Did:

Students surveyed streams to test the quality of the environment for fish, and studied the creatures that live around them. They learned about fish requirements in John Pritchard's Pond, an off-channel fish habitat for Cutthroat trout. To stabilize the pond banks and provide shelter and food for the fish, they researched the requirements of different plants, learned proper planting techniques, and planted vegetation to restore the area.

The students were interested in birds, beavers and amphibians. They were divided into three groups, each of which studied the environmental requirements of one of these groups and mapped Laughlin Lake from the perspective of those animals. They looked at historical maps of the lake, photographed, mapped, and made drawings of the lake areas where their animals might have lived. Then they removed invasive plants, salvaged plants from roadside ditches for planting at the lakeside and gathered seedlings for further restoration efforts on that site.

What Happened?

The habitat for wildlife around the lake was improved to the benefit of the whole community.

Information was collected at the stream in accordance with the Stream Keepers program, and sent to the Department of Fisheries and Oceans, where it became part of the database of the program. In this way, the students not only improved the habitat of the watershed in their own community, but participated in a program with significance for the broader community.

5 - Buckingham School Garden

Students at Buckingham School in Burnaby complete over 1,000 projects to achieve Earth School status in the SEEDS program, and receive Youth Awards from the City of Burnaby and the BC Ministry of the Environment.

Choosing the Issue:

This elementary school has been very active for 18 years. School-wide programs (students do individual projects also) include garbage-reduction; paper, battery and printer cartridge recycling; letters to industry; lighting efficiency; and successfully lobbying a textbook company to pack its books in recycled paper instead of styrofoam.

One project started when parents asked for a garden at the school. Teacher Laurel Gurnsey and her grade 4-5 class created one on the park-like slope of the school playground.

What They Did:

Mrs. Gurnsey and several students and parents planned the garden, parents and teachers dug the hole, and new topsoil was brought in. Students learned about root structure, aeration, proper watering, weeding, spacing, how and when to prune, and then did the planting. They have helped to replace six dying trees in other parts of the school grounds and also planted 12 rhododendrons and native plants which can survive without water during the summer period. Students who knew nothing about plants can go into the garden and work there on their own. The garden is now three years old.

Every lunchtime, grades one and two students collect used tetra-paks and pop cans, for recycling. The proceeds from this (about $200 available at any one time) fund the new plants and soil needed each year.

What Happened?

A more diversified environment has attracted birds and animals to the garden, enriching the students' surroundings. Children take books out to the garden in the warmer weather and lie down in the grass to read and watch the wildlife. The students have developed a feeling of ownership of the garden, and it has become a teaching area for the school.

6 - Colquitz Watershed Stewardship

Students in two school districts develop a stewardship program for their local watershed.

Choosing the Issue:

The Colquitz Watershed Stewardship Project involves about 800 students from the school districts of Greater Victoria and of Saanich, from grades one to eight. The project is co-coordinated by teacher Lenny Ross. The main objective of the program is education, not only of the students, but of the public as well.

What They Did:

The program involves a series of steps over the course of the school year, beginning with in-service training for teachers on an aquatic theme. From this, the teachers create units of study for their students. The spring brings field trips such as watershed tours. Students travel from the source of the river at Beaver Lake to the estuary at Portage Inlet. On the way they stop at a variety of stations where they learn about a wide range of issues such as water quality, aquatic wildlife, and the impact of human activity on the watershed. Then they create projects around these same issues. Positive activities such as stream and schoolyard cleanups, storm drain marking, recycling, or water-wise gardening give the students a chance to be part of a community effort to solve watershed problems.

What Happened?

The final part of the program is making the public aware of the activities of the students in a number of ways. Their projects may be highlighted at a festival, or they may distribute newsletters to inform the community of their activities. In this way, the students play their part in educating the public about good environmental practices in the watershed, and thus become its 'stewards'.

7 - Galiano Eelgrass Project

Senior elementary school students increase eelgrass in a local harbour.

Choosing the Issue:

The SeaChange Marine Conservation Society, with the Galiano Conservancy Association, set up an eelgrass restoration program for grades six to eight with the teachers at the Galiano Community School. The program was incorporated into the school's science curricula as part of the "From the Forest to the Sea Watershed Program"

What They Did:

At low tide, the students collected loose eelgrass rhizomes from Montague Harbour and placed them in an eelgrass aquarium for propagation. Eelgrass is an important habitat for all sorts of marine life, including salmon fry which are protected by the blades of the eelgrass while they feed. Eelgrass habitat aquariums can be cooled by either a saltwater cooler or by tubing connected to a freshwater aquarium. (Contact Nikki Wright at (250) 383-7790 for information.) These habitats can serve as outstanding teaching tools when placed side by side with a salmonid aquarium.

The students discussed the effects of human activity on eelgrass beds. Kayakers trampling on it repeatedly while entering or exiting the water, anchors from recreational boats dragging into the beds and sewage from boats and houses can damage these plants. The young people observed the marine life collected by divers and temporarily housed in beach aquaria. Back at school, the students monitored the temperature, depth, nitrate and pH levels of the water in the aquarium, and at the end of the school year, they transplanted the eelgrass back into Montague Harbour.

8 - Mount Doug Transportation Project

Students at Mount Douglas High School in Victoria organize events and activities to raise awareness of transportation concerns.

Choosing the Issue:

A vehicle trip reduction program is the focus of the Better Environmentally Sound Transportation (BEST) organization based in Vancouver. Their "off ramp" program, the goal of which is to reduce car trips by 20%, is designed for high school students. When a letter of introduction was sent to Mount Doug High two years ago, students were eager to be part of the program.

What They Did:

Although BEST provides an "off ramp" coordinator, the program is largely student led. They raise awareness of transportation concerns by planning, organizing and carrying out events and activities at their school around special days such as Earth Day. At Mount Doug, Montana, an enthusiastic grade 12 student, leads the group this year.

The past year's activities included a labyrinth walk with candy and jazzy quotes at the centre; the unveiling of a new bike rack; the making and distributing of fortune cookies with funny transportation messages at the Chinese New Year; a slurpee run (neither motorized not foot transport allowed); and a treasure trek which lead to great prizes, which were donated by merchants in the community. Learning to approach members of the community for support has been part of benefit of the program for the students.

What Happened?

Although there is no firm data, one parking lot at the school is rarely used, though it used to be full. More bikes grace the new racks. On event days, the number of bikes ridden to school is about three times the norm.

9 - Royston Salmon Fry Project

Students at Royston Elementary School raise salmon fry to release into local waters.

Choosing the Issue:

Students at Royston Elementary School on Vancouver Island are helping to increase the salmon population of their area, by collecting eggs, and also raising fry from eggs.

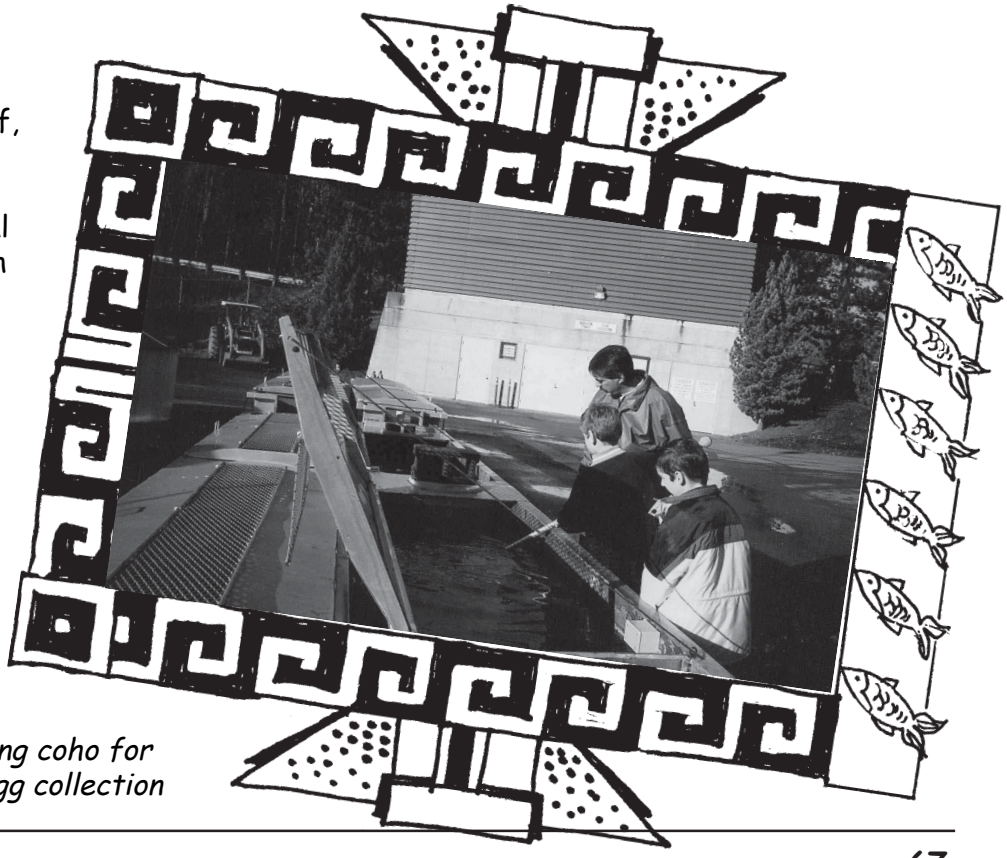
What They Did:

The Grade 5 class receives 100 coho eggs yearly from the Roy Creek Hatchery to place in an aquarium which simulates a stream environment. With the help of their teacher, Gord Fyfe, student volunteers record the current water temperature daily and monitor the accumulated thermal temperature to determine the different stages of egg development. When the eggs become swim-up fry, they begin to feed them. Eventually the fry are released into a local stream approved by the Fisheries Department. To enhance this program for the students, a fisheries support person gives a demonstration dissection, after which the students do their own dissection. Doing this, they learn anatomical information and vocabulary.

The students also take part in the Junior Fish Culture Program offered at the Puntledge River Fish Hatchery. The students catch salmon, anaesthetize them, kill them, bleed them and clean them. Eggs are removed from the females, and milt from the males. They fertilize eggs and put them into incubation trays in the hatchery. Some months later, they release 3,000 to 4,000 live eggs into Millard Creek. As well, they study the aquatic insects salmonids feed on.

What Happened?

The students acquire a greater understanding of, and respect for, the life cycle of salmon and for the water quality of local streams. By working with established fisheries programs and volunteers to ensure that live salmonid are released into local waters, they develop a sense of stewardship in the community.



Netting coho for the egg collection

10 - Highlands Butterfly Garden

Student 'EarthShakers' at Highlands Elementary School in North Vancouver create and tend a butterfly garden in their school grounds.

Choosing the Issue:

Highlands Elementary School in North Vancouver had a schoolyard of "mud, soggy ground and drainage pipes". In 1996, a group of parents started planning a 'greening' project. They discovered that what the students wanted to create was a butterfly garden.

What They Did

Planning, consultation among staff, students and parents, and fundraising took a year. The community provided considerable material support to the project by donating funding, trees, shrubs and huge amounts of soil, raffle proceeds, labour and the loan of a bobcat to re-grade the garden and remove asphalt. The students put on a concert to which the price of admission was a large rock for the garden.

The students, in grades kindergarten to seven, decided where the garden plants and path-ways should be located, and went to work to create them. Work started when "a hive of student activity" dug through 30 loads of fill and found enough rocks to create borders for the planting areas. Each class adopted, named and planted a donated tree, looks after the garden and picks up garbage around the school. Students collect seeds from plants they have planted themselves for propagation and planting the next spring. Older students teach younger ones what they have learned, and the area is more and more integrated into the school science curriculum.

What Happened?

- Students have learned pride in achievement and the necessity for continuous care of their garden.
- Teachers use the garden for classes in art, science, ecology, poetry and other classes.
- Ties to the community and parents have been strengthened (parents look after summer maintenance and pruning).

With permission from Evergreen

11 - Westridge Juice Box Recycling Program

Juice Box Power:
Grade Six Students Set Up Juice Box Recycling

Choosing the Issue:

Rachel and Chantel, two Grade Six students at Westridge Elementary School in Burnaby, BC, began thinking of ways to reduce the amount of garbage their school made after taking part in a waste audit activity with the Eco Education's Waste Reduction Crew. The two girls found about 20 juice boxes in one garbage can following lunch hour. This seemed wasteful to them, so they did some research and learned that juice box containers could be diverted from the landfill and recycled into new products. They approached their teacher about setting up a recycling program, and she helped them get the entire class on board!

What They Did:

The Grade 6 class started up a juice box recycling program at their school. Special containers, like decorated cardboard boxes, were made for each classroom in the school. These helped remind students not to throw out their juice boxes, but to place the empty ones in the containers after lunch. A system was established where every Friday afternoon, the Grade 6 class would visit each classroom and collect and sort the juice box containers for recycling.

What Happened?

The principal of the school showed support for this project by honoring the class with the Principal's Choice Award. The project continues to be supported by this years' Grade 6 class. The school has expanded their waste reduction efforts to include a weekly litter-less lunch program.

Rachel and Chantel shared some thoughts on setting up an action project:

We learned about taking charge and continuing something we started with a project, and saving the environment.

When you put your mind to something you believe in you can continue with it for many generations.

The stuff we learned from doing the juice boxes kind of just helped how our life will be when we grow up. Maybe make a better chance of us being able to live in a clean society with lots of fresh air and trees and plants.

12 - K.B. Woodward Gardens

Students at K.B. Woodward Elementary School in Surrey create a series of gardens in their school yard.

Choosing the Issue:

Woodward's school ground was "a field of gravel with only two trees in the entire area". Teachers and formed a 'School Ground Naturalization Committee'. Eleven sites on the school grounds were identified for naturalization over a three year period.

What They Did:

Funds were raised by approaching organizations whose ethics and environmental practices were respected by the committee.

The garden has several distinct sites (an aspen garden, a butterfly garden, a winter garden, a kindergarten forest, wildlife hedgerow, orchard and walled garden). Students researched appropriate plants for these locations, studying the names and uses of plants, growing conditions, shade and drainage patterns on the school's land. They mapped the garden, and located paths through the aspen garden so that kids could appreciate the plants "without stepping all over them". Staff, students and parents together built 60 feet of planter boxes as the first phase of the project. Once holes had been dug (by a bobcat) for large trees, they all took part in planting the trees. The students are responsible for the care of the garden, and see themselves both as protectors of the garden and educators to the younger children.

What Happened?

The students' environment has been enhanced and teachers are able to use the garden as a teaching area.

Students have developed "a deep knowledge of native plants and life cycles and an increased respect for the nature around them". Their work with younger children has fostered a sense of continuity and stewardship.

By permission of Evergreen.

13 - Armstrong Litter-a-thon

Students at Armstrong Elementary School (Armstrong,BC) involve their community in a Litter-a-thon

Choosing the Issue:

Staff and students at Armstrong Elementary chose the issue of littering to raise awareness about the amount of garbage in their community, and the positive actions we can take to make a difference. If younger children take responsibility, perhaps older children and adults in the community will become more conscious of their waste disposal, too.

What They Did:

About eighteen years ago, Armstrong Elementary School sponsored the first annual "Litter-a-thon." In the early years, students collected pledges for each kilogram of garbage the school could collect. When the snow was gone, classes went to designated areas in town and picked up litter. Students brought empty grocery bags from home to collect garbage in, and then put them into larger bags for pick-up. Rural students cleaned up roadsides in their area and had parents bring the bags to school. Students weighed all the bags and kept track of how much each student brought in. The first year they averaged 1000 kg, and raised $1.20 per kg. It required two or three large pickup loads to take it to the land fill! The proceeds went into an environmental fund for projects and field studies.

For several years students used latex gloves, but they are expensive, rip easily, and some children are allergic to them. Recently, students have just put a plastic bag over their hand with an elastic band around their wrist to hold it on. The children are instructed to leave condoms, needles, broken glass, and other dangerous items for adults to deal with.

In recent years the school decided the community was already contributing enough to the school, and so they do the Litter-a-thon as a public service. The City Council provides funding for the project, Pitch In Canada (http://www.pitch-in.ca/) provides large garbage bags and promotional materials, and a local grocery store also provides garbage bags. Every year the local paper does a story on the event.

What Happened?

Presently all three elementary schools in Armstrong are involved, with 900 students and teachers participating. Over the eighteen years we have gone from over 1000 kg. per year to less than 300 kg. per year, or one trip to the landfill instead of three trips. It seems the citizens of Armstrong have taken the hint, and reduced their litter.

" I believe we have helped change attitudes and habits in our community. Every 'litter bit' helps." – Teacher, Armstrong Elementary School

14 - Vernon Streamside Planting

Ashton Creek students (Vernon, BC) restore stream habitat, replanting the stream-side with willow whips.

Choosing the Issue:

For many years students at Ashton Creek Elementary, in Vernon, BC, have been raising salmon fry in the classroom, and releasing them back into the wild. Students have developed a strong bond with these little creatures. They were concerned that the stream where the salmon were released was damaged due to erosion, silting and lack of stream-side vegetation, and would get too warm in the summer for the fish to survive.

What They Did:

Scientists at the Kalamalka Forestry Research Center provided expertise and plant material, and the Department of Fisheries and Oceans Community Advisor provided funds for tools and permission to plant native plants. In the first few years, students planted 1-2 year old plants, which required care over the summer. Recently, they have planted mainly willow whips, which have been more successful.

Riparian or stream side vegetation is important for many reasons:

- It provides shade that keeps water temperatures lower
- Plant roots help prevent erosion of stream banks
- Leaves and insects fall into the stream, providing nutrients
- It provides habitat for insects which may fall directly in to the stream, becoming food
- It provides corridors for wild life to move from one place to another
- It helps filter the air and produce oxygen.

From January to early March (when trees are dormant) students go out with hand clippers and collect willow whips. The whips are cut about a meter long, the top five centimeters are removed, and they are stored in plastic bags and either buried under the snow or put in cold storage. In late April, usually around Earth Day, the whole school goes planting. Students push the whip about one third to one half into the soft soil close to the water, and – using their heels – close in the hole around the top so that no air can get in. Older students go around afterwards and tug on the whips to make sure they are solidly planted.

What Happened?

For the past two years the school has planted the "Dale Channel," a side channel-rearing project on the Shuswap River twenty kilometers from the school. It was very rewarding to go back a second year and see the healthy willows, planted the year before.

Environmental Organizations & Websites

Better Environmentally Sound Transportation

BEST strives to make our communities healthier places to live by promoting sustainable transportation and land-use planning, and pedestrian, cycling and transit-oriented neighbourhoods. BEST hosts the Off Ramp program, a student-driven, secondary school vehicle trip reduction program.

822-510 West Hastings Street,
Vancouver, BC, V6B 1L8 Canada
Tel: (604) 669-2860
Fax: (604) 669-2869
Email: best@best.bc.ca
Website: www.best.bc.ca

BC Ministry of Water, Land and Air Protection

PO Box 9342 Stn Prov Govt,
Victoria, BC, V8W 9M1
Email: www.gov.bc.ca

The Canadian Nature Federation

The CNF works to foster an understanding of nature and to raise awareness of the role everyone can play in conserving Canada's natural heritage. The NatureWatch programs encourage participants to learn about the environment while gathering the information scientists need to monitor and protect it. Action projects and Teacher kits are available on lady beetle identification, Canada's species at risk, *Frog Watch, Worm Watch, Ice Watch, Plant Watch, and Project Feederwatch.* Read the newsletters on-line.

Suite 606, 1 Nicholas Street, Ottawa, Ontario, Canada K1N 7B7
Tel: 613-562-3447 Toll-free: 1-800-267-4088.
Fax: 613-562-3371
Email: naturewatch@cnf.ca
Website: www.cnf.ca

SECTION 5
For the Teacher
RESOURCES

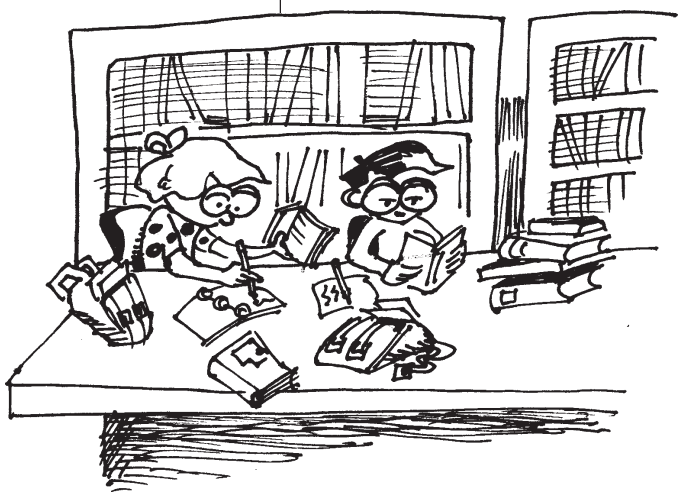
Contents

Environmental Organizations & Websites 73
This is a partial list of organizations that have on-going action learning opportunities, school programs and resources to support students and teachers in engaging in environmental action projects.

Funding Sources 79
Organizations that can help you fund your project.

Action Learning Resources .. 81
These are pertinant books and articles on action learning.

Motivational Resources 82
Resources to help move from knowledge to action.



The Canadian Parks and Wilderness Society (CPAWS)

CPAWS promotes awareness and understanding of ecological principles and the inherent values of wilderness through education, appreciation and experience. The Calgary-Banff Chapter has staff dedicated to conservation and school programs, and capacity building through their NEE (Network of Environmental Education) initiative. Check out their web site to download free lesson plans for teachers on topics such as Grizzly Bears, conservation biology, and endangered species.

CPAWS - Calgary/Banff Chapter
1120 1202 Centre St. SE
Calgary, Alberta T2G 5A5

Tel: (403) 232-6686

Fax: (403) 232-6988

Email: info@cpawscalgary.org

Website: www.cpawscalgary.org/education/ (Visit the NEE portion of the website for useful resources, including "How to Get Action.")

Ducks Unlimited Canada

DU's education efforts are aimed at fostering public awareness of the value of wetlands and encouraging support for their conservation. DU provides free resource materials to assist educators in meeting curriculum requirements in the life sciences.

Grades 4 to 6: Habitats, Communities and the Diversity of Life

Grades 7 to 8: Interactions and Ecosystems

Grades 9 to 12: Evolution, Diversity and the Sustainability of Ecosystems

Ducks Unlimited Kamloops
954 A Laval Cres. Kamloops, BC V2C 5P5

Tel: (250) 374-8307

Fax: (250) 374-6287

Email: du_kamloops@ducks.ca

Ducks Unlimited Surrey
13370 78 Ave., Unit 511 Surrey, BC V3W 0H6

Tel: (604) 592-0987

Fax: (604) 592-0930

Email: du_surrey@ducks.ca

Environment Canada

Check out the *2002 Framework for Environmental Learning and Sustainability in Canada* on-line at www.ec.gc.ca/education. The document was written with the collaboration of many educators and organizations across Canada, and more than 130 organizations wrote an Action Plan to support the Framework that may provide project inspiration and background. They are grouped by province on their site, and you can search by key words.

Evergreen

Evergreen is a national non-profit environmental organization with a mandate to bring communities and nature together for the benefit of both. Evergreen's school program, ***Learning Grounds***, brings teachers, students and neighbours together to transform traditionally barren asphalt and turf school grounds into natural outdoor classrooms through planting trees, shrubs and wildflowers, planning meadows or ponds, and creating murals, sculptures, and vegetable gardens. The **Learning Grounds Tool Shed** lists available teacher resources, and the Teacher's Corner is a database of lesson plans, tips and techniques for teaching in an outdoor classroom. View on-line versions of *All Hands in the Dirt: A Guide to Designing and Creating Natural School Grounds* and *Stewards and Storytellers: The Greening of British Columbia School Grounds*. Educational activities, resources guides and videos also available.

404 - 134 Abbott Street
Vancouver, British Columbia V6B 2K4

Tel: (604) 689-0766

Fax: (604) 669-6222

Email: infobc@evergreen.ca

Website: www.evergreen.ca

Garry oak Ecosystem Education Kit (GEEK)

GEEK's Mandate is to educate and inspire the public on the values of Garry oak ecosystems as well as promote awareness, stewardship and restoration activities in the Southern Vancouver Island - Georgia Basin region. An up-coming Educators Guide will soon be available.

Environmental Education Officer

c/o Environmental Services, Municipality of Saanich

770 Vernon Ave, Victoria, BC, V8X 2W7

Tel: 250-475-1775

Fax: 250-475-5450

Email: macdonac@gov.saanich.bc.ca

Georgia Basin Ecosystem Initiative

Environment Canada's Georgia Basin Coordination Office

Email: GeorgiaBasin@ec.gc.ca

Website: www.pyr.ec.gc.ca/GeorgiaBasin

Georgia Strait Alliance Strait Keepers

GSA Strait Keepers is committed to providing intertidal stewardship education and leadership through the process of community science training and in-community monitoring programs, involving beaches on the Vancouver Island and Gulf Island coasts. They are building a base of committed volunteers (including school groups) who are willing to learn more about the intertidal zone and collect data to be used as part of the GSA data base.

#12 Centennial Square, Victoria, BC V8W 1P7

Tel: 250-381-8321

Email: cathy@georgiastrait.org

Website: http://www.georgiastrait.org

Green Street

This environmental education initiative provides free, pre-screened, action-based, curriculum aligned programs to elementary and secondary schools across Canada. Program providers and materials available from environmental organizations such as Ducks Unlimited, Evergreen, Sierra Club of BC , Canadian Nature Federation and CPAWS.

Tel: 1-877-250-8201

Email: lindsaye@green-street.

Website: www.green-street.ca.

Learning for a Sustainable Future

Learning for a Sustainable Future (LSF) is a non-profit group that works at all levels of education to promote and facilitate sustainable development education. They also facilitate the creation of partnerships and community-based networks composed of educators, students, community and business representatives and individuals. Their Guide for Engaging Students in Community Action Projects can be ordered from their web site.

343 York Lanes, York University

4700 Keele Street, North York, Ontario M3J 1P3

Tel: 416 327-2032

Fax: 416 736-5436

Email: rubinoff@yorku.ca

Website: www.schoolnet.ca/learning

LifeCycles Project Society

Lifecycles is a non-profit, youth-driven community based organization dedicated to cultivating education and hands-on action projects around food, health and urban sustainability in Greater Victoria. They have school (*Growing School*), youth capacity building, internships and community programs.

527 Michigan Street, Victoria, BC, V8V 1S1

Tel: 250-383-5800

Fax: 250-386-3449

Email: info@lifecyclesproject.ca

Website: http://www.lifecyclesproject.ca

Living by Water Project

Living by Water Project is a national partnership group working toward healthier human and wildlife habitat along the shorelines of Canada.

They offer programs, workshops, educational and promotional materials to help community groups in stewardship efforts - either to complement current programs and activities or to get started on a new shoreline related initiative: check out *Community-based Action Program for Shorelines (CAPS)*, the *Shoreline Ambassador Program* , which provides recognition for work done, and *"On the Living Edge - Your Handbook for Waterfront Living"*.

BC / Yukon Project Office
PO Box 7, Salmon Arm, BC, BC, V1E 4N2
Tel: 250-832-7405
Fax: 250-832-6874
Email: lbywater@jetstream.net
Website: http: / / www.livingbywater.ca

Nature Conservancy of Canada

The Nature Conservancy of Canada (NCC) uses donor dollars to buy and protect land. Since it was established in 1962, NCC and its supporters have helped to preserve a total of 1.68 million acres of ecologically significant land across Canada, an area the size of PEI. Students are encouraged to become aware of and visit ecologically significant areas in their region and many classes have raised money to help purchase them.

NCC British Columbia Office
26 Bastion Square, Suite 202
Victoria, BC V8W 1H9
Tel: (250) 479-3191 Toll-free: 1-888-404-8428
Fax: (250) 479-0546
Email: bcoffice@natureconservancy.ca
Website: www.natureconservancy.ca

Pacific Shorekeepers and Reefkeepers

Shorekeepers and Reefkeepers are trained volunteers who monitor the intertidal and subtidal habitats along B.C.'s coast. The data are collected by following written protocols to ensure they are of sufficient quality to be used by scientists and managers. Get your class involved: Contact them for educational resources and training of elementary to high school students in monitoring skills:

c / o Institute of Ocean Sciences
9860 W. Saanich Rd, Sidney, BC, V8L 4B2
Tel: 250-363-6395
Fax: 250-363-6310
Email: sihing@pac.dfo-mpo.gc.ca
Website: http: / / www.pac.dfo-mpo.gc.ca / sci / protocol

Pembina Institute for Appropriate Development

The Pembina Institute is dedicated to providing educators with comprehensive multi-media materials for teaching about global environmental issues. Environmental education programs include **Re-energy.ca**, a renewable energy project kit that can be downloaded and printed from the world wide web - for free! This Web-based tool features do-it-yourself plans to construct working renewable energy models including a solar car, solar oven, wind turbine, small-scale hydro generator, and a biogas generator, all of which produce useful energy. Grades 7-12: check out **Climate Change Awareness and Action**, a comprehensive multimedia package for teaching about climate change in secondary schools.

Box 7558 , Drayton Valley, AB, T7A 1S7
Tel: (780) 542-6272
Fax: (780) 542-6464
Website: http: / / www.pembina.org

Salmonid Enhancement Program

SEP helps primary and secondary students in B.C. schools raise salmon in their classrooms from eggs, eyed eggs, alevin and finally to fry. Interested teachers receive aquariums, materials and educational resources to assist their learning of the salmon life cycle. The program lasts for approximately eight months of the school year. SEP has been operating in BC schools for over 20 years. Support is available through a network of Community Advisors and Education Coordinators located province-wide. Check out the web site for those nearest you: www-heb.pac.dfo-mpo.gc.ca/community/dir/advisor_e.htm

There is also a catalogue of materials, curriculum connections, "How-to" manuals, field study tips, and an *Ask Dr. Fish* hot line for answers to questions related to salmon and SEP: see www.educ.sfu.ca/nbcr/fishforum/Add.html**.** Supported by Fisheries and Oceans Canada Habitat & Enhancement Branch.

Tel: 604-666-6614; fax 604-666-0417

Email: dayj@pac.dfo-mpo.gc.ca

Website: www-heb.pac.dfo-mpo.gc.ca/community/education/salmoned

SeaChange Marine Conservation Society

SeaChange, in partnership with other community conservation groups, educates youth about marine issues and restores marine habitats, such as eelgrass beds. We depend on volunteers of all ages including scuba divers, educators, students, retired folks, scientists and others to work on watershed and marine education programs, transplanting eelgrass meadows. School programs and marine aquarium set-ups available.

3047 Admirals Rd, Victoria, BC V9A 2S1

Tel: 250-383-7790 or 250-514-4465

Fax: 250-383-5470

Email: seachange@axion.net

Website: http://www.seachangelife.net

SEEDS Foundation

The SEEDS Foundation has a 'environmental green school' program, where schools across Canada get recognized for completing and recording 100 environmental projects. A Support Kit, banner, trophy, log book, and certificates help guide the teacher. Kit available for about $50.00 – see their web site for more information and a list of 170 Environmental Action Ideas to do in Schools.

Suite 202, 25 St. Michael Street, St. Albert, AB T8N 1C7

Tel: 1-780-458-2411

Fax: 1-780-458-2770

Email: seeds@telusplanet.net

Website: greenschools.ca/seeds

Sierra Club of British Columbia

The Sierra Club of BC offers a series of K to 12 school programs investigating the ecology of, issues surrounding and stewardship solutions as they related to the Temperate Rainforests of Canada. Several learning resources are available, including activity guidebooks investigating the Temperate Rainforest of Canada, maps and map-making skills and applications, Appropriate Technology, Wood Stewardship, and Global Living.

302-733 Johnson Street, Victoria, BC V8W 3C7

Tel: 250-386-5255

Fax: 250-386-4453

Email: info@sierraclubbc.org or jenn@sierraclubbc.org

Website: http://www.sierraclub.ca/bc

Stanley Park Ecology Society

Urban Stewards is an innovative curriculum based program developed by the Stanley Park Ecology Society to engage Grades 5-7 students in stewardship action through environmental education.

Tel: 604 257-6907

Email: school@stanleyparkecology.ca

Stream Keepers Program

The Pacific Streamkeepers Federation is a non-profit society helping streamkeepers take action through support, education and building partnerships. A streamkeeper is an individual, or a group of individuals, who want to recover and restore ecosystems around local streams and watersheds. Stream Keepers offers workshops for adults, and school, programs for secondary and primary students. They also offer action modules on streamside planting, stream clean-up and monitoring.

720 Orwell Street,
North Vancouver, BC, V7J 2G3

Tel: 1-800-723-PSkF (7753)

Email: pskf@direct.ca

Website: http://www-heb.pac.dfo-mpo.gc.ca/PSkF/home.htm

The Land Conservancy

Otherwise known as TLC, The Land Conservancy of BC is a charitable membership based land trust that protects areas needed for natural communities to survive. It now owns over 6,000 acres and holds long term leases on an additional 76,000 acres, protecting a total of over 82,000 acres of environmentally sensitive lands throughout BC. Students are encouraged to become aware of and visit ecologically significant areas in their region and many classes have raised money to help purchase them.

2709 Shoreline Drive,
Victoria, BC V9B 1M5

Tel: (250) 479-8053

Fax: (250) 744-2251

Email: admin@conservancy.bc.ca

Website: www.conservancy.bc.ca

Trout Unlimited Canada

The Yellow Fish Road Program is a national program that educates the public about the dangers of dumping unwanted household chemicals down urban storm drains. Volunteers paint yellow fish symbols beside sewers and distribute fish-shaped brochures to nearby households. Download a free program package from their website.

PO Box 6270 Station D
Calgary, Alberta T2P 2C8

Tel: 1-800-909-6040

Email: tuc@tucanada.org

Website: www.yellowfishroad.org

Way to Go!

Insurance Corporation of BC / Road Sense Team

The Way To Go! School program provides school communities with the tools required to develop traffic safety awareness and to increase the opportunities for students to walk, cycle, rideshare or take transit to school. Program manuals, on-line resources and support available free. Web page includes good links to other bike and transport pages.

Tel: (604)732-1511 Toll free: 1-877-325-3636

Fax: (604) 733 - 0711

Email: waytogo@telus.net

Website: www.waytogo.icbc.bc.ca

Wild BC / Habitat Conservation Trust Fund

Wild BC is a BC government-sponsored education program that receives its base funding from the Habitat Conservation Trust Fund. Wild BC provides quality environmental education programs and resource materials to teachers and other educators across BC through professional development workshops. This "train-the-trainer" strategy has built a successful network of educators across the province who can use their teaching skills and knowledge to create a broader understanding of the natural world.

PO Box 9354 Stn Prov Govt, Victoria, BC V8W 9M1

Tel: (250) 356-7111 Toll-Free: 1-800-387-9853

Fax: (250) 952-6684

Email: wild@gems5.gov.bc.ca

Website: www.hctf.ca

Vancouver Aquarium

The Vancouver Aquarium has a range of school programs and educational project opportunities, including school visits, outreach programs, the Chevron AquaSchool, that lets grade 4-7 teachers move their classroom to the Aquarium for a week of hands-on educational experiences, a shore clean-up program, and a Salmon Stream E-Tour. Check them out at:

P.O. Box 3232
Vancouver, BC V6B 3X8

Tel: (604) 659-3474 Schools Program: 604-659-3552

Fax: (604) 659-3515

Email: information@vanaqua.org

Website: www.vanaqua.org/Education_Programs

World Wildlife Fund

World Wildlife Fund (WWF) was established to conserve wildlife and wild places. Since its founding in 1961, WWF has effectively safeguarded hundreds of species and millions of acres of wildlife habitat. Their web site has excellent information, activities and action project ideas around saving endangered species. WWF also has a strong education program called Schools for Wildlife, that provides free, conservation-oriented curriculum materials including visual aids, conservation news and activities.

245 Eglinton Ave. East, Suite 410
Toronto, ON M4P 3J1

Tel: 1-800-26-PANDA

Email: panda@wwfcanada.org.

Website: www.wwf.ca

Funding Sources: Organizations with granting programs

Check out the funds available for your action project. You'll have to write a proposal and put together a budget, but many groups also offer help in developing submissions.

BC Ministry of Water, Lands and Air Protection - Public Conservation Assistance Fund (PCAF)

The fund offers grants that average approximately $2,500.

Contact: Habitat Conservation Trust Fund, 1-800-387-9853

Website: http://www.hctf.ca/pubcon/index.html

BC Ministry of Water, Lands and Air Protection - Urban Salmon Habitat Program (USHP)

USHP focuses on protecting and restoring salmon habitat in urban areas.

Website: http://www.bcfisheries.gov.bc.ca/fishhabitats/stewardship.html

Canada Trust - Friends of the Environment Foundation

An excellent source of funding. Contact your local Canada Trust Branch and ask for your Friends of the Environment Foundation representative.

Website: http://www.fef.ca

Canadian Wildlife Federation - Habitat 2000/ Learning about Wildlife

This program supports students working on recovering and preserving wildlife habitats. Funding is available for supplies such as native plants, seeds, lumber and hardware. A great resource kit is also available from the organization. Maximum funding is $200 per class and $500 per school.

Tel: 1-800-563-9453

Email: info@cwf-fcf.org

Website: http://www.wildeducation.org/programs/hab_2000/hab2000.asp

City of Vancouver Board of Parks and Recreation - Neighbourhood Matching Fund

The focus of this fund is on community development initiatives in Vancouver. Call and ask for brochures and funding guidelines.

2099 Beach Avenue, Vancouver, BC, V6G 1Z4, Canada

Tel: (604) 257-8495

Website: http://www.city.vancouver.bc.ca/parks/40.htm

City of Vancouver, Office of Cultural Affairs - Community Public Art Program

This program will fund sculptures and earthworks installed in parks, public spaces (i.e. schools) and in Greenways. Contact the Office of Cultural Affairs for brochures on specific grant programs.

453 West 12th Avenue
Vancouver, BC, V5Y 1V4, Canada

Tel: (604) 871-6005

Website: http://www.city.vancouver.bc.ca/commsvcs/socialplanning/oca/ocaindex.html

DuPont Canada

They support a number of initiatives including environmental projects.

Box 2200 Streetsville
Mississauga, ON, L5N 2H3, Canada.

Website: http://www.dupont.ca/english/values/valu_com_investing.html

Encorp Recycling Systems (Pacific)

Encorp will accept various soft drink containers and pay you the deposit. They have a how-to brochure that is excellent for setting up can and bottle drives for fundraising initiatives. Call for information on rates and depots.

Tel: 1-800-330-9767 or (604) 473-2400

Website: http://www.encorpinc.com

Evergreen Foundation

Apply for resources, funds and expert help in greening your school yard, through Evergreen's Learning Grounds Funding Project.

Website: www.evergreen.ca/en/resources/funding.html

Mountain Equipment Co-op

Contact MEC for details regarding guidelines and proposal formats.

1655 W. 3rd Avenue
Vancouver, BC, Canada

Tel: (604) 732-1989

Shell Environment Fund

Get grants of up to $5000 for environmental projects:

Website: www.shell.ca/code/values/environment/sef.html

The Tree Canada Foundation

Tree Canada's objective is to help improve urban forests and plant more trees.

220 Laurier Avenue West, Suite 1550
Ottawa, ON, K1P 5Z9, Canada

Website: http://www.treecanada.ca

Trans Mountain Pipeline Co. Ltd.

Will fund projects situated within one or two kilometres of the Trans Mountain Pipeline in BC. If your school is located close to the pipeline, call for details.

Tel: (604) 739-5000

Wildlife Habitat Canada

WHC will fund projects that fall under the categories of Habitat Conservation, Restoration and Enhancement Projects or Applied Research Projects on Wildlife Habitats.

7 Hinton Avenue North, Suite 200
Ottawa, ON, K1Y 4P1, Canada

Tel: (613) 722-2090

Website: http://www.whc.oro

Action Learning Resources

Books

Council for Environmental Education / Project WILD (1995*). Taking Action. An Educator's Guide to Involving Students in Environmental Action Projects.* Project WILD / World Wildlife Fund, Bethesda, MD.

Hammond, William. (1993). *Acting on Action as an Integral Component of Schooling: A Teachers Guide.* Write to Natural Context, Box 07461, Fort Meyers, Florida, 33939 USA.

Hoose, Phillip (1993). *"It's Our World Too! Stories of Young People Who Are Making a Difference"*. Little, Brown and Company. Boston, Toronto, London.

Contains 14 inspirational case studies of young people (mostly Americans) who have taken action on issues of importance to them. Also contains a Handbook for Young Activists including what and how to get involved, tools for change (letters, petitions, media, etc).

Keilburger, Marc and Craig Keilburger. (2002). *Take Action! A Guide to Active Citizenship.* John Wiley & Sons, Inc.

Current, thorough guide for young people written by two successful young activists.

Roa, Michael L. (1993). *Environmental Science Activities Kit.* The Center for Applied Research in Education, West Nyack, New York 10995.

A 300-page resource book full of activities appropriate for grades 7 – 12 on themes ranging from water, air pollution and food chains to appropriate energy; contains section on doing action projects.

Articles on Action Learning Research

Bennice, Donn A. (2001). Active Learning: An Approach for Better Student / Teacher Relationships. *Education* Vol. 9 No. 4, 494-495.

Emmons, Katherine M. (1997). Perspectives on Environmental Action: Reflection and Revision Through Practical Experience. *Journal of Environmental Education* Vol. 29, No. 1, 34-44.

Hammond, William (1997) "Educating for Action: A Framework for Thinking about the Place of Action in Environmental Education." *Green Teacher* , Winter 1996-97. Good article outlining Hammond's action learning theories and applications.

Hungerford, H and T. Volk (1990) "Changing Learner Behavior Through Environmental Education" *Journal of Environmental Education* 21 (3) 8 – 21.

Monroe, Martha C., and Stephen Kaplan (1988). "When Words Speak Louder than Actions: Environmental Problem-solving in the Classroom". *Journal of Environmental Education* 19 (3), 38-41. Research on the importance of case studies as an important tool for environmental problem-solving.

Sobel, David (1995). "Beyond Ecophobia: Reclaiming the Heart in Nature Education". *Orion People and Nature* Vol. 14 No. 4.

Articles on Experiential Education

Katula, Richard and Elizabeth Threnhauser (1999). "Experiential Education in the Undergraduate Curriculum. *Communication Education* 48, 238-255.

Crew, Adolph (1987). "A Rationale for Experiential Education. " *Contemporary Education* 58 (3) 145-47.

Articles on Values Education / Controversial Issues

Clarke, Pat (1993). "Teaching Controversial Issues: A Four Step Classroom Strategy for Clear Thinking on Controversial Issues". *Green Teacher* 31 (9-12).

Caduto, Michael. (1985). A Guide on Values Education. *UNESCO – UNEP International Environmental Education Programme.* / PO Box 1052, Norwich, VT 05055

Thomashow, M. (1989). The virtues of controversy. *Bulletin of the Science and Technology Society, 9*, 66-70.

Resources on Motivating Towards Change

These resources contain background information for the teacher, to help support students in moving from knowledge to action.

De Young, R. (2000). Expanding and Evaluating Motives for Environmentally Responsible Behavior. *Journal of Social Issues, 56*(3), 509-527.

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again. *Review of Educational Research, 71*(1).

Kaplan, S. (2000). Human Nature and Environmentally Responsible Behavior. *Journal of Social Issues, 56*(3), 491.

Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research, 8*(3), 239-260.

McKenzie-Mohr, D. & Smith, W. (1999). *Fostering Sustainable Behavior: An introduction to community-based social marketing.* Gabriola Island, BC: New Society Publishers

Oskamp, S. (2000). Psychological Contributions to Achieving an Ecologically Sustainable Future for Humanity. *Journal of Social Issues, 56*(3), 373.