



Action Projects Gallery

Class action projects encourage students to “take action” on an issue of concern and provides empowering learning opportunities. In this lesson, students build on their understanding of the issue of climate change by reviewing types of action projects and a range of action project examples. Students then identify specific areas of concern to their community and brainstorm possible action projects that they might undertake as a class.

Activity Time

- Activity, Part 1: 30–45 minutes
- Activity, Part 2: 20–30 minutes
- Wrap-up: 30–45 minutes

Setting

- Classroom or outdoor learning area

Materials

For each group*:

- Set of *Climate Change Action Project Cards* (Black Line Masters (BLM))
- Copy of *Types of Action Projects* (BLM)
- Copy of one case study from *Case Studies of Action Projects in BC Schools* (BLM)
- 1-2 sheets of paper
- 1 sheet of flip-chart paper
- Set of markers

* Note: Four students per group works well for this activity; a class of 28 will have seven groups

Subjects

- Science, Social Studies, Language Arts

Keywords

Energy, greenhouse gas emissions, action, mitigation, climate change

Prescribed Learning Outcomes - Science

Life Science

- Assess the requirements for sustaining healthy local ecosystems
- evaluate human impacts on local ecosystems

IRP Curriculum Organizers:

Language Arts

- Oral Language
- Reading and Viewing
- Writing and Representing

Social Studies

- Human and Physical Environment

Introduction and Background

Climate change is a critical, urgent issue in our lives today. Yet what can we as individuals or members of a community do? As individuals, we can take action by making simple shifts in our daily lifestyles, for example, those that reduce our personal contribution of greenhouse gas emissions. As a community, (e.g., a class in a school) we can build on acquired knowledge and work together on action projects to tackle the issue of climate change in a variety of ways.

Introducing students to action projects in the classroom guides them toward becoming socially responsible citizens while also meeting many Science, Social Studies, and Health & Career Education Prescribed Learning Outcomes (PLOs). Action projects also encourage integration across subject areas and address multiple learning styles. Leading students through the process of planning, conducting and celebrating an action project provides the foundational skills and personal sense of empowerment that will allow them to continue taking action on issues of concern throughout their lives.

The adage “the first step is the hardest” is often the case when contemplating doing an action project. Where does one start? Ensuring that students are directly involved in choosing a project



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that is relevant and interesting to them is a very important motivating factor when undertaking an action project.

The following activity will familiarize students with types of action projects, introduce a range of projects ideas and case studies, and assist students in generating ideas suitable to their particular interests and classroom, school, and/or community circumstances.

Note: It is assumed that prior to this activity, students have gained an understanding of the issue of climate change and the challenges it presents. Please see the other lessons provided. Also, the guide “Leap into Action” provides more background information for educators and further activities for students.

Procedure

Set-up

- 1 Print and copy the **Types of Action Projects** Blackline Master (BLM) page and the **Climate Change Action Project Cards** (BLM) for each group of students. Cut the latter to made a set of individual cards. Also, copy the **Case Studies of Action Projects in BC Schools** (BLM) and cut so that you can give one case study to each group.
- 2 Read through the provided case studies of climate change action projects in BC schools. Note the details, especially **why** the project was initiated, **how** the class proceeded step by step, and **what** the outcome was. The “**who**”, “**where**”, and “**when**” provide interest and help make the project real for students. Learning that other classes have completed an action project is often enlightening and empowering – students start to become engaged and believe, “Hey, we can do this too!”
Note: A variety of action projects can address climate change. These include action projects that reduce fossil fuel consumption, thereby reducing greenhouse gas emissions. Also, action projects that conserve or enhance native ecosystems and projects that involve planting gardens or trees address climate change by maintaining or increasing the amount of CO2 removed from the atmosphere by vegetation. See the **Primer** for more information regarding the impacts of climate change.

- 3 Check for examples of action projects that have been undertaken by other classes at your school or other schools in your district. They may serve as case studies for your class. If at all possible, find and use examples that address the issue of climate change.

To find action projects involving the greening of the schoolgrounds in your community, check:

Evergreen

<http://www.evergreen.ca/en/cg/cg-projects.html>

Activity

Part One: Identifying Types of Climate Change Action Projects

- 1 Arrange the class into groups of four students. Provide each group with the **Types of Action Projects** page. Ask the students to read through it carefully and briefly discuss as a group what type(s) of action projects appeal the most and why.
- 2 Give each group a set of the **Climate Change Action Project Cards**. Ask the students to take turns reading the cards aloud to their group. The group should then decide what type of action project each card represents and sort them into piles, using the **Types of Action Projects** page as a guide. Help students to recognize that projects are often made up of smaller projects and may overlap several categories or not fit at all.
- 3 Encourage the students to include their own action project ideas. New cards should be made by for each idea and added to the appropriate pile.
- 4 Debrief by asking each group to share one action project idea that seems most interesting to them, the category (type) they put it into, and why they chose it. Groups should also share their new ideas cards. As a whole class, brainstorm further ideas, and record these on cards also.

Part Two: Examining Climate Change Action Project Case Studies

- 1 Ask each group to identify and discuss aspects of climate change that are of concern to them. As much as possible,





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guide the students to identify local climate change related issues that in some way directly affect their lives and community. Examples could include concerns such as: excessive greenhouse gas emissions due to too many students being driven to school each day; wasted energy for heating the school due to doors and windows being left open or fitting poorly; large amounts of unnecessary garbage due to a lack of a comprehensive recycling program at the school; or minimal green spaces in the schoolgrounds.

- 2 Ask each group to share their identified issues with the class; record the groups' responses. Discuss and record any other concerns that arise during the discussion.
- 3 Help the students to realize how they might address their identified concerns by taking on an action project as a class. Examples of specific case studies can help guide students to decide upon and begin planning an action project. Note, action projects can range widely in scope and duration.

Either describe in detail a few examples of case studies to the class or provide each group with a printed version of a case study to read through and share. Discuss the case studies with the class, encouraging questions. Ask the students if they have been involved in or are aware of other examples of action projects undertaken by classes, schools or community groups; encourage them to describe these projects to the class in enough detail so that the "who", "why", "how" and "what happened" are answered.

- 4 Ask each group to discuss and answer the following questions for at least one of the case studies and record their responses on a piece of paper:
 - How did the action project relate to the issue of climate change?
 - Were other environmental issues also addressed? If yes, what were they?
 - What was the main action or event they carried out?
 - What happened: what was the result of their action?
 - Can you think of things you might do differently? Why?

Wrap-up

- 1 In groups, ask the students to decide upon one aspect of climate change that interests them the most. Ask them to discuss possible action projects that would address their chosen aspect, including those from Part One. Remind the students that new ideas are fine. In order to share with the class, students should record their aspect of climate change and action project idea on a piece of flip chart paper. In their presentation to the class, they should describe why they chose that aspect of climate change, how the action project addresses it, and a brief overview of a suggested plan of action. Post each group's summary to create a class display of possible projects.
- 2 If the class agrees to take on doing an action project, determine what research they may need to do to help them decide on a single project. See *Leap into Action* to help guide you and the class in the next steps of choosing the action project and getting started.

Assessment

- 1 Choose an example action project from the case studies. Ask the students to suggest what aspect of climate change it addresses and why. With the class, create a list of criteria for evaluating what makes a good outline of an action project that addresses climate change. Possible criteria include evidence of:
 - understanding of the impact of climate change on both the abiotic and biotic components of ecosystems
 - understanding of how humans can have a positive affect on the environment, especially on local ecosystems, through action projects that either reduce the amount of CO₂ emissions and/or increase the amount of CO₂ removed from the atmosphere
 - identification of all the components of an action project (e.g., planning, conducting, evaluating, and celebrating).

Source

This lesson has been modified with permission from *Leap into Action! Simple Steps to Environmental Action: A project of the BC Conservation Foundation and Wild BC*. 2004. Author: Susan Staniforth



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Case Studies of Action Projects in BC Schools

1 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.

2. Vernon Streamside Planting

For many years, students at Ashton Creek Elementary in Vernon 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 streamside vegetation, and it would get too warm in the summer for fish to survive. The students decided to restore the stream habitat.

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.

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.

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 willow, planted the year before.

Riparian or stream side vegetation is important because: 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 become food; it provides corridors for wild life to move from one place to another; and it helps filter the air and produce oxygen. Thus, by planting native species in a damaged ecosystem, students not only enhanced the habitat for salmon fry, but also increased the amount of carbon dioxide that would be removed from the atmosphere.

3 School-wide Earth Day Conference

As a special Earth Day Celebration (April 22), students at Bach Grove Elementary in Delta developed and hosted a special *Embracing our Environment* conference. In preparation for the event, students created artwork, 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.



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Case Studies of Action Projects in BC Schools

4 K.B. Woodward Gardens

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

To create a series of gardens, 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 20 meters 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.

The students' and local animals' 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.

5 Biking Safely

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.

6 Westridge Juice Box Recycling Program

Rachel and Chantel, two Grade Six students at Westridge Elementary School in Burnaby 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!

The Grade Six 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 Six class would visit each classroom and collect and sort the juice box containers for recycling.

The principal of the school showed support for the project by honouring the class with the Principal's Choice Award. The project continues to be supported by this year's Grade Six 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."





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Case Studies of Action Projects in BC Schools

7 Mount Douglas High School Transportation Project

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 Douglas High School in Victoria two years ago, students were eager to be part of the program.

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 Douglas, 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 center; 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 (motorized transportation not 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 the benefits of the program for the students.

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. On these days, the students could celebrate a significant reduction in greenhouse gas emissions.

8 Strawberry Vale Native Plant Garden

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

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.

Now 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. Lastly, by planting native species and enhancing the natural ecosystem, more carbon dioxide is being removed from the atmosphere, reducing the impact of climate change.

Source

Leap into Action!; adapted from *Project WILD* (1995) and *Learning for a Sustainable Future* (2002)





1 Educate and Inform

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

2 Personal Consumer Action

Projects that reduce individual carbon footprint (amount of greenhouse gases emitted) by looking hard at what individuals buy/eat/wear everyday and altering their shopping habits so that less energy is used to create, package and transport their choices. For example, suggest ways to buy fewer items, buy products with less packaging, reuse/recycle more, and support local farmers and businesses. By first changing individual behaviour, people can be models for change.

3 Business Choice Action

Projects that investigate stores and business to see how their products and/or services can be more environmentally friendly, and make suggestions for change to reduce energy use. For example, stocking local organic produce, using recycled paper products, giving credit for people who bring their own bags, using environmentally friendly chemical products, etc.

4 Political Action

Projects that involve organizing groups such as a class government. Groups can learn how to organize at a classroom level to address climate change challenges in the school and community. 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 schoolgrounds, native tree planting/ habitat restoration projects, stream clean-ups, gardening, etc. By enhancing green spaces, more carbon will be removed from the atmosphere.

6 Transportation Choices

These projects encourage and support environmentally-sound transportation and recreation decisions that reduce greenhouse gas emissions. These include promoting walking, biking, using proper trails, taking public transport over taking a car, and choosing "low-impact" recreation like hiking and canoeing.

7 Other?!

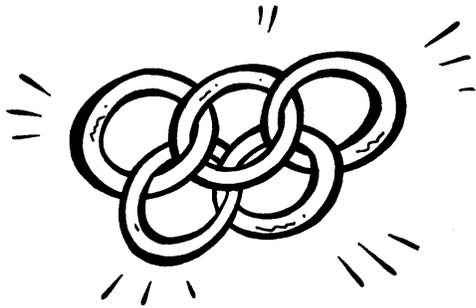
Your call – anything that doesn't fit into the above categories!



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Energy Conservation Olympics

Hold an Energy Conservation Olympics between different classes to reduce resource use. Classes can compete for who has the least in their garbage can at the end of the week, who has recycled the most, most creative school announcements related to energy and resource conservation, etc. Create the challenges, the form of recognition, and celebrate your success in taking action!



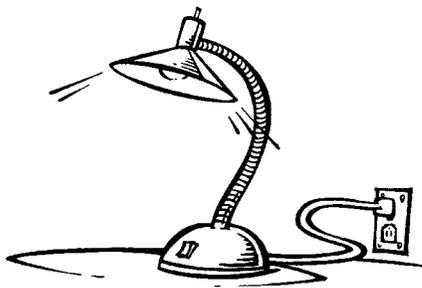
Turn It Off!

Get creative with bold, attention-grabbing stickers or plate covers for use around light-switches and computers to remind everyone to save energy in the school and "TURN IT OFF!"



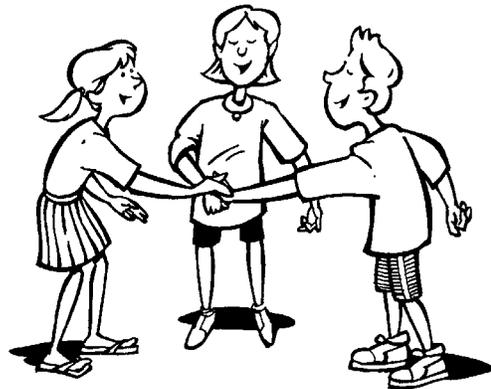
Energy Inventories

Complete a personal and class energy use inventory over 24 hours. Each person in your class monitors their energy use at home - everything from the toaster in the morning to the bedside lamp at night. As a class, monitor your energy use while at school, including things such as lights, heat, and transportation. Graph and organize the individual data collected, then combine to create a class total. Follow up the inventory with personal and class action plans with commitments to use less energy.



Start a Club

Help to create a student club that works on climate change issues of interest. Work on issues relevant to the school and local community. Your club can meet at lunch or after school and be responsible for campaigns in the school.





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Climate Change Action Project Cards

Waste Audits

Conduct a waste audit of classroom garbage. Students analyze data and identify what types of garbage are key issues. Brainstorm alternatives to the big garbage generators and put one or more ideas into action!



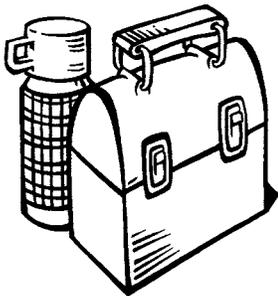
Start a Worm Compost Box

Learn about worms, composting and reducing garbage at the same time by setting up a worm compost bucket or box in your classroom. Research or invite a guest to teach you how to use and maintain it and how to harvest and use the composts. It's easy, fun - and hey, those worms sure are cute!



Garbage Free Lunch

Have a contest or a cooperative garbage free lunch over several consecutive weeks. Create a visual record (e.g., graph) of the amount of garbage generated each week and post it where most students can see it (e.g., near the office). Recognize individuals or classes that have achieved the least amount of garbage during the contest or hold a celebration when a pre-determined level is reached by the whole school.



Jazz Up Those Blue Bins.

Release your creativity on blue recycling boxes. Decorate blue boxes for the school in interesting and attention-catching ways. Make a blue-bin gallery for a few days before their inaugural use!

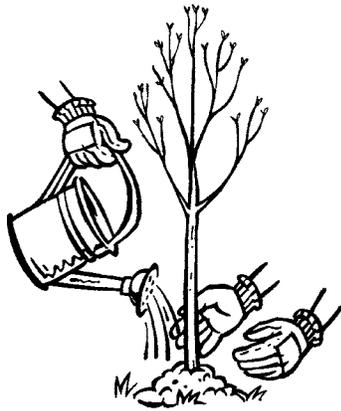




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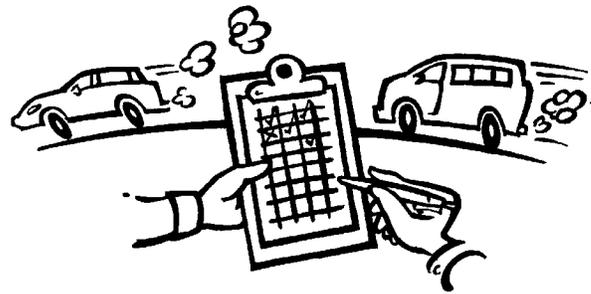
Green Your Schoolgrounds

Create a natural area in the schoolgrounds using native and/or plants appropriate to the local climate (e.g., drought resistant in dry areas or cold hardy in northern or high elevation areas). Learn about local ecosystems and restoration of disturbed areas. Teach your fellow schoolmates through interpretive signs you make for the natural area. Get in partnership with local community gardening organizations that will help you get growing in the schoolgrounds.



Transportation Audits

Conduct a survey of your fellow students and the staff on how they get to school. Analyze the data and produce a series of announcements with the results to share with the school. Provide suggestions for alternative means of transportation that will reduce greenhouse gas emissions.



Get Growing!

Establish a vegetable and fruit garden. Learn about gardening and growing your own food. Celebrate the fruits of your labour on regular Garden Delight Lunch days, sharing the food grown with the school community.



Walk/Bike to School Days

Organize regular Walk/Bike to School Days. Record the number of participants each time and celebrate each new participant.





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Climate Change Action Project Cards

Slow Bicycle Races

Set-up slow bicycle races at lunch recess. How slow can you go?! A fun, zany race that encourages everyone to get on their bikes and ride to school!



Trade Days

Bring toys, clothes, and/or books from home you are no longer using on Trade Day. All items can be sorted onto different tables and then each student can take something they feel they can use. Anything left over at the end of the day can be donated to a local charity group.



Soft Plastic Art

As a class, collect all the soft plastics from your home and at school instead of throwing it out in the garbage. After a month or so, create an artistic masterpiece such as a "Plastic Man" or "Rainbow Arch" using the soft plastics. Have a gallery walk in the main hallway, celebrate, and then take the soft plastic to an appropriate recycling depot. Ensure everyone takes information home as to where soft plastics can be recycled in your community.



Spread the News

Set up and maintain a notice board or e-newsletter that lists upcoming local environmental events and action projects in the local community, city, and/or region. Organize class or school participation in some of these events or projects.



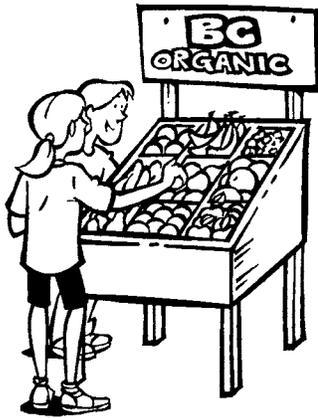


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Climate Change Action Project Cards

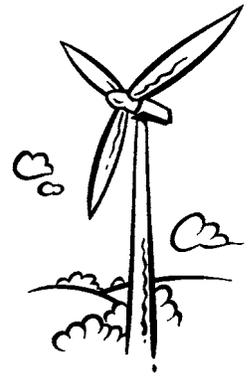
Consumer Action

Visit local grocery stores to see if local, organic produce and products are sold. If yes, write a letter of congratulations to the manager; if not, write a letter to the manager or owner with suggestions and why this action is important.



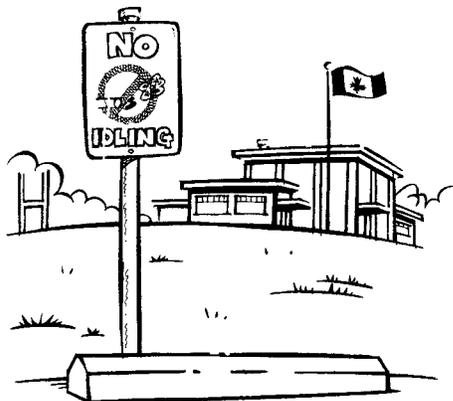
Alternative Energy

Research possible alternative sources of energy that could be used at your school, including wind or solar power. If feasible, raise awareness at an assembly, through newsletters, or posters in the school hallways. Start raising funds and/or a letter writing campaign to the school district to consider implementing your suggestions.



No Idling Zones

Post "No Idling Zone" signs around the school. Create an information pamphlet for parents and guardians as to why it is important to turn off their car engines in order to reduce greenhouse emissions as well as air pollution around the school.



Your Ideas, Please!