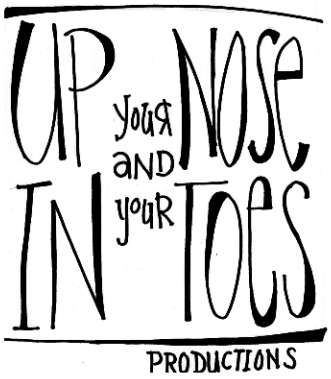
Morro and Jasp Go Green

Teacher Education Package
Created by UNIT Productions

Earth Week 2010



Teacher Package

What Does "Environmental" Mean to You?

(Grades 1-8)

Objective:
Identify what is important to the students and what issues they connect with. Expand their concept of which environmental issues are important by being exposed to the issues that their peers identify.

Activity:
Ask each student to collect and bring in a number of clippings or articles from the internet, magazines or newspapers gathered over a week. These clippings should represent "environmental issues" according to what the student believes and defines "environmental". Have each student briefly summarize one or two of their articles and then discuss as a class why the articles are of importance. Talk about how these issues are connected and how we might be able to expand our definition of environmental. Everything around us and everything that we do is a part of the environment, or affects the environment in some way.

Calculate Your Footprint

(Grades 1-8)

Objective:
Identify what an ecological footprint is. Create solutions that can help reduce this impact on the environment.

Activity:
Define "ecological footprint" as a class, as well as have students discuss their ideas of what it means. Have students sign on and calculate their footprint with the 'Zerofootprint Kids Calculator'. There are five categories including: Transportation, What You Eat, At Home and School, and What You Use and What You Throw Away.

Visit ZeroFootprint Toronto on the Internet:
*www.zerofootprintkids.com/kids_home.aspx**

All of our decisions and patterns of behaviour add up to a "footprint," which is just a way of measuring people's demands on nature. The more we consume, the bigger our footprint is. Indeed, our footprint is global. Much of our food, our goods, our fuel, and our resources come from somewhere else. Plus, our waste, particularly our greenhouse gas emissions, can have an effect on people everywhere.

Our footprint is not confined to Canada. If everyone on the planet consumed resources and goods at the same rate that Canadians do, we would need roughly four planets like ours to provide the basic materials and to absorb our waste. That's just another way of saying that something has got to give.

The calculator provides numbers in terms of carbon dioxide, water, trees, and land. For example, the average Canadian makes a series of decisions every day that creates nearly 9 tonnes of CO2 each year, while using 1,630,000 litres of water, 3.5 trees, and 3.3 hectares of land.

The Zerofootprint Kid's Calculator accounts for: the things we buy and discard, the way we get around, the way we live and the places we live. The per capita values for Canada – that is, the total amount the country emits, including industry, divided by the number of Canadians -- suggests that we are among the most wasteful people on Earth.

Follow Up:
Talk about how they can reduce their footprint based on the questions presented in this calculator. Have them compare their results and suggest ways to help each other out.

*This site also lists other resources for teacher and has a separate calculator for adults.

Write to Morro and Jasp

(Grades 1-8)

Objective:
Share environmental ideas that the students may have put into practice or intend to put into practice. Promote environmental action for students.

Activity:
Have students write a letter or email (saves paper) to Morro and Jasp, telling them about what they have done to help the environment. Each student can read their letter aloud to share their ideas with the rest of the students. Morro and Jasp will write back to the students within a couple weeks of receiving the letters.

Mail letters to:
Morro and Jasp
c/o UNIT Productions 535 Lawrence Ave W Toronto ON M6A 1A3

Or email to :
heather@morroandjasp.com
www.morroandjasp.com

Outdoor Identification

(Grades 1-5)

Objective:
We often know more about exotic plants and animals than we do about the species that live in our own neighbourhood or schoolyard. There is a common phenomenon of dismissing them as boring because we can see them whenever we please. In addition, we have developed a fear of crawly things that are a fraction of our size, usually because we don't know anything about them except that we find them creepy. Several of the plants and insects that we ignore or disregard are extremely important to our local ecosystems. This activity will help to explore the importance of these life forms and encourage an appreciation for their importance in our lives.

Activity Day 1: Exploration
In small groups have students explore the school grounds to locate various forms of local plant and animal species.
Have students record (written descriptions or drawings) as many plants, animals, insects as they can in the allotted time.

Activity Day 2: Research and Reporting Back
Research:
At the library have students use the data that they collected to research and identify the various types of living species. Have them pay special attention to the history of the plants, animals and insects.

Ask:
1. Where are they most common and why?
2. How do they serve the ecosystem in which they grow/live?
3. Are they native to this region?
4. How have they had an impact on the lives of humans?

Report Back
For the last part of the class have each group present their findings on a species of their choice. Were there any surprises?

Outdoor Identification

Student Worksheet

1. In groups, locate various life forms in and around the school grounds.

2. Record plant, bird and insect species, as well as any other species that you are able to see. Write a description or draw the shapes, sizes, colours, and location of as many of these species as you can in the time allotted.

3. Using the books supplied by your teacher or in the library to identify, from your descriptions, the various species.

Ask Yourself:
Where are they most common and why?

How are they beneficial to the ecosystem in which they grow/live?
Are they native to this region?

How have they had an impact on the lives of humans? (ie plants with medicinal or spiritual purposes; animals as food, friends, spiritual advisors?)

4. Report back to the class and present your findings on one of the plants, animals or insects that you have identified and researched. Make sure to emphasize the importance of this species – everything/one has a purpose.

The Animal Project
(Grade 1-5)

Objective: To gain an appreciation of the qualities of living creatures other than humans; to develop observation skills; to explore how life forms are interconnected.

Activity:
Have students spend time observing an animal in its environment.

- How does it interact with its environment and with other animals?
- How does it react to humans?
- What are its eating patters?
- What are its movement patters?

Ask them to keep a log of their findings and then rehearse embodying this animal.

In class:
Lead the students through various explorations of their animal character.

1. While they "become" their animal ask them to think about the following:
   How does your animal move?
   What part of the body do they lead with?
   Are they slow or fast? or both?
   What do they eat?
   Where do they live?
   How do they see the world?
   How is your animal different from you? How is it the same?

2. Have the animals interact.
   Who is your friend and who is your enemy?
   How do you respond to other animals?
   What other animals do you need to survive?
   What is your animal afraid of?

3. Pair the students up and ask them to show the class how their animals might interact.

Making Environmentally Safe Cleaners

(Grades 3-8)

Objective:
To bring awareness to chemicals that are unsafe and yet used in many of the places and spaces in which kids interact.

Activity:
It's spring and in many households this means cleaning (we know you can't wait!). Unfortunately this is worse news for some than others since many cases of asthma are directly linked to environmental toxins.

Have the students make environmentally friendly/safe cleaning products that they can bring home to their parents/guardians. Have them choose from the commonly used products below and identify what they are used for and how this related to them (ie. laundry detergent is used to clean their clothes). Re-use old containers (the students should have pre-collected these) to put the green cleaners in and have the students make fun labels that list the ingredients and what their product is used for.

Recipes:

Drain Cleaner

Ingredients:
Baking Soda
Vinegar

Package in separate containers with the following instructions:
Pour 125 ml baking soda down the drain. Follow with 125 ml vinegar. Let stand 15 minutes. Flush with boiling water.

Furniture and Floor Polish

Ingredients:
One part lemon juice and
Two parts vegetable oil
OR
2 Tablespoons vegetable oil
1 Tablespoon white vinegar
4 Cups warm water

Mix and store in a spray bottle. Rub on with cloth when dusting.

All Purpose Household Cleaner

Ingredients:
Baking Soda
Warm Water

Can be used almost everywhere!

Natural Mothballs
Ingredients:
Cedar chips
Dried lavender
Rosemary or Mint

A great smelling alternatives to mothballs. They work well too.

Glass and Window Cleaner
Ingredients:
One part water
One part vinegar

Keep in a clean pump spray container.

Laundry Detergent
Ingredients:
1/2 Cup borax
1 Cup soap flakes or grated bar soap
½ Cup washing soda

Use 1 Tablespoon for light loads and 2 Tablespoons for heavier loads.
If mixed with hot water before use it can also be used in cold water which is even better for the environment.

What each ingredient does:

- Soap flakes/granules (molecules that are water soluble on one end and attract dirt and grease on the other)
- Baking soda (deodorizes, softens water, scours; like the commercial says – put a box in your fridge to absorb orders, add to litter boxes for the same reason)
- Washing soda (cousin to baking soda, cuts through grease, softens water, disinfects)
- Borax (disinfects, cleans and deodorizes)
- White vinegar (a grease-cutting acid that you can eat)
- Lemon juice (another edible grease-cutting acid with a pleasant scent)

Sources:
David Suzuki Foundation
http://www.davidsuzuki.org/NatureChallenge/newsletters/april2008_cleaning/page3.asp
Toxic Smart Solutions
http://www.georgiastrait.org/?q=node/371

To Have or Not to Have

(Grades 5-8)

Objective:
To identify how much we have versus how much we need and how this has an impact on our environment.

Now and Then – Facts about Consumption:

- In 1958, only 4 percent of North American homes had dishwashers. Now more than half do.
- Less than 1 percent had colour televisions. Now 97 percent do. In addition, in the '50s there were no microwave ovens, VCRs, or personal computers.
- Today, many new homes have three-car garages and are nearly 900 square feet (the same as an entire house in the 1950s).
- North Americans fly 25 times as many passenger miles as they did in the 1950s.
- Although they had fewer material goods, the number of North Americans who say they are very happy peaked back in 1957.
- Seventy percent of North Americans visit malls each week, more than attend churches, synagogues, or other places of worship. On average, North Americans shop six hours a week and spend only 40 minutes playing with their children.

Getting Ready – Ask your students:
1. How do most people your age get money to spend?
2. Do you think people find it more important to save money or spend money?
3. What kinds of things do people your age spend money on? Or save money for?
4. Do you think people buy things only when they need them?
5. How do you think people differentiate between what they "want" and what they "need?"
6. Do you think people shop when they have to, or do they shop for other reasons?
7. How do you and your friends or family spend free time when you have it?
8. How do you get to the places you want to go? It is the same way that people you age may have traveled 50 years ago?

Activity:
Tell students they will have an opportunity to interview their parents (or other adults in their family or community) about the types of products they had growing up and about how they spent their time. In small groups, give students the opportunity to create 5 questions that they will ask their subjects during the interview.

<u>Example Questions for adults:</u>
1. Did your family eat dinner together? How often? Did they eat other meals together?
2. What kinds of things did you do with your family?
3. Did your family (parents/guardians) have a colour television, VCR, answering machine or personal computer when they were growing up? What kinds of electronic equipment

did you have?
4. Did you share a bedroom or bathroom with a brother or sister?
5. Was the house you grew up in bigger or smaller than the home you live in now?
6. As a teenager, did you have a job? What did you do with the money you made?
7. Where did you go shopping? What did you buy?
8. How did you pay for things? Did you have a credit card?
9. Did you drive or own your own car?
10. What fashions were popular? Was it important to wear certain brand names?

As a class share the questions that each group came up with. Write them on the board for everyone to copy out and use in their interviews.

Homework:
Ask students to write one to two pages about their family interviews on one of the following (or similar) topics:
1. Compare and contrast their attitudes about possessions and money with those held by their parents/grandparents/guardians or other adults.
2. Ask students to explore how important they feel material goods are in their family and/or if there are other aspects that are of greater importance.

Source:
http://www.pbs.org/kcts/affluenza/treat/tguide/tguide2.html

Me and the Media: Understanding Ads

(Grades 6-8)

Objective:
To learn how the media is connected to creating a bigger ecological footprint.

Some quick facts about the Media:

- By the age of 20, the average North American has seen some one million commercial messages.
- Advertising accounts for 2/3 of the space in newspapers, and 40 percent of our mail.
- The average North American spends one year of their lives watching TV commercials.
- Children are the fastest growing segment of the consumer market. In 1995 alone, companies spent $1 billion marketing their products to young people.
- Each year advertisers spend millions of dollars trying to convince people to buy products. Most people don't know that advertising is not free to the buyers of products. This business expense is added to the cost of the product so that we pay more at the store. In fact, you are paying for products you don't buy!
- There are other, less obvious ways we "pay" for advertising. Ads play on our feelings of envy and anxiety. Ads often suggest that a person could be more successful, attractive, and lovable if they use "Brand X." People, both young and old, need tools to separate the message from the advertiser's intention to make a sale.
- We are all cynical about the above, because it seems so obvious but we are bombarded with advertising daily. If we hear something often enough, we start to believe it, and this can affect our self-esteem. Sometimes when people don't feel good about themselves, they want to do a little "shopping therapy"- buying things because they think it will make them feel better!

Activity 1:
Using magazines and newspapers ask students to find ads they think are targeted at them, or show them copies of magazine or television ads for products of interest to their age group. Some examples are: cell phones, mp3 players, makeup, deodorant, toothpaste, jeans, shoes, candy, or fast food.

Discuss the following questions as a class:
1. How does the message make you feel?
2. What product is being advertised?
3. What are the advertisers trying to sell?
4. Note the body language of the people in the ad. What does the body language say?
5. Does the ad play on the emotions of envy or anxiety, or others?
6. Who is the message intended for?
7. Does the ad "work?" Would you like to buy the product?

Create a pro-and-con list on the board by discuss the following questions:

1. Where is advertising in school now?
2. Do you think advertising belongs in schools? What if it means funding for your school?
3. What about advertising that we wear to school, like logos?
4. How could schools be funded?
5. Should there be some ad-free zones within your community?

Activity 2:

In groups, apply these advertising techniques to an advertisement with a good cause.

1. Create or think of an existing product that is beneficial to both society and to the environment.
2. Create an advertisement for your product.
3. Share your creation with the class.

Keep in mind:

Who is your audience?
Where is your audience?
What information do they need to know?
How is this product useful?
To whom is this product useful?
Why should they care?

Food Mapping for Everyone
(Grades 6-8)

"Only about 10% of the fossil fuel energy used in the world's food system is used in production; the other 90% goes into packaging, transportation, and marketing."
–Geoff Tansey and Tony Worsley, 1995

Objective:
Illustrate how food production depends on nature, its impact on the environment and the importance of buying local produce.

Information:
In Canada, each person consumes on average 99.8 kg of meat each year. This supports an industry of factory farming that releases 132 billion kg of raw manure into the soil and water system. We get our drinking water from these water bodies. We demand not only huge amounts of meat but also all kinds of exotic fruits not grown in season. We need trucks, highways and parking lots to get food from the United States and Latin America. (Air and water pollution). It requires more packaging (plastics, cardboards). Hence, we generate more wastes. We dump our waste in landfills, from which contaminants in the waste leak into the soil and groundwater. This again requires more trucks and fuels to transport garbage to the dumpsites. Transportation contributes to 1/3 of greenhouse gases emission in Canada. It is altering the climate patterns (affecting agriculture and farm animals). It also has direct effects on us. In the summer, the use of electricity skyrockets as we need turn on the air-conditioners more often and for longer periods of time. Most of our electricity comes from nuclear and coal plants. Combustion of coal releases sulphur dioxide and nitrous oxide into the atmosphere, causing acid rain. It also releases mercury into the environment and harms the health of insects, worms and animals who are essential to the health of soil and water. Instead of cleaning the environment, we are more keen on cleaning our houses. We use several chemicals in our homes, such as detergent and cleaners to wash dishes, clothing, furniture and floors. We clean our houses by polluting our own habitat and the habitat of other species.

A North American meat can travel 2,400km from field to table. This creates a lot of excess air pollution, not to mention packaging, chemicals and materials. Some problems that can cause ecological and economic collapses:

- Oil depletion,
- Topsoil erosion,
- Pesticide, manure, exhaust emissions, water pollution ,
- Over consumption, waste generation, landfill, competing with space for humans,
- Transportation, farmland, production facilities,
- Exhaust emissions, acid rain, soil infertility, unable to grow more food
- Air pollution, water pollution, human health deterioration

Group Activity:
1. Ask students to pick one food they had for breakfast/ lunch and map its journey from its origin to the dinner table and the resources that are used along the way. (e.g. Bread: sun, water → farm → silo→ factory → superstore → bakery) with symbols, pictures and writings. Make sure to include other main ingredients (e.g. Bread: butter, eggs, sugar) and to show different modes of transportation for food transport.

Examples:
Coke:
Water = water pipes, filtration systems
Sugar = sugar cane, refiners, labour, sun
Aluminium = mining, earth
Transportation = trucks, fuel, sun & earth
Warehouse = labour, machines for packaging, fuel, electricity
Grocery store = labour, electricity

Burger:
Bread = bakery (energy), grain mill (energy), wheat, farm, sunlight, water
Beef = beef processing facility, cattle, land, water, sunlight
Lettuce = soil, water, sunlight
Cheese = goat/cows, land, water, sunlight
Food packaging = factory, chemicals, labour, electricity, waste
Transportation = trucks, fuel, sun & earth
Labour = food, land, animals and plants
Refrigerator (cheese, lettuce) = energy
Natural Waste processing, lagoons, rivers, landfill,
Synthetic waste processing, sewage treatment plants, incineration, recycling facilities,

2. Each group presents their food map.
3. Discuss what is left over when the food is gone (ie. wrappers, cans) and if it can be disposed of in an environmentally friendly way.
4. Talk about possible solutions to the packaging and transportation that so much of our food endures:

- Buying foods grown locally. The closer the farm is to you, the less fuel is needed to transport its food to your table.
- Want to have lettuce that's truly local? Plant a garden and grow your own fresh produce!
- Avoid purchasing processed foods. These foods take more energy to produce (and have less nutritional value than whole foods). In addition, choose foods with minimal packaging. This reduces the energy used to produce the packaging and eliminates these materials from the waste stream.
- Have one meatless meal a week. Meat is the least fuel-efficient food we have. Large quantities of energy are required to cultivate, harvest, and ship animal feed, house, transport and slaughter animals, process and package their meat, and refrigerate it until it's cooked.