

FOOD SECURITY



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INTRODUCTION

Food is an essential ingredient of life; without it we cannot survive. Intimately connected to food and its production are poverty and health. When food production is affected by climate change, so are people's health and economic wellbeing. As we have already seen through devastating weather events such as the droughts in northern Africa and unexpected frosts in California, climate change is affecting our ability to produce food around the world. Malnutrition and starvation, in the extreme, is already a leading cause of infant and child mortality in developing countries.¹ Climate change is likely to exacerbate this further.

Food production in developed countries is not immune to the impacts of climate change either. With increasing natural disasters, agricultural lands can be degraded or even destroyed, decreasing the availability of food. Consequently, food prices increase, which can negatively impact nutrition of poor families in the developed world.

What can we do to moderate the impacts of climate change on food production? Consumers in the developed world could, for example, consider the ecological footprint of their food. In developing countries,

Pakistan, 2006

A boy eats a meal at the Government of Punjab's Child Welfare and Protection Bureau in Lahore, capital of Punjab Province. The UNICEF-assisted centre provides food, shelter, educational assistance, psychosocial counselling and family tracing and reunification services to children who live and work on the streets. The centre also assists repatriated victims of child trafficking, including former 'camel jockeys' from the United Arab Emirates.

food production is generally locally produced. In Canada, on the other hand, most of our food travels thousands of kilometers to reach our plates. That trip generates greenhouse gases, which add to the effects of climate change.

Producing healthy food to feed everyone is possible but first we need to understand the issues. We need to work together to adopt local solutions with global impacts such as growing food locally/regionally, eating seasonally and eating a less carbon-intensive plant-based diet.

ACTIVITIES

The curricula links below are addressed in this theme. For an extensive list of relevant provincial expectations/outcomes, refer to Appendices G and H: Curriculum Links on pages 142 and 146, and Appendix I for links in Alberta, Saskatchewan, Manitoba and Quebec on page 156.

Province	Course	Expectation/Learning Outcome
Ontario	HFN10 and HFN20 Grades 9 and 10 Social Sciences and the Humanities: <i>Food and Nutrition</i>	Diversity, Interdependence and Global Connections Complete an investigation of current global issues related to food (e.g., food distribution, food shortages, gene manipulation), using current social science research methods.
Ontario	HF4AM Grade 12 Social Sciences and the Humanities: <i>Food and Nutrition Sciences</i>	Personal and social Responsibilities determine the relationship among nutrition, lifestyle, health and disease.
British Columbia	Science and Technology 1 <i>Agriculture</i>	Describe the elements of agricultural systems found locally, provincially, and globally. Describe the role of genetics in agriculture.
British Columbia	Geography 12 <i>Resources and Environmental Sustainability</i>	Assess the environmental impact of human activities, including: <ul style="list-style-type: none"> • Energy production and use • Forestry • Agriculture • Waste disposal • Water use

Setting the Stage

Objective: To define food security as it relates to climate change.

Time: 15 minutes

Materials

- Scrap paper for each student (or personal laptops)
- Appendix E: Reflect and Act (page 139)
- Movie Clip: *2 Lives: 2 Miles// Food* available at:
http://www.youtube.com/watch?v=HTbvPN8hNNg&list=PLD6AA4215618717BB&index=4&feature=plpp_video

ACTIVITY

1. Explain that you will be discussing the connection between food security and climate change; share how climate change can magnify the global food crisis already facing children in developing countries.
2. View the clip, *2 Lives:2 Miles// Food* asking students to compare and contrast the relationship with food and food preferences of each boy in the clip.
3. Distribute to each the Appendix E: Reflect and Act on page 39 and ask students to journal lessons learned from the clip, as well as during discussion and activities around the theme.
4. Ask the students to consider the term “food security.” What does it mean?
5. Instruct students to write down five words that they would use to describe food security; create a master list of words on the board.
6. Discuss the fact that food security means the availability of food and how people are able to obtain that food. For example, there may be plenty of food in the world, but not everyone has the same access to it.

Food for Thought

Objective: To engage students in critical thinking discussions around global food security and climate change.

Time: 15 minutes

Materials

- Photos (page 35)
- Student Handout #5: Circles

ACTIVITY

Arrange students into six groups.

1. Explain that you will discuss global food security and hand out photos to each group. Instruct students to discuss the photos and captions.
2. Remind students of the definition of food security. You may want to have this definition displayed on the board. Ask students to share how the photos relate to this definition.
3. Ask students to think of a place in the world where food is scarce. Explain that there are many reasons why food security issues can arise, and most are magnified because of climate change.
4. Distribute Student Handout #5: Circles (page 44) and instruct students to decide how each circle might relate to food security connected to climate change. How are these effects magnified for children? Record answers in each circle. Possible answers for each circle are:

Health: Malnourished children cannot fight off infection as well as children who are nourished. Climate change affects crop production; children are at risk of malnutrition.

Natural disasters: As floods and droughts worsen with climate change, it will be more challenging to grow food in many areas; this adds to the malnutrition of children in developing countries.

Natural environments: One reason why there is excess CO₂ in the atmosphere is because we are cutting down our irreplaceable old growth trees, which act as necessary carbon sinks. As we lose our trees, the soil erodes and can lead to land degradation and desertification, which makes select crops harder or impossible to harvest.

Population: With our world population on the rise, we have more children to feed. Climate change is affecting crops and livestock, especially in developing countries, making it even harder to feed a growing global population.

Poverty: Developing countries don't have the resources in place to weather a period of food shortage, and children are more vulnerable.

Water: The water cycle is affected by climate change, which results in less water available for agriculture and failure of crops. This in turn adds to the malnutrition of children in developing

countries.

Nature is a series of balances but humans are impacting the natural rhythms of the planet; we are changing the natural global carbon cycle by excessively burning fossil fuels. “Forests, soil, oceans, the atmosphere, and fossil fuels are important stores of carbon. Carbon is constantly moving between these different stores that act as either ‘sinks’ or ‘sources.’ A sink absorbs more carbon than it gives off, while a source emits more than it absorbs. Before the Industrial Revolution, the amount of carbon moving between trees, soil, oceans and the atmosphere was relatively balanced.” By burning oil, coal and gas, we have far more “sources” than “sinks” and this alters the natural balance.



In Niger, community gardens nourish hope.



A barefoot boy stands on parched, cracked soil in southern Malawi. In 2005, drought caused a massive food shortage that left 4 million people without adequate food supplies.

Keep the discussion going

1. Which food security circle(s) is most affected by climate change? Why?
2. How are the food security circles connected to each other? Draw a web to connect the circles to each other. *Refer to Appendix D: How Climate Change Affects Children (page 138).*
3. Climate change affects crops by making it harder to grow food in extreme environments like drought conditions, but how does the decrease in crops affect climate change?

Plants are carbon sinks as they remove carbon dioxide from the atmosphere. The less plants, the more greenhouse gas emissions (ghg) being released.

4. Why is rainforest deforestation not the ideal method of making way for crop harvests? What are some effective approaches to taking action against this practice?

One reason is that trees are ideal carbon sinks since they can store carbon longer than plants. The less carbon sinks available, the greater the release of CO₂ into the atmosphere; the result is climate change. Children in developing countries are the most susceptible to climate change. Ensure wood products come from a sustainably-managed forest.

Is Your Food Too Warm?

Objective: To understand that climate change is negatively affecting food supplies in developing countries and therefore magnifying the problem of childhood malnutrition. Also, to discover that the process by which most of North America's food reaches our plates is significantly impacting climate change.

Time: 45 minutes (plus 20 minutes, if students calculate their ecological footprint)

Materials

- Food Trivia Tango (below)
- Four signs placed around the classroom: one sign for each of the letters A, B, C, D
- Reused paper for each student (personal white boards or laptops)
- Student Handouts #6, 7, 8: Food Facts Cards
- Clip #2: Fix the Food Chain at http://globalclassroom.unicef.ca/en/resources/resource_guide.htm and www.unicef.ca/climatechangeresources

ACTIVITY

1. Place signs (one sign for each of the letters A, B, C, D) in four different locations in the classroom.
2. Read the first question and ask students to decide whether the answer is A, B, C or D and move to the appropriate place in the room. Reveal the answer, ask for feedback, and read the next question.
3. Here are the questions. The answers appear in bolded text below. These questions are adapted from David Suzuki's Green Guide, unless otherwise stated.³ Suggestion: To prepare for this

activity, you might want to assign students the task of researching the answer to one question the night before you do this activity. This may elicit better discussions at the end of the activity.

- Raising livestock contributes more to climate change than the worldwide transportation sector.
 - a) **True** b) False
- The use of chemical pesticides increased by what percentage in the U.S. during the second half of the 1900s?
 - a) 80% b) 200% c) **600%** d) 750%
- The U.S. Environmental Protection Agency estimates that agriculture is responsible for what percentage of the nation's water pollution?
 - a) 80% b) **70%** c) 50% d) 30%
- When raising cattle, how many litres of water does beef require per kilogram?
 - a) **70,000 litres** b) 40,000 litres c) 10,000 litres d) 1,000 litres
- Millions of hectares of rainforest have been cut down for livestock grazing and feed crops (corn and soy) since 1970. This loss of rainforest is significantly adding to climate change.
 - a) **True** b) False
- According to the UN News Centre, rising greenhouse gas emissions threaten what percentage of the key fishing grounds? ⁴
 - a) 80% b) **75%** c) 50% d) 20%
- This loss of fishing grounds could affect how many people who derive their protein from seafood worldwide? ⁵
 - a) 2.9 million b) 10 million c) 4.5 billion d) **2.6 billion**

Read the UN News Story on climate change and fish stocks: Climate change leading to shrinking fish stocks, UN says.
<http://www.un.org/apps/news/story.asp?NewsID=25716&Cr=fish&Cr1>

Check out the following for more information about climate change and over-fishing:

Natural Numbers 01: Sardines [video] -- http://www.youtube.com/watch?feature=player_embedded&v=svbrEGUMpxk

Fish to shrink by up to a quarter due to climate change, study reveals [article] --
<http://www.guardian.co.uk/environment/2012/sep/30/fish-shrink-climate-change>

Threatened Fish Stocks Need More Management, Analysts Say [article] --
<http://geneva.usmission.gov/2013/01/16/threatened-fish-stocks-need-more-management-analysts-say/>

Dr. William E. Rees, a professor at University of British Columbia's School of Community and Regional Planning, is best known as the co-creator of 'ecological footprint analysis'. "Ecological footprint analysis is an accounting tool that enables us to estimate the resource consumption and waste assimilation requirements of a defined human population or economy in terms of a corresponding productive land area."⁶

4. Knowing your ecological footprint is a good starting point to making change. As the food we choose can have a significant impact on our ecological footprint, students should first calculate their ecological footprint, if they have not done so recently. The ecological footprint measures the amount of nature's resources an individual, a

community, or a country consumes in a given year. Here is a quick ecological footprint analysis students can complete: <http://www.myfootprint.org/>.

5. Explain how by eating a local, organic, mainly plant-based diet, we can significantly lower our ecological footprint and therefore reduce the release of CO₂, which is proven to contribute to climate change.⁷ If we can regulate the Earth's climate, we can improve global food security issues. As children are most affected by climate change, this will help to end malnutrition around the world. (students may refer to the David Suzuki book)
6. Discuss the 100 Mile Diet, which is a low carbon diet. This simple approach to thinking locally in terms of your food means that in order to contribute to a 100 Mile Diet, food must travel no more than 100 miles to reach your plate. Instruct students to create a meal and list of ingredients that follows this diet. Ask students what challenges they encountered when creating their meal. How can they incorporate elements of this into their diet on a daily basis?
7. Arrange students into six groups. Give each group one of the three Student Handouts #6, 7, 8: Food Facts Cards on the actions (buying local, eating organic and reducing meat/eggs/dairy) we can take to significantly lower our ecological footprint. Record answers to the questions listed on the handouts.
8. Have groups share results. Ask students to consider further food actions that will lower their footprint. For example, choosing whole foods, which require less packaging and processing, over highly processed foods which in turn saves energy and greenhouse gas emissions.⁸
9. Show the Friends of the Earth clip on Join The Food Chain Campaign (a campaign in the UK to educate citizens on the environmental impacts of our food choices) and discuss. This clip can be found at http://www.foe.co.uk/campaigns/biodiversity/press_for_change/join_food_chain_campaign_17315.html.

Inspired by the fact that the average North American's food travels over 1500 miles from farm to plate, Alisa Smith and J.B. MacKinnon committed, for one year, to eating foods that travel no further than 100 miles (or 160 km) to their plate. Read their story at <http://100milediet.org/>.

For students that want to investigate Fair Trade items, TransFair Canada is a non-profit certification and public education organization that promotes Fair Trade Certified products. The primary benefit of Fair Trade Certified is to ensure world farmers get a decent wage for their products.

TransFair Canada monitors every step of a product from production to consumer to ensure fairness for farmers and farm workers in developing countries. By supporting Fair Trade companies, we are helping alleviate the effects of poverty on food security. Visit <http://transfair.ca/en/node> for more information.

How can you make your school a Fair Trade environment? Learn about Fairtrade Schools in the UK at <http://www.fairtrade.org.uk/schools/>. This program is supported by UNICEF UK.

Keep the discussion going

If you ride a bike instead of driving a car, you are significantly reducing your ghg emissions. If you are also a vegetarian, you may be able to double your reduction of emissions!

For example, meat requires significantly more fossil fuels to produce than plant-based foods. Plus, plants are carbon sinks whereas meat is not. Refer to the article (Lose weight to help the planet, researchers recommend, at <http://www.cbc.ca/health/story/2009/04/19/obese-global-warm.html> that discusses the relationship between over-eating and the burning of fossil fuels.

Does buying local, organic food help children in developing countries? Why or why not?

Buying local food means the environmental impact of transporting our food is significantly reduced, resulting in less ghg emissions being released into the atmosphere. As children are most susceptible to climate change, reducing the greenhouse gases, and therefore the effects of climate change, will benefit global children. Also, choosing organic produce helps limit the pesticides in the environment.

If you adopt the 100 Mile Diet, what foods would be difficult to get within a 100-mile radius?

Coffee, chocolate, tropical fruit and certain grains are not generally produced locally. Also, areas like Northern Canada have shorter growing seasons, which affect availability of certain foods throughout the year.

What are the benefits of a farmer's market? Where is the closest market?

Farmers markets are good sources of local and/or organic foods. Ontario residents can visit <http://www.farmersmarketsontario.com/> to find a market, and B.C. residents can visit <http://www.bcfarmersmarket.org/>. You can also check out <http://www.foodkm.com>.

How are genetically modified (GM) foods connected to food security and climate change? Prepare a debate on the issue, with one side debating the positives and the other the negatives of allowing the continued production and research of GMs.

Experts are divided on whether or not GMs could be a solution for food security; especially since climate change is magnifying the world food crisis and leaving children undernourished.

Is organic farming better than conventional agriculture in terms of climate change?

Some experts believe organic farming uses more land, so is less efficient. However, the use of pesticides and fertilizers is adding to our dependency on fossil fuels and adding to our ghg emissions as well as depleting our soils rendering areas unsuitable for farming. Check out this article, which discusses the debate between organic versus conventional agriculture: <http://www.sciencedaily.com/releases/2012/04/120425140114.htm>

The ethics of genetically modified (GM) foods are often debated. The opponents of GMs are concerned, for example, about the terminator gene that prevents plants from producing fertile seeds. Farmers would not be able to save seeds to plant next year, but would instead have to purchase new seeds annually. What does this mean for farmers in developing countries? The proponents of GMs offer a different picture and may, for example, promote the ability to create a durable plant that could survive in extended periods of drought and/or increased temperatures and therefore help to feed our children, even in light of climate change. What do your students think?

The World Health Organization presents 20 questions and answers on GMs at <http://www.who.int/foodsafety/publications/biotech/20questions/en/>.

The Australian government has a biotechnology website that includes a timeline of significant events illustrating our current uses of GMs at <http://www.biotechnologyonline.gov.au/foodag/timeline.html>.



YOUTH TAKE ACTION

Challenge for Change!

Distribute Student Handout #4: Youth Take Action (page 43) and discuss the inspirational profiles. Instruct students (groups, pairs or individuals) to select ONE student project listed under the Challenge for Change Action, or invite them to create their own challenge. Set appropriate timelines and criteria. Evaluate each project using Appendix C: Culminating Task Rubric on page 137.

BACKGROUND **FOOD SECURITY**

What is the Issue?

Children in poor countries are the most vulnerable to climate change since they do not have the ability to anticipate and adapt to the effects of climate change.⁹

The effects of climate change such as changes in water cycles and temperature increases are interconnected with food security. For example:

- Increasing drought and flooding are having a devastating effect on agriculture and the growing of food
- In arid and semi-arid areas, decline in rainfall is accelerating land degradation and desertification
- In tropical areas, small increases in temperature lead to declining crop yields¹⁰

The impact of climate change depends on the following:

- Hazard: defined as the physical effects of climate change like drought, flood and storms
- Vulnerability: defined as a country's ability to deal with these hazards

Some statistics:

- By 2080, as a result of climate change, developing countries in Asia, Africa and Latin America are expected to see reductions in agricultural productivity of between 5% and 25%, adding to the malnutrition of the world's children¹¹
- The International Rice Research Institute has found that rice yields fall by 15% with every degree of warming; if temperatures stay above 35°C for one hour while rice is flowering, this heat will sterilize the pollen¹²
- In addition, rising ozone levels (contributing to climate change) in rich nations are causing reductions in food production; the expected ozone increase in China will cause maize, rice and soybean production to fall by over 30% by 2020¹³
- As carbon dioxide levels rise, less water is released from the leaves of trees and from crops, resulting in less rainfall; this further exacerbates the crop production decline due to water stress

In summary:

As crops decline due to water constraints, rising temperatures and other natural disasters triggered by climate change, the following could occur:

- The availability of food for the farming household, as well as what is available for market, will decrease
- Livestock will be affected resulting in a decrease of meat and dairy products, as well as a decrease in the use of animals in small-scale agriculture, ploughing and transporting goods to market¹⁴

These will affect the ability of parents to feed themselves and their children.



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The Effects of Malnutrition on Children

The consequences appear to be lasting and often permanent. For example, lack of nutritional food could result in

- Loss in growth
- Lower cognitive function
- Stunting
- Premature death¹⁵

To learn more about climate change connected to food security, view the UNICEF UK Climate Change Report 2008: Our climate, our children, our responsibility at <http://www.unicef.org.uk/campaigns/publications/pdf/climate-change.pdf>.

NOTES

1. UNICEF UK, Our climate, our children, our responsibility, p. 14.
2. David Suzuki Foundation, Science: Forests and Sinks, http://www.davidsuzuki.org/Climate_Change/science/Forests_and_sinks.asp (accessed November 2009).
3. Suzuki, David and David R. Boyd, David Suzuki's Green Guide (Toronto: Douglas & McIntyre, 2008), p. 46.
4. UN News Centre, "Climate Change Leading to Shrinking Fish Stocks, UN says," <http://www.un.org/apps/news/story.asp?newsid=25716&Cr=fish&Cr1> (accessed November 2008).
5. Ibid.
6. Rees, William and Mathis Wackernagel, Our Ecological Footprint: Reducing Human Impact on the Earth (Gabriola Island, BC: New Society Publishers, 1998), p. 9.
7. Suzuki, D. and D.R. Boyd, David Suzuki's Green Guide, p. 46.
8. Ibid., 62.
9. UNICEF UK, Our climate, our children, our responsibility, p.4.
10. Ibid.
11. Ibid., p. 9.
12. Monbiot, George, Heat: How to Stop the Planet From Burning (Cambridge: Southend Press, 2006), p. 7.
13. Ibid.
14. UNICEF UK, Our climate, our children, our responsibility, p. 14.
15. Ibid.

Student Handout #4

YOUTH TAKE ACTION

Challenge for Change Action Items

Be part of the solution! Complete ONE project from the list below or create your own! You will be evaluated on criteria including knowledge of the issue, expression of ideas and connections made between personal, local and global views of the issue.

Research what the Tesco grocery chain, in the UK, is doing now to assist consumers in buying locally produced food. Part of their plan included developing a carbon calorie counter to allow shoppers to calculate the carbon footprint of their weekly shop. They chose to end their carbon labeling program. Why?

PROJECT: Approach a local grocer to survey its policy on food choices related to climate change. Look at the origins of the produce and devise a plan the store can use to make change. For example, are the apples local, or travelling across the globe? What are local choices for produce? Are customers willing to pay extra for local produce? On the Internet, search “carbon footprint label” for more information.

Learn more about the 100 Mile Diet at <http://100milediet.org/>. What are the benefits? What are the challenges? How has this concept evolved over the years?

PROJECT: Create a YouTube clip, power point presentation or a song/jingle/Public Service Announcement (PSA) to promote a diet that is local, organic and plant-based. Include the global environmental benefits of this diet. How can eating a local diet help children in developing countries?

Research how different high nutritional foods (like UNICEF’s Plumpy’Nut) are helping developing countries feed severely undernourished children.

PROJECT: Host a fundraiser at your school to help UNICEF support the global food crisis. Which organizations do you think are doing the most to tackle this issue?

Food production, from seed to table, has changed drastically over the last 50 years. What are the environmental impacts of these changes? How is food production connected to climate change and children?

PROJECT: Interview older relatives and neighbours on their experiences with food in the past. How was it different from today? Why do they believe things have changed? Students can present an oral presentation or a written report.

New Westminster Secondary School, New Westminster, British Columbia

According to Wayne Esaias, a NASA scientist, the seasonal cycle of weight fluctuations in a beehive colony is an indicator of the impact of climate change. To create awareness of bee colony collapse disorder, students at New Westminster designed a presentation highlighting the issues. They also encouraged peers to “adopt-a-bee” and purchase beeswax candles, which supports their own apiary as well as the construction of apiaries in developing countries. For more information see <http://www.bcgreengames.ca>.

Addis Ababa, Ethiopia

To address future disruptions with food supplies caused by climate change, it is important to ensure the supply of nutritional foods for children all over the world. Plumpy’nut is a high-protein and high-energy, peanut- based paste, and is used for the treatment of severely undernourished children in many developing countries. As climate change affects world food supplies, this paste saves lives by providing much needed nutrition for children. For more information see <http://www.unicef.org>.

Student Handout #5

CIRCLES



Student Handout #6

FOOD FACTS CARDS: MEAT, EGGS, AND DAIRY

According to the David Suzuki Foundation, the average North American diet makes our food footprint four times greater than what we can sustain. A simple step to reduce your ecological footprint in terms of food is to eat a diet of local, organic plant-based foods. This could reduce your environmental impact by as much as 90%!

Here are some reasons to limit the meat, eggs, and dairy in your diet:

- Food from livestock is the most environmentally damaging food
- Raising and transporting livestock uses more fossil fuels than growing plant-based foods
- Producing animal protein requires 10 times the energy needed to produce plant protein
- Producing animal protein emits 10 times the greenhouse gas as plant protein
- Raising a kilogram of beef generates the same greenhouse gas emissions as driving an average car for 250 km
- There are several plant sources of protein (nuts, seeds, legumes, grains, etc.) so eating meat to obtain protein is not always a necessity

Adapted from David Suzuki's Green Guide, 2008.

Discuss and Record Responses for:

1. Explain how eating little or no meat, eggs and dairy will help significantly reduce your ecological footprint and create less greenhouse gas emissions
2. Give examples of how you can be successful in reducing the meat, eggs and dairy in your diet
3. How eating a plant-based diet could help children in developing countries with their food security? Think about this answer in terms of climate change. If we eat a diet rich in meat, eggs and dairy, how can it affect children in developing countries?
4. Design a meal that is local, organic and plant-based

Student Handout #7

FOOD FACTS CARDS: GOING ORGANIC!

According to the David Suzuki Foundation, the average North American diet makes our food footprint four times greater than what we can sustain. A simple step to reduce your ecological footprint in terms of food is to eat a diet of local, organic plant-based foods. This could reduce your environmental impact by as much as 90%!

Here are some reasons to include organic foods in your diet:

- Organic food production includes traditional farming practices with modern technology but does so without the use of synthetic pesticides and fertilizers
- Organic agriculture avoids the use of genetically modified (GM) foods
- Farmers who grow organic crops focus on improving the soil and using nature's way to control pests
- Organic farms know the importance of biodiversity and grow different plants
- Food sold in Canada can only use the word "organic" if it is certified by an accredited organization
- In the 1960s, 1 % of US corn was treated with pesticides, whereas today it is 95%
- Organic ways of growing our food can lower greenhouse gas emissions, create better soil, and save energy

Adapted from David Suzuki's Green Guide, 2008.

Discuss and Record Responses for:

1. Explain how eating organic foods can help significantly reduce your ecological footprint and create less greenhouse gas emissions
2. Give examples of how you can be successful in eating organic foods. Where can you get them? What is available on the market?
3. How could you eating an organic, plant-based diet help children in developing countries with their food security? Think about this answer in terms of climate change. If we eat a diet that is not organic, how can it affect children in developing countries?
4. Design a meal that is local, organic and plant-based

Student Handout #8

FOOD FACTS CARDS: LOCAL FOODS

According to David Suzuki, the average North American diet makes our food footprint four times greater than what we can sustain. A simple step to reduce your ecological footprint in terms of food is to eat a diet of local, organic plant-based foods. This could reduce your environmental impact by as much as 90%!

Here are some reasons to eat local foods in your diet:

- Fish caught in British Columbia could be shipped to China for processing into fish sticks and then shipped back to Canada to be sold in local grocery stores
- Foods purchased that are not local could travel up to 33 times the distance as food that is local
- Canada continues to get much of our food from China, even with the increase of energy costs to transport the foods
- By eating local foods, local farmers are supported and therefore the agricultural sector in Canada is stimulated
- Local foods produce significantly lower greenhouse gas emissions as compared to food that travels great distances
- A good way to eat local is to grow your own food and/or visit a local farmer's market or check out what is available in local grocery stores

Adapted from David Suzuki's Green Guide, 2008.

Discuss and Record Responses for:

1. Explain how eating local foods can help significantly reduce your ecological footprint and create less greenhouse gas emissions
2. Give examples of how you can be successful in eating local foods. What is available on the market?
3. How could you eating a local, plant-based diet help children in developing countries with their food security? Think about this answer in terms of climate change
4. Design a meal that is local, organic and plant-based