TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Session #3: Growing Solutions to Climate Change - Eat Sunshine, Not Fossil Fuels!	**Date:**

Teaching Point & Strategy:
The goals of this session are to review and link what we have learned about climate change and food to a farmer who grows and markets local, organic fruits and vegetables.

Resources:
- A farmer to visit your classroom - supported by PowerPoint Presentation
- Guide to assist farmer/presenter with PowerPoint Presentation
- Climate Change and Food Quiz
- Lunchbox Carbon Footprint Activity - supply students with sample actual Lunches A & B

BEFORE

1) Have students complete Climate Change and Food quiz - either individually or in pairs (10-15 min).

2) Brainstorm with students a list of reasons why a farmer is coming to their class that day. What does farming have to do with climate change? How might the way that food is produced impact climate change? (10-15 min)

DURING

INTRO (15 min):
- Where are Greenhouse Gases found in Food Growing?
- What is Organically Grown Food?

MAIN LESSON (35 min):
Virtual Farm Tour
- composting
- creating soil fertility organically
- organic weed and pest control
- local and organic as the dynamic duo
- linear vs cyclical farming

Virtual Pantry
- food preservation
- the sources of food
- fair trade products

WRAP UP (10 min):
The Six Steps to Local & Organic Food *(see Teacher Support)*
Local Organic Snack!

AFTER

Lunchbox Carbon Footprint: Using a scorecard, students assess the climate change impacts of two example lunches.

New Vocabulary:
- organic food
- conventional farming
- organic farming
- fair trade

Ontario Curriculum Expectations:

Language - Oral Communication, Demonstrating Understanding
1.4 Demonstrate an understanding of the information and ideas in oral texts by summarizing important ideas and citing a variety of supporting details (e.g.,summarize an episode of a favourite television program for a small group; summarize the ideas in a book read aloud to the class)
Language - Oral Communication, Extending Understanding
1.6 Extend understanding of oral texts by connecting the ideas in them to their own knowledge, experience, and insights; to other texts, including print and visual texts; and to the world around them (e.g.,relate the content of an oral presentation to that of books,articles,movies,television shows,or videos on the same topic; discuss issues related data; to entertain; to interact in social situations; to contribute meaningfully and work constructively in groups)

TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Teacher Assessment / Evaluation:
- Collect Climate Change and Food Quiz
- Collect Tale of Two Lunches results

Optional Extension Activities:
1) Visit a farm or farmers' market as part of a field trip.
2) Prepare a lunch using organic and locally produced foods (See Session #4 for ideas and tips).
3) Grow sprouts in the classroom. (Resource: www.real-foods.net/grow-sprouts.html)
4) Provide students with seeds to grow some vegetables at home (beans, lettuce, carrots).

TEACHER SUPPORT / REFERENCE:

What else matters? Other ways food contributes to climate change
- How much meat & dairy (from ruminants)?
- How much processing? How many ingredients? (example, a granola bar)
- How much packaging?
- Is the food organic?
- Is the food in season, or preserved from seasonal local food?

SIX STEPS TO MORE LOCAL, ORGANIC FOOD

1) Grow Something Yourself (in Your Own Backyard!)
2) Buy Certified Organic Food Directly From A Local Farmer/Producer
3) Cook and Eat Seasonally & Emphasize Local, Organic Food
4) Store or Preserve Food In Season for Year Round Eating (Fruit, Jams, Sauces, Veggies, etc.)
5) Ask For It Wherever You Shop or Eat
6) Learn About Fair Trade, Organic Food (www.transfair.ca)

To Contact a Farmer:
Either to find a site to visit, or to find a Farmer to visit the classroom, contact:
Krista Long - Chapter Co-ordinator, COG Perth-Waterloo-Wellington
coordinator@cogwaterloo.ca

TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Eat Here, Less (Greenhouse) Gas! Quiz

Your Name: _____ Class _____

PART 1 - **Circle True or False** to the following questions. If the statement is false, change it to make it true:

1) Carbon dioxide is produced when we burn fossil fuels such as oil, coal and natural gas to heat homes, drive cars, produce & transport food, turn on lights, and so on.	**TRUE**	**FALSE**
2) Greenhouse gases (GHGs) such as carbon dioxide and methane cause the Earth's atmosphere to release more heat, causing the climate to get cooler.	**TRUE**	**FALSE**
3) It requires 10 units of fossil fuel energy to produce 1 unit of food energy on the average farm today. (Fossil fuel energy is the energy used to make pesticides, fertilizers and to run tractors.)	**TRUE**	**FALSE**
4) Canadians have a larger carbon footprint – that is, we create more carbon dioxide emissions per person - than citizens in all other countries in the world except two? If you answered True to this question, name the other two countries: _____ & _____	**TRUE**	**FALSE**
5) Transporting food from the farm to our dinner plates uses as much energy as the energy required to grow it.	**TRUE**	**FALSE**

PART 2 - **Circle the correct answer** to the following questions:

6) When cows burp or 'pass gas', they create _____, a greenhouse gas that is 20-25 times more effective at trapping heat in the atmosphere than carbon dioxide.

a) hydrogen b) oxygen c) sulphur dioxide d) methane

7) What fraction of all greenhouse gases (GHGs) produced in Canada do you think are created by using fossil fuels to grow, process & deliver the food we eat to local supermarkets, stores, restaurants and eventually, to our homes and lunch boxes?

a) 1/10 b) 1/3 c) 2/3 d) 3/4

8) How far do you think the average item of food we eat travels to get from the producer to our dinner table or lunch box. This distance is usually referred to as its food miles.

a) 20 - 30 km b) 100 - 200 km c) 500 - 1,000 km d) 2,000 - 3,000 km

9) Which of these foods can NOT be grown or produced within 200 kilometers of the Town of Erin:

a) hot dogs b) peanuts c) grapefruit d) pizza
e) none of these food items.

10) How many days' worth of food do you think big cities like Toronto have in reserve (storage for emergency)?

a) 3 days b) 20 days c) 50 days d) 100 days

TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Answers:

PART 1

1) T
2) F - Greenhouse gases (GHGs) such as carbon dioxide and methane cause the Earth's atmosphere to **TRAP** more heat, causing the climate to **CHANGE / GET WARMER**.
3) T
4) T - USA & Australia
5) T

PART 2

6) d) methane
7) b) 1/3
8) d) 2,000 - 3,000 km
9) c) grapefruit
10) a) 3 days

TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Lunchbox Carbon Footprint Activity

Use the scoring system below to compare the carbon footprint of the two example lunches.

Lunch A	**Lunch B**
1. Can of fruit cocktail	1. Fresh,seasonal fruit or veggies
2. Roast beef sandwich	2. Cheese and veggies on a tortilla
3. Granola bar	3. Homemade oatmeal cookies
4. Orange juice in a Tetra-pak	4. Milk/water in reusable bottle

In order to determine each lunch's footprint, use the following questions for each of the above items of food. On the scorecard write down the points in the appropriate column and add up the total.

1) **Processing:** How many ingredients are in this item?

7 or more – **10** points 4 to 6 ingredients – **5** pts 3 or less - **0** pts

2) **Food Miles/Distance:** How far did the ingredients travel?

Really far (from tropical countries) – **10** points Sort of far – **5** pts Local – **0** pts

3) **Packaging:** What kind of packaging does it have?

Disposable – **10** points Recyclable – **5** pts None or reusable – **0** pts

4) **Meat:** Does it contain meat?

Beef or lamb – **10** points Pork or Chicken – **5** pts None – **0** pts

5) **Organic**: Does it say "Certified Organic"?

No – **10** Yes – **0** pts

Note: In Canada dairy products, eggs and chicken are controlled by provincial organizations and thus are considered "local".

TAKING A HEALTHY BITE OUT OF CLIMATE CHANGE

Category	Item	LUNCH A	LUNCH B
PROCESSING	Item 1		
	Item 2		
	Item 3		
	Item 4		
FOOD MILES	Item 1		
	Item 2		
	Item 3		
	Item 4		
PACKAGING	Item 1		
	Item 2		
	Item 3		
	Item 4		
MEAT	Item 1		
	Item 2		
	Item 3		
	Item 4		
ORGANIC	Item 1		
	Item 2		
	Item 3		
	Item 4		
	TOTAL:		

The lunch with the **larger total score** has the **larger carbon footprint**.