

Food Choices and Sustainability



Aims:

To examine the various factors that contribute to a sustainable food system and apply critical thinking when making food choices.

Objectives:

- Students will identify the impacts humans have on the environment, including food choices and consumption patterns
- Students will define the word sustainable
- Students will assess the sustainability of a variety of food choices and identify actions they can take to minimize their environmental impact

Resources:

1. Food Sustainability Infographic
2. Appendix A: Major Factors in Sustainability (printed or displayed on smartboard/projector)
3. Appendix B: Food Choices and Sustainability (cards printed according to facilitation choice)

Curriculum Connections:

This lesson links to curriculum expectations in a variety of subjects in provinces across Canada.

ALBERTA

Grade 7 Science: Unit A: Interactions and Ecosystems; Unit B: Plants for Food and Fibre

SASKATCHEWAN

Grade 7 Social Studies: RW7.2; RW7.3

Grade 8 Social Studies: RW8.2

Grade 7 Health: USC7.6; DM7.8; DM7.9

Food Studies 10: Module 27: Current Food Issues

MANITOBA

Grade 7 Food and Nutrition: 7.2.3.7; 7.6.1.1; 7.6.3.1; 7.6.3.2

Grade 8 Food and Nutrition: 8.2.3.7; 8.6.1.1; 8.6.1.6; 8.6.3.1; 8.6.3.2

Grade 7 Social Studies: 7.4.2; 7.4.5

Grade 10 Geography Food from the Land: KI – 005, S-103, S-402, VL-006

ONTARIO

Grade 7 Geography: A2; B2; B3

Grade 7 Science: Understanding Life Systems: Overall Expectations 1; 2

Lesson Plan

Length: 75 minutes



TIME DETAILS

15mins

Introduction – Four Corners

Conduct a four corners activity with students. Post a sign in each corner of the classroom: Strongly Agree, Agree, Disagree, and Strongly Disagree. Inform students that they are going to identify which actions they believe have a negative impact on the environment. Read the following statements and give students the chance to move to the corner, which describes their thinking.

- Driving a car has a negative impact on the environment
- Watching TV has a negative impact on the environment
- Littering has a negative impact on the environment
- Eating has a negative impact on the environment

Allow students to share their thoughts for each of the statements. Draw attention to the last statement about eating and the environment. Do food choices have an impact on the environment? Ask students to brainstorm ways that food choices may have an impact on the environment: transportation, fertilizer use, water use, packaging, production methods, etc.

TIME DETAILS

15mins

What Is Sustainable Food?

Ask students if they have heard of the term 'sustainable food'. Develop a draft definition. Other than environmental factors, what else would need to be considered for a food to be sustainable? Provide assistance and guidance to students as required: What about the people who grow the food? Is food 'sustainable' if the farmers aren't paid fairly (economic)? Is food 'sustainable' if consumers cannot access it (social)? Is food 'sustainable' if it is not healthy for the people who consume it (health/social)? Share Appendix A with students and highlight the various components of sustainability. As a class develop a final definition of sustainability.

Differentiation: Have students explore the connections between sustainability and food security (availability, accessibility, adequacy, acceptability, sustainability). Students could insert the food security terms into the sustainability Venn diagram in Appendix A.

Go over Food Sustainability infographic with students. Discuss the information presented. Ask students to provide some examples of food choices they could make which would be more sustainable (e.g. eating pulses and legumes often; consuming local vegetables; looking for Fair Trade products, etc.)

Lesson Plan

Length: 75 minutes (cont'd)



TIME DETAILS

45mins
+
homework
time, if
required

*Making Sustainable Choices**

Introduce activity outlined in Appendix B. Students will use information on the infographic, along with their own critical thinking skills to make sustainable food choices. They are to consider factors related to environment, health and economics.

There are a variety of ways to facilitate this activity, based on student ability. Ideas include:

- Break class into groups and assign each a scenario.
- Do the activity as a class and have the students vote for their selections.
- Set up as stations/graffiti where students rotate through all examples.
- Assign the scenarios to individual students and have them prepare a written or oral statement on their choices.

Provide students with card 1, giving students their first piece of information about the choice they are asked to make. Have them make their choice assuming all other factors are equal and have them justify their choice. Next hand card number 2 and have students re-evaluate their choice. Next hand card number 3 and again have students re-evaluate and make their final decision. Remind students that this activity is about using critical thinking and reasoning skills. There is no right or wrong answer.

TIME DETAILS

Come together and discuss. What was each student's final choice? Does the final choice meet all of the requirements of sustainability? Is it realistic for a food choice to be 'perfectly' sustainable? How do they 'prioritize' the different areas of sustainability when making their choices? Are they still happy with their definition of sustainability?

Discuss how there are many aspects of sustainability and that it can be hard to make food choices. What other factors influence the choices they make (taste, convenience etc)? How important is making a sustainable food choice to them? Discuss why their choices matter. Have students identify some tips which they can use to keep sustainability top of mind when making their choices as consumers.

Differentiation: Have students identify questions they could ask in each of the scenarios to help them acquire more information about the food product (e.g. asking a farmer at a farmers market what actions they take to protect the environment; asking a grocery store manager if they deal with local producers, or wholesalers).

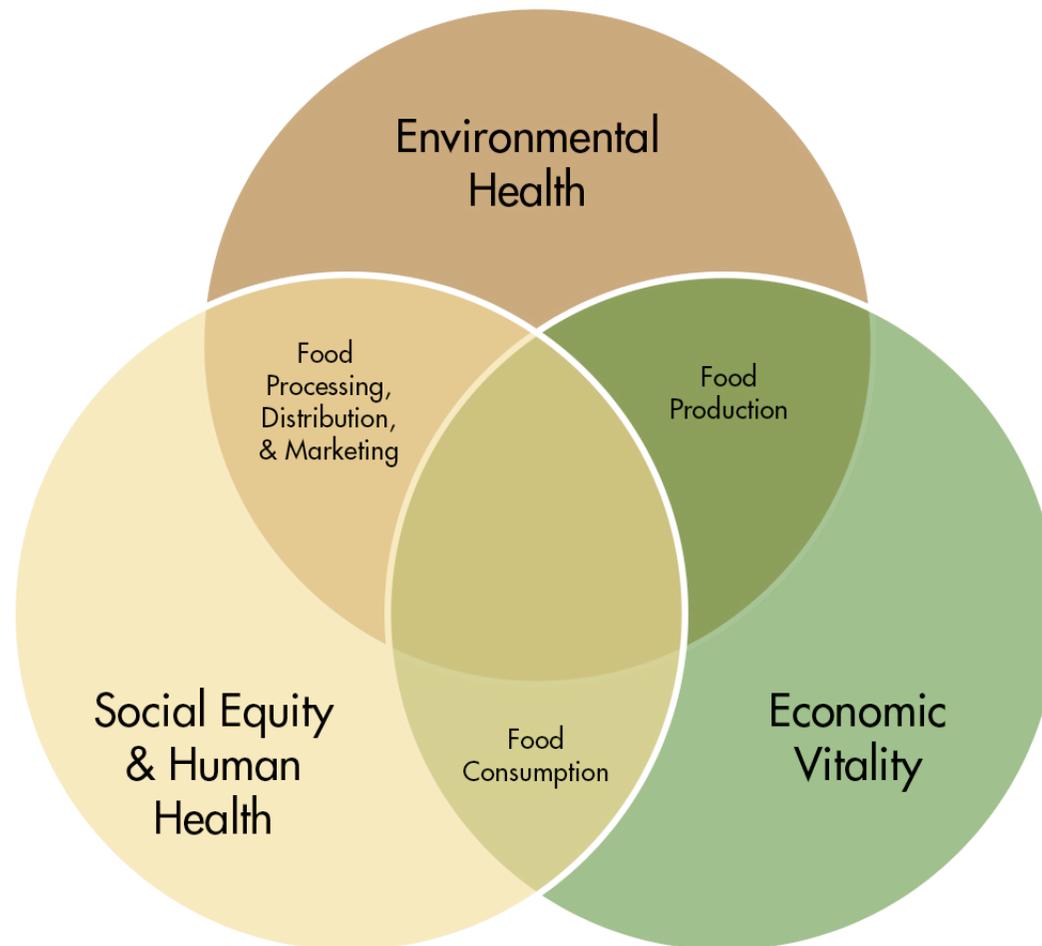
Additional
Learning

2016 is International Year of Pulses (Check out: <http://iyp2016.org/> and www.pulsecanada.com). Have students research the impact of pulses on health, environment and the economy. Students could be assigned a region of the world to focus their inquiry. Research findings can be presented to the class in the form of an oral report, poster, etc.

** This activity is adapted from Ontario Agri-Food Education's Local Food Teacher Ambassador lesson.*

Appendix A

Major Factors in Sustainability



Source: <http://www.resilience.org/stories/2015-01-09/what-is-food-security#>

Appendix B

Food Choices and Sustainability



Card #1

SWEET CORN



It is August and you are at your local farmers market. You see some stands with sweet corn available.

Cindy's Corn is advertising as "Heirloom and GM-free" and Bob's Cob's says "delicious and local". You ask Bob if his corn is from Genetically Modified (GM) seed and he says yes.

You know that both GM and non-GM crops have the same nutrition.

Which do you choose?

Card #2

SWEET CORN



Bob thanks you for asking about GM seed. He says that his corn seed has a protein (from a naturally occurring soil bacteria) built into its DNA. This helps the corn resist a pest (worm) that can damage the kernels. Because of this, Bob says he only had to spray pesticide on his crop once this summer.

When you ask Cindy about her crop, she says she chooses to grow an heirloom (heritage) variety which is GM-free, but she is not an organic farmer. She had some issues with pests (worms) this summer and has had to spray pesticide 3 times.

Has your choice changed?

Card #3

SWEET CORN



The heirloom corn from Cindy costs \$4 for 6 cobs.

The corn from Bob costs \$6 for 1 dozen cobs (12 cobs).

What is your final choice?

How sustainable is your choice in all three areas (health, environment, economy)?

How do you prioritize the 3 areas of sustainability when making this choice?

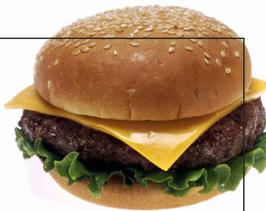
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Card #1

BURGER



You are at your favourite local restaurant with your friends. Today you feel like a burger.

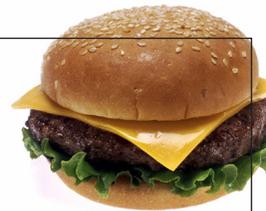
There is a beef burger option for \$17 and a spicy lentil burger option for \$12. Both burgers are topped with veggies, ketchup and mustard and come with a choice of a side dish.

You are paying for the burger with money you earned at your after school job.

Which do you choose?

Card #2

BURGER



The restaurant has included the nutrition summary for each of the burgers:

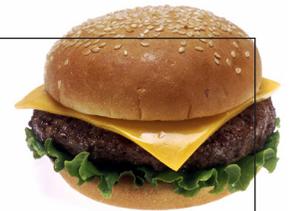
Beef Burger:
Calories: 512
Fat: 27g
Carbs: 40g
Protein: 25g

Lentil Burger:
Calories: 200
Fat: 4.5g
Carbs: 30g
Protein: 11g

Which do you choose?

Card #3

BURGER



You read the description of each burger.

Lentil burger: "The lentils for this burger were grown by a farmer in Saskatchewan. The farmer focuses on soil health by using crop rotation and no-till (no cultivation). The lentils are good for soil fertility because they put nitrogen back in the soil."

Beef burger: "This beef comes from Ontario where it is raised on pasture on a farm with an Environmental Farm Plan. It was brought to market weight in a feedlot with a grain diet (mostly corn)."

Has your decision changed? How sustainable is your choice in all three areas (health, environment, economy)?

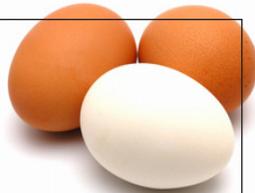
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Card #1

EGGS



You are making a choice between 2 cartons of eggs.

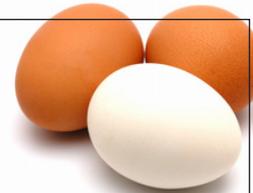
The first carton is organic. Organic eggs mean that the chickens were only fed organic feed and the birds had access to the outdoors.

The other eggs have no mention of organic, but are labelled as "Omega-3 enriched".

Which one do you choose?

Card #2

EGGS



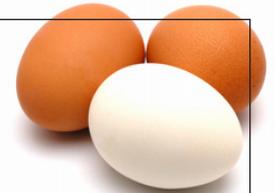
You learn that the organic eggs, although products of Canada, are laid by hens which are fed organic feed imported from China.

The Omega-3 (non-organic) eggs are also products of Canada and the hens are fed grain (including flax for the Omega-3), which is grown in Canada.

Which would you choose with this new information?

Card #3

EGGS



The organic eggs cost \$5.99 and the Omega-3 eggs cost \$3.99.

Has your decision changed?

Are there other questions which you have about the sustainability of the eggs?
Where could you find that information?

How sustainable is your choice in all three areas (health, environment, economy)?

How do you prioritize the 3 areas of sustainability when making this choice?

Appendix B

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Card #1

FRUIT



You are packing your lunch for school and are trying to decide which fruit to include.

Your parents went shopping the day before and there are bananas from the Dominican Republic and Canadian apples.

What choice do you make? Which option is more sustainable?

Card #2

FRUIT



The apples are a local (Canadian) choice but you don't have any information about the farm where they grew. You know that many fruit farms in Canada bring in foreign workers to help with harvest.

When you pick up the bananas, you see that they have a Fair Trade sticker on them. This means that the farmers receive a minimum price for their fruit and workers receive fair pay.

Is one choice more sustainable than the other?

Card #3

FRUIT



Both fruits are a healthy choice from the Fruit and Vegetable food group.

It is winter time in Canada, and you know that the apples were picked ripe in the summer, stored in a cold room at the orchard and brought home to your fridge.

The bananas were picked before they were ripe and still look a little green. Which fruit do you choose?

How sustainable is your choice in all three areas (health, environment, economy)?