

Assessing
the
Environmental Impact of Agriculture

Grade 7 Geography

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Activity 1

Objective: access prior knowledge, critical thinking, introduce themes of geographic inquiry.

Expectations Covered:

(Grade 7: Themes of Geographic Inquiry)

G7OE1: identify and explain the themes of geographic inquiry – location/place, environment, region, interaction and movement.

G7MGG: create and use maps for a variety of purposes.

Materials:

Chart Paper

Markers

Place Cards (Appendix A)

Tape

Description:

This is a mapping activity. Give each student a place card (Appendix A) and have them draw an aerial view of that place. Each student then joins a group of 6 with everyone in the group having a different place location. The group puts together all of the individual places to create a “map”. Then, as a group, discuss the advantages and disadvantages of the placement of the places on the map. Groups present their maps and findings to the whole class.

Teaching Notes:

Be sure to introduce and explain the 5 themes of geography: location/place, environment, region, interaction, and movement during the group discussion at the end. Students add definitions to their notes.

Alternative:

Students can be given their place card as homework and they have to take a digital photograph of their place to be printed off at home and brought in or printed off at school. The photographs can then be pieced together to create a map.

Extension/Field Trip:

Take a walk-about with your class, looking for specific features in the city/community where they live. Where are the schools, hospitals, parks, factories, farms, malls and housing developments located? What are some of the real-life advantages and disadvantages of the locations of these places?

Activity 2

Objective:

To discuss the environmental impact of farming and explore some strategies to reduce impact.

Expectations Covered:

(Grade 7: Themes of Geographic Inquiry)

G7OE3: analyse current environmental issues or events from the perspective of one or more of the themes of geographic inquiry.

G7OE2: use a variety of geographic resources and tools to gather, process, and communicate geographic information.

G7IRC1: formulate questions to guide and synthesize research on an environmental issue

G7IRC2: locate and use relevant information from a variety of primary and secondary sources.

G7IRC3: communicate the results of inquiries about different points of view on an issue using a variety of tools.

G7A1: apply the perspective of one or more themes of geographic inquiry to produce a report.

G7A2: choose an environmental issue that illustrates one of the themes of geographic inquiry and explain why various individuals and groups have different opinions on the issue.

Science Links:

Grade 7 – Interactions Within Ecosystems

G7OE3: demonstrate an understanding of the effects of human activities and technological innovations, as well as the effects of changes that take place naturally, on the sustainability of ecosystems.

Materials:

List of Internet resources (Appendix B)

Poster Rubric (Appendix C)

Oral Presentation Rubric (Appendix D)

Chart Paper

Markers

Description:

Introduce topic – Environmental Impact of Farming.

Brainstorm for areas of concern/interest – Manure, Irrigation, Pesticides &

Herbicides, Fertilizers, Biodiversity, Water Quality.

Brainstorm for strategies or practices that reduce environment impact – Organic

Farming, Protection of Waterways

Divide class into 7 groups. Each group is assigned one of the 6 areas of concern and 1 group looks at Organic Farming. Each group researches their topic for the main areas of concern as well as current strategies to reduce environment impact. Each group presents as a poster project. The Organic Farming group researches the main differences between organic farming and traditional farming with a focus on environmental impact. They present as a poster project.

Teaching Notes:

Brainstorming session can be done on graph paper and then the paper can be given to the group assigned to that topic. Each group should assign specific tasks to each group member – playing to that member’s learning style or strengths. Poster project is presented as an oral presentation.

Internet Resources:

Canadian Agriculture at a Glance (Students can access PDF documents through this page. Go to *list of lessons* and look at Chapter 3. Some specific articles are listed below.)

<http://www.statcan.ca/english/kits/agric04/intro.htm>

www.statcan.ca/english/research/96-328-MIE/2004006/96-328-MIE2004006.pdf

Waste Management

www.statcan.ca/english/research/96-328-MIE/2004010/96-328-MIE2004010.pdf

Water and Irrigation

www.statcan.ca/english/research/96-328-MIE/2004011/96-328-MIE2004011.pdf

Pesticides

www.statcan.ca/english/research/96-328-MIE/2004018/96-328-MIE2004018.pdf

Organic Farming

www.statcan.ca/english/research/96-328-MIE/2004003/96-328-MIE2004003.pdf

Tilling behind the Mall

Agriculture and the Environment

http://www.agr.gc.ca/policy/environment/home_e.phtml

Activity 3

Objective: Research project on other geography based issue brought up in the previous lessons.

Expectations Covered:

(Grade 7: Themes of Geographic Inquiry)

G7OE3: analyse current environmental issues or events from the perspective of one or more of the themes of geographic inquiry.

G7OE2: use a variety of geographic resources and tools to gather, process, and communicate geographic information.

G7IRC1: formulate questions to guide and synthesize research on an environmental issue

G7IRC2: locate and use relevant information from a variety of primary and secondary sources.

G7IRC3: communicate the results of inquiries about different points of view on an issue using a variety of tools.

G7A1: apply the perspective of one or more themes of geographic inquiry to produce a report.

G7A2: choose an environmental issue that illustrates one of the themes of geographic inquiry and explain why various individuals and groups have different opinions on the issue.

Description:

In their group, students research a geographical issue brought up by the previous lessons. For example, filling in wetlands, building on prime farmland, strip malls, housing developments or any other environmental and/or geographical issue that interests them. They should follow the same procedure as for the Farm project. Brainstorm for the issues, research each issue individually, look for strategies that reduce the impact. Projects can be presented in a variety of formats including: Poster, Documentary/Movie, Research Paper, Music Video or Newspaper.

Appendix A

Mall

School

Wetland

Park

Farm

Factory

Appendix B

Internet Resources

Activity 2

Canadian Agriculture at a Glance

<http://www.statcan.ca/english/kits/agric04/intro.htm>

You can access PDF documents through this page.

Go to “*list of lessons*” and look at Chapter 3. Some specific articles are listed below.

www.statcan.ca/english/research/96-328-MIE/2004006/96-328MIE2004006.pdf

Waste Management

www.statcan.ca/english/research/96-328-MIE/2004010/96-328MIE2004010.pdf

Water and Irrigation

www.statcan.ca/english/research/96-328-MIE/2004011/96-328MIE2004011.pdf

Pesticides

www.statcan.ca/english/research/96-328-MIE/2004018/96-328MIE2004018.pdf

Organic Farming

www.statcan.ca/english/research/96-328-MIE/2004003/96-328MIE2004003.pdf

Tilling behind the Mall

Agriculture and the Environment

http://www.agr.gc.ca/policy/environment/home_e.phtml

Appendix C

Poster Rubric

Teacher Name: _____

Student(s) Name(s): _____

CATEGORY	Level 4	Level 3	Level 2	Level 1
Required Elements	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	All but 1 of the required elements are included on the poster.	Several required elements were missing.
Labels	All items of importance on the poster are clearly labelled with labels that can be read from at least 3 ft. away.	Almost all items of importance on the poster are clearly labelled with labels that can be read from at least 3 ft. away.	Many items of importance on the poster are clearly labelled with labels that can be read from at least 3 ft. away.	Labels are too small to view OR no important items were labelled.
Graphics Relevance	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. Some borrowed graphics have a source citation.	All graphics relate to the topic. One or two borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.
Attractiveness	The poster is exceptionally attractive in terms of design, layout, and neatness.	The poster is attractive in terms of design, layout and neatness.	The poster is acceptably attractive though it may be a bit messy.	The poster is distractingly messy or very poorly designed. It is not attractive.
Grammar	There are no grammatical/mechanical mistakes on the poster.	There are 1-2 grammatical/mechanical mistakes on the poster.	There are 3-4 grammatical/mechanical mistakes on the poster.	There are more than 4 grammatical/mechanical mistakes on the poster.

Appendix D Oral Presentation Rubric

TRAIT	4	3	2	1
NONVERBAL SKILLS				
EYE CONTACT	Holds attention of entire audience with the use of direct eye contact, seldom looking at notes.	Consistent use of direct eye contact with audience, but still returns to notes.	Displayed minimal eye contact with audience, while reading mostly from the notes.	No eye contact with audience, as entire report is read from notes.
BODY LANGUAGE	Movements seem fluid and help the audience visualize.	Made movements or gestures that enhances articulation.	Very little movement or descriptive gestures.	No movement or descriptive gestures.
POISE	Student displays relaxed, self-confident nature about self, with no mistakes.	Makes minor mistakes, but quickly recovers from them; displays little or no tension.	Displays mild tension; has trouble recovering from mistakes.	Tension and nervousness is obvious; has trouble recovering from mistakes.
VERBAL SKILLS				
ENTHUSIASM	Demonstrates a strong, positive feeling about topic during entire presentation.	Occasionally shows positive feelings about topic.	Shows some negativity toward topic presented.	Shows absolutely no interest in topic presented.
ELOCUTION	Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation.	Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation.	Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation.	Student mumbles, incorrectly pronounces terms, and speaks too quietly for a majority of students to hear.
CONTENT				
SUBJECT KNOWLEDGE	Student demonstrates full knowledge by answering all class questions with explanations and elaboration.	Student is at ease with expected answers to all questions, without elaboration.	Student is uncomfortable with information and is able to answer only rudimentary questions.	Student does not have grasp of information; student cannot answer questions about subject.
ORGANIZATION	Student presents information in logical, interesting sequence which audience can follow.	Student presents information in logical sequence which audience can follow.	Audience has difficulty following presentation because student jumps around.	Audience cannot understand presentation because there is no sequence of information.
MECHANICS	Presentation has no misspellings or grammatical errors.	Presentation has no more than two misspellings and/or grammatical errors.	Presentation has three misspellings and/or grammatical errors.	Student's presentation has four or more spelling and/or grammatical errors.

Sources:

Agriculture and the Environment
http://www.agr.gc.ca/policy/environment/home_e.phtml

Canadian Agriculture at a Glance
<http://www.statcan.ca/english/kits/agric04/intro.htm>

Oral Presentation Rubric
c/o www.readwritethink.org

Rubistar (rubric maker and library)
<http://rubistar.4teachers.org>

Statistics Canada
<http://www.statcan.ca>