Appendix A: Green Revolution Note

The Green Revolution (1945-1970)

- Technology generated high yield varieties (HYV) of crops that mature more quickly (selective breeding & research).
    - Crossbreeding between two varieties of plants to pass desirable traits from both parents.
- First developed in Mexico in the mid-1940s using dwarf varieties of wheat
    - self sufficient in wheat production by 1956.
- By the mid 1980's, HYV grains made up 50% of crops grown in the world.
- **Benefits**: increased yields by 75%, often through double-cropping (2 harvests in one year) & raised farm incomes.
- **Problems**: costly inputs…more fertilizers, pesticides & irrigation required (dubbed "a race to the bottom" by environmentalists)
    - Dramatic loss of genetic diversity (a few varieties replace hundreds of natural varieties)
    - Not as environmentally sustainable
    - Too expensive for subsistence farmers (feeding themselves)

The NEW Green Revolution (1990-present)

Transgenic/Genetically Modified Foods (**GM foods**): any organism altered by the addition of foreign genetic material.

- **Benefits**: the potential to create even larger yields & eliminate fertilizer & pesticide use.
    - The potential to create healthier foods (enriched with vitamins and minerals not naturally found)
- **Problems**: many uninvestigated negative impacts: farmer dependence on chemicals & seeds (commercial kill genes and patents), damaged natural ecosystems (superbugs), ethical questions (where do we stop?), new diseases, increased health risks.

Appendix C: Debate Guideline
Genetically Modified Foods Debate Organizational Sheet
"Are Genetically Modified Foods positive or negative?"

GMO - Friend or Foe? Unit

For Genetically Modified Foods	Against Genetically Modified Foods
Argument #1	Rebuttal
Rebuttal	Argument #1
Argument #2	Rebuttal
Rebuttal	Argument #2

Argument #3	Rebuttal
Rebuttal	Argument #**3**

GMO - Friend or Foe? Unit

Appendix D: Debate Rubric
Name of Debater _____ Marker_____

Criteria	Remedial	Level 1	Level 2	Level 3	Level 4
Opening & Closing Statements	- Opening statement and closing statements do little more than state the position of the team or opening and closing statements incomplete or absent.	- Opening statement minimally outlines arguments; closing argument briefly restates the ideas of the opening statement	-Opening statement outlines or lists arguments and evidence but generates little interest; closing statement does not reflect remarks made during debate.	- Opening statement successfully outlines the issues; closing statement summarizes many arguments from the debate.	-Opening statement engages the audience's attention; closing statement leaves no unanswered issues has a powerful impact on the audience.
Use of Arguments	- Few or no relevant reason given. Poorly constructed arguments.	- Demonstrates a poor understanding of details --- makes few or no original connections and interpretations	- Demonstrates a satisfactory understanding of details --- few original connections and interpretations	Demonstrates a very good understanding of details --- makes some original connections and interpretations	- Demonstrates thorough and accurate understanding of details --- makes original connections and interpretations
Use of Examples & Facts	Few points were supported with facts and examples	Demonstrates a poorly developed understanding of the issues & facts relevant to the topic - Most major points did not include relevant facts, statistics or examples.	Demonstrates a satisfactory understanding of the issues & facts relevant to the topic - several major points included several relevant facts, statistics or examples.	Demonstrates a well developed understanding of the issues & facts relevant to the topic - most major points included several relevant facts, statistics or examples.	Demonstrates a highly developed understanding of the issues & facts relevant to the topic - Every major point included several relevant facts, statistics or examples.
Rebuttals	- unable to respond to counter-arguments by opponents in a meaningful or accurate way	Responds to few counter-arguments by opponents with accurate & logical answers - opposes few arguments made by opponents with relevant evidence	Responds to some counter-arguments by opponents with accurate & logical answers - Opposes some arguments made by opponents with relevant evidence	Usually responds to counter-arguments by opponents with concise, accurate & logical answers - opposes most arguments made by opponents with relevant evidence	Responds to counter-arguments by opponents with concise, accurate & logical answers - Effectively opposes arguments made by opponents with relevant evidence
Presentation Style	Exhibits minimal confidence, eye contact, or enthusiasm throughout the debate - Major difficulty accessing prepared materials	Exhibits little confidence, eye contact, & enthusiasm throughout the debate - Some difficulty accessing prepared materials	Exhibits some confidence, eye contact, & enthusiasm throughout the debate - Usually respectful - Can usually find prepared materials in a reasonable amount of time.	Exhibits a high degree of confidence, eye contact, & enthusiasm throughout the debate - Maintains respect - Easily accesses prepared materials	Exhibits confidence, excellent eye contact, & enthusiasm throughout the debate - Maintains respectful tone - Easily accesses prepared materials
Research Sheet (Written Work)	- recorded information from few resources, and ignored alternative points of view.	- Researched & recorded few statements, facts, statistics and evaluated few alternative points of view.	- Researched & recorded some statements, facts, statistics and evaluated some alternative points of view.	- Researched varied information sources, recorded and interpreted a good number of statements, facts, statistics and evaluated alternative points of view.	- Accurately researched varied information sources, recorded and interpreted a large number of statements, facts, statistics and evaluated alternative points of view.

Total

Appendix E:

Deconstructing Supper Video Questions

1. What was chef John Bishop's reason for becoming interested in this issue?

2. Explain the process of Genetic Modification.

3. Outline positive and negative aspects of Genetic Modification discussed throughout this video.

4. Summarize the history and issues surrounding GM milk.

5. How would a neighbour growing GM crops affect an organic farmer?

6. Summarize the issue of GM labeling in Europe. Include the influence of activists.

7. How do the people of India view GM foods and why?

8. What is the seed exchange?

9. What did Bishop decide about this issue at the end of the video and why?

Appendix F: CBC Article & Questions

INDEPTH: GENETIC MODIFICATION

Percy Schmeiser's battle

CBC News Online | May 21, 2004

http://www.cbc.ca/news/background/genetics_modification/percyschmeiser.html

Read the article "Percy Schmeiser's battle" and answer the following questions.

Questions

1. How does Monsanto ensure yearly profits from their Gentically Modified products? Why **must** they do this?

2. Explain how the court ruling in this case was conflicting, based on past patent precedents set by Canadian court rulings.

3. How did Percy discover that his canola was contaminated by Monsanto seeds?

4. What process does Monsanto use to find out if farmers are cheating them?

5. What negative argument about GMO's (*from the PowerPoint and Debate*) does this story illustrate? Explain.

6. What side do you believe, Monsanto or the Western farmers? Support your decision with at least 3 points.

GMO - Friend or Foe? Unit

Appendix G: Taste Test Chart

GM or not GM? That is the Question

Food	Sample	Sample Differences	Sample Similarities	Reaction to Taste	GM or Not – Guess	Results
Animal Crackers	A					
	B					
Cupcakes	A					
	B					
Popcorn	A					
	B					