The Good, the Bad and the GMO's
GENERATE AN ARGUMENT.

ACTIVITY:

Research Question: "Is the use of genetically modified organisms beneficial to our world or are they a disaster in disguise?

Prepare an argumentation between representatives of the world who intend on using GMO's. Both sides of the argument must be carefully prepared with claims, data researched, and positions represented.

Please read through the article below as a source of evidence for or against your claim

<u>**News Hour article**</u>

Food Crisis in Zambia   Posted:12.18.02

President Mwanawasa of <u>Zambia</u> has refused international food aid even though many in his country are starving.

<u>Zambia</u>, a landlocked nation in southern Africa, has suffered from severe drought for two years and is unable to feed many of its people. Yet, the country continues to refuse food aid from the international community.

More than 2.9 million people need food aid, according to the World Food Program, the United Nations agency that fights global hunger. But in August, Zambian President Levy Mwanawasa rejected the corn offered to the county because he says it is "poison" and poses health risks to his people.

Genetically modified food

The corn in question is genetically modified (GM) maize, mostly donated from the United States. Genetically modified food contains genetic material from another organism. That material has been added to the crop to add traits that the crop did not originally possess, such as resistance to insects or tolerance to drought.

President Levy Mwanawasa of Zambia refused food aid.

Critics of GM foods say the technology is untested and the long-term effects unknown. In addition, they fear that GM crops will infect a nation's native crops, causing later problems. Many critics of GM technology are in

Europe, where many GM foods are prohibited or require special labeling. President Mwanawasa has said that he does not want the introduction of GM foods to hurt his export trade with Europe.

The European Union issued statements in November saying that scientists have not found evidence of harm to humans from genetically modified foods. They also said that trade with the EU would not be negatively affected if Zambia accepts the GM food aid.

Zambia's GM food concerns

The World Food Program, which distributes the food aid, says that they won't force Zambia to accept the shipments but they can't guarantee replacement of the corn with different food. They fear that many people will die if they don't receive food. They also worry that people will riot if they do not get the food, which has already been sent to the country and is rotting in storage.

Zambia based its rejection of the genetically modified food on its own scientific report on the food's possible effects on the health and economic welfare of the country. Their report concluded that there was insufficient evidence to show the safety of GM foods. But some critics of the report, including the opposition political party, say that it is inaccurate.

And while scientists debate the research, Zambian myths about the effects of GM food continue to spread. Some believe it makes women infertile, while others think it infects people with HIV/AIDS.

Women carry WFP food aid, now banned, atop their heads in Zambia.

Other countries in the region that need food aid but don't want GM foods are accepting the corn after it has been milled -- a process that prevents the planting of the GM corn seeds. Zambia has rejected this offer. However, Zambia has allowed the milled corn to be given to Angolan and Congolese refugees in camps within the country.

The GM food debate

Many international organizations such as Food First, a research and policy group, have criticized the international community for offering the GM food. They believe that it puts Zambia in an impossible position of having to accept food that the U.S. cannot sell to Europe and Japan or having to refuse international assistance, which it needs.

They also criticize the use of GM seeds, saying the system forces poor farmers to become increasingly dependent on multinational corporations. They recommend the purchase of non-GM foods from other developing countries.

Angolan refugee orphans in Zambia received GM food aid provided by WFP.

Other human rights groups in Zambia say that the rejection is unrealistic. They believe that Zambia should accept the corn if it is milled.

The debate within the country cuts across political and class lines. Refusing GM foods was popular with the urban elite who saw the issue as a test of national strength. Hungry villagers, however, wanted the food aid, but lacked the political power to accomplish this goal, according to foreign diplomats in the country.

-- By Annie Schleicher, NewsHour Extra

Story: Food Crisis in Zambia, 12/18/02
http://www.pbs.org/newshour/extra/features/july-dec02/zambia.html

Reading Comprehension Questions:

1). Approximately how many people need food in Zambia? Why?

2). What is genetically modified food? Why is it grown?

3). What do critics of GM foods believe?

4). Why has President Mwanawasa rejected the food aid? What are some of the myths about GM food? What does the European Union (EU) believe?

5). What are other countries that are receiving GM corn doing with the food?

6). Would you eat genetically modified food? Why or why not?

7). You are the President of Zambia. Many people are starving. Would you accept genetically modified food? Why or why not?

Please read the research question stated below and complete the rest of this worksheet to generate your claims, evidence, reasoning and rebuttals.

Is the use of genetically modified organisms beneficial to feed our world or could they be a disaster waiting to happen?

- You must support your claim with evidence that will be collected through online research.
- Use your technology to collect evidence that supports or opposes the use of GMOs
- You will also need to justify your claim with the use of the evidence that you have collected.

Fill out the following table stating your claim and indicate the evidence you have collected to justify your claim

The Research Question:
Is the use of Genetically Modified corn beneficial to feed our world or are they a disaster waiting to happen?

Your Claim:	

Your Evidence:	Your Justification of the Evidence:

Resources
Here are some suggestions to use to research data regarding genetically modified organisms.
http://www.csa.com/discoveryguides/gmfood/overview.php
http://www.webmd.com/food-recipes/features/are-biotech-foods-safe-to-eat
http://www.huffingtonpost.com/news/genetically-modified-food
http://www.sciencedaily.com/articles/g/genetically_modified_food.htm

RUBRIC FOR GMO ARGUMENTATION LESSON

	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.