

# An Assessment of Student Critical Thinking Skills

Lehman Alternative Community School staff team

The following assessment was given in 2015 at the Lehman Alternative Community School in Ithaca, New York. It was delivered to all 9th through 12th grade students to assess the school's progress in teaching the Common Core literacy standards in ELA, social studies and science.

Students were shown a short YouTube video on genetically modified foods, and asked to evaluate its bias (pro-GMO, anti-GMO, or neutral), give evidence from the document to back up their answer, and then explain which organization was most likely to have created the video based on excerpts from the mission statements from Monsanto, Greenpeace, and the Cornell Alliance for Science. The students also reviewed excerpts from an opinion article and a screen grab from a website on genetically modified foods, and answered questions about

the credibility of the documents and their own point of view.

The test was designed to assess the media analysis skills of students, including their ability to:

- Identify the point of view/bias of a message with evidence from the document
- Connect the point of view/bias of a message to the intent of the author
- Ask appropriate questions about the credibility of sources
- Reflect on their own biases and how they might impact their evaluation of the credibility of different sources.

Students received grades based on the accuracy and critical thinking skills shown in their responses.



Source: <https://www.youtube.com/watch?v=1H9WZGKQeYg>

By Mark Lynas

I too, was once in that activist camp. A lifelong environmentalist, I opposed genetically modified foods in the past. Fifteen years ago, I even participated in vandalizing field trials in Britain. Then I changed my mind.

After writing two books on the science of climate change, I decided I could no longer continue taking a pro-science position on global warming and an anti-science position on G.M.O.s.

There is an equivalent level of scientific consensus on both issues, I realized, that climate change is real and genetically modified foods are safe. I could not defend the expert consensus on one issue while opposing it on the other.

In Africa, however, countries have fallen like dominoes to anti-G.M. campaigns. I am writing this at a biotechnology conference in Nairobi, where the government slapped a G.M.O. import ban in 2012 after activists brandished pictures of rats with tumors and claimed that G.M. foods caused cancer.

The origin of the scare was a French scientific paper that was later retracted by the journal in which it was originally published because of numerous flaws in methodology. Yet Kenya's ban remains, creating a food-trade bottleneck that will raise prices, worsening malnutrition and increasing poverty for millions.

In Uganda, the valuable banana crop is being devastated by a new disease called bacterial wilt, while the starchy cassava, a subsistence staple, has been hit by two deadly viruses. Biotech scientists have produced resistant varieties of both crops using genetic modification, but anti-G.M.O. groups have successfully

prevented the Ugandan Parliament from passing a biosafety law necessary for their release.

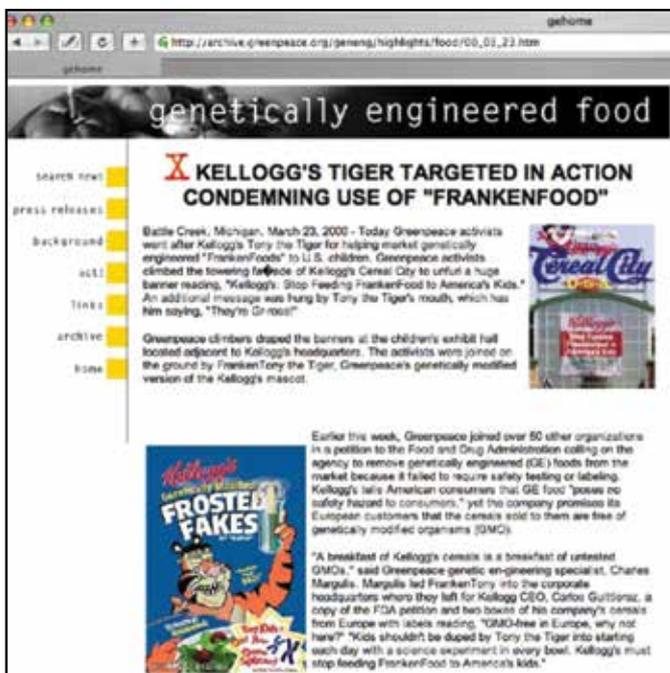
The environmental movement's war against genetic engineering has led to a deepening rift with the scientific community. A recent survey by the Pew Research Center and the American Association for the Advancement of Science showed a greater gap between scientists and the public on G.M.O.s than on any other scientific controversy: While 88 percent of association scientists agreed it was safe to eat genetically modified foods, only 37 percent of the public did — a gap in perceptions of 51 points. (The gap on climate change was 37 points; on childhood vaccinations, 18 points.)

At Cornell, I am working to amplify the voices of farmers and scientists in a more informed conversation about what biotechnology can bring to food security and environmental protection.

No one claims that biotech is a silver bullet. The technology of genetic modification can't make the rains come on time or ensure that farmers in Africa have stronger land rights. But improved seed genetics can make a contribution in all sorts of ways: It can increase disease resistance and drought tolerance, which are especially important as climate change continues to bite; and it can help tackle hidden malnutritional problems like vitamin A deficiency.

We need this technology. We must not let the green movement stand in its way.

*Mark Lynas is a researcher at the Cornell Alliance for Science and the author, most recently, of "The God Species: How the Planet Can Survive the Age of Humans."*



## LACS High School Critical Thinking Assessment

Name \_\_\_\_\_ Date \_\_\_\_\_

You are going to look at three different media documents about Genetically Modified Foods (GMOs): a 3-minute YouTube video, excerpts from a *New York Times* opinion article (Op Ed), and a screen grab from a website. You will have 10 minutes to read the article and website before we show you the video. First read over the questions below.

1. The position of the video is best described as ... (circle the best answer below)  
a. pro- GMO      b. anti- GMO      c. neutral
2. Describe three specific choices made by the filmmakers that helped them to communicate their position on GMOs (e.g., the use of particular music, imagery, facts, etc.). For each choice, explain how it communicated that position.

Choice #1 and how it communicates the position on GMOs: \_\_\_\_\_

Choice #2 and how it communicates the position on GMOs: \_\_\_\_\_

Choice #3 and how it communicates the position on GMOs: \_\_\_\_\_

3. The point of view or bias of the video reflects the mission of the organization that paid for/produced it. Below are the mission statements for three different organizations. For each organization indicate if it is likely to have produced the video (fill-in Yes, No, or Unclear). Give a short explanation of your reasoning in the space provided.

**Monsanto:** *We are a sustainable agriculture company. We deliver agricultural products that support farmers all around the world. We produce in-the-seed trait technologies for farmers, which are aimed at protecting their yield, supporting their on-farm efficiency and reducing their on-farm costs.*

- yes  
 no  
 unclear

**Explain:**

**Greenpeace:** *We are the largest independent direct-action environmental organization in the world. We defend the natural world and promote peace by investigating, exposing, and confronting environmental abuse, championing environmentally responsible solutions, and advocating for the rights and well-being of all people.*

- yes  
 no  
 unclear

**Explain:**

**The Cornell Alliance for Science:** *We seek to promote access to scientific innovation as a means of enhancing food security, improving environmental sustainability and raising the quality of life globally.*

- yes  
 no  
 unclear

**Explain:**

## LACS High School Critical Thinking Assessment (continued)

The word **CREDIBILITY** is defined as *the quality of being trusted or believable*.

4. Write three important questions you would want answered in assessing the credibility of one or more of these documents.

Question #1: \_\_\_\_\_

Question #2 \_\_\_\_\_

Question #3 \_\_\_\_\_

Which of the three documents most reflects your views on Genetically Modified Organisms?

- The Video       The website       the Op Ed

5. Explain how your views on the issue of GMOs might influence how you understand and interpret these documents.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

For questions about this assessment contact Chris Sperry: [csperry@ithaca.edu](mailto:csperry@ithaca.edu)

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