

Digital Literacy and GMOs

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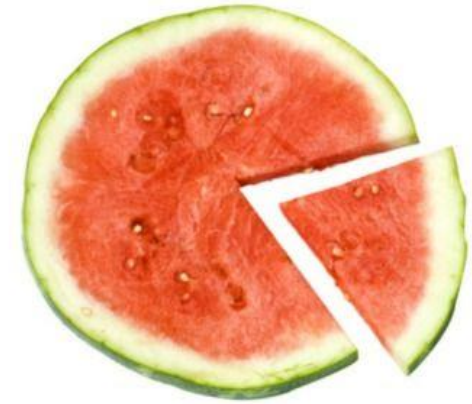
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OSTA Conference - October 2018

Today's Agenda

- Why this research is relevant
- What we have learned so far
- Why digital literacy is connected
- Fact Checking in an Era of Fake News
- Preview Other Lessons:
 - Nature of Science
 - Methods of Food Modification
- Looking for teachers interested in participating in this research

<https://tinyurl.com/y8ym73x2>



**Seedless watermelons
aren't GMOs.**



**But rainbow
papayas are.**



**So are cotton
t-shirts!**

You come across GMOs every day.
Learn more about them
at GMOAnswers.com

Why This Research Is Relevant

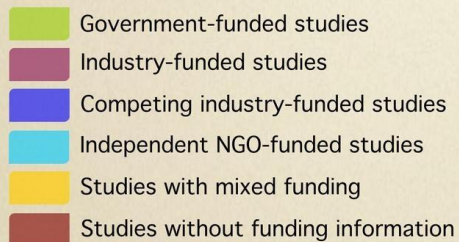
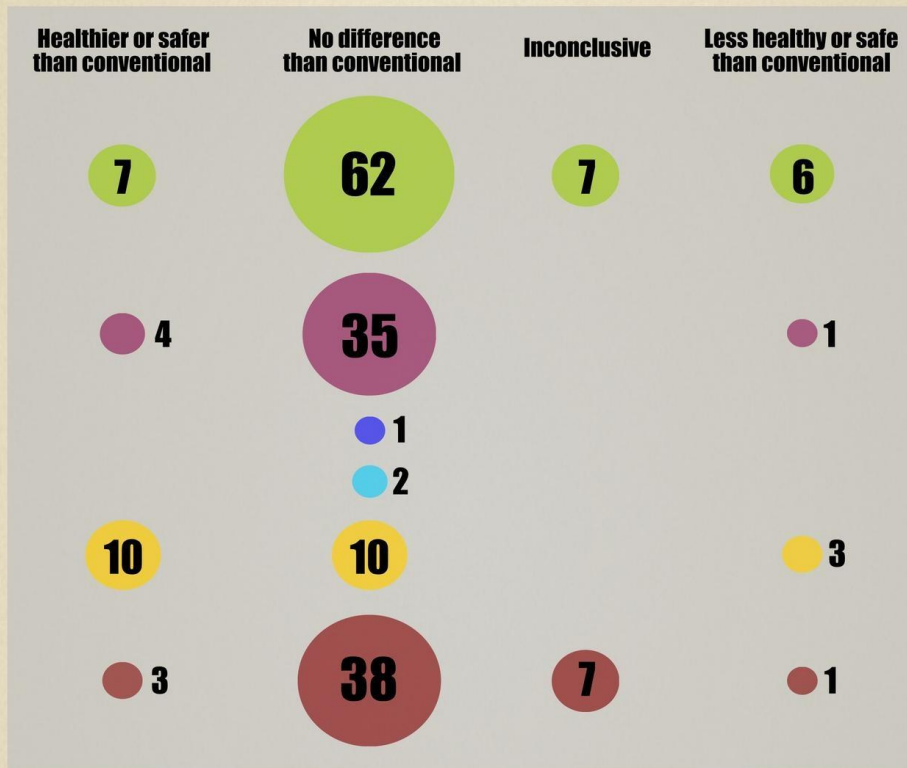
- Goals for Students
 - Increase scientific literacy and critical thinking skills to navigate the world of increasingly complex socio-scientific issues
 - Evaluate various claims about complex issues
 - Improve decision-making skills that can be applied outside of the classroom
- Goals for Teachers
 - Develop curriculum guides for teaching digital literacy and scientific literacy in the context of genetic modification of foods
 - Provide additional tools for incorporating socio-scientific issues into your classroom



What We've Learned So Far

The scientific literature on GMO safety for human consumption

Are GMOs safe to eat and is the research only funded by the industry?



Data from the GENetic Engineering Risk Atlas (GENERA), showing 197 peer-reviewed scientific studies that address the safety of genetically engineered foods out of 400 randomly selected for the beta release of the Atlas.

Visit genera.biofortified.org for up-to-date information. Information presented in this graphic is accurate as of August 2014.

GENETIC LITERACY PROJECT
WHERE SCIENCE TRUMPS IDEOLOGY

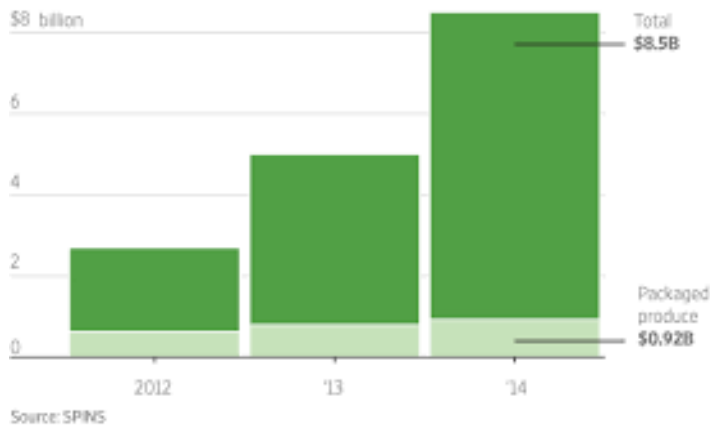
BIOLOGY
FORTIFIED

- Teachers already incorporate socially controversial materials into their classrooms and employ multiple tactics to help students engage.
 - Curriculum will use a variety of teaching techniques to further enhance student understanding and engagement.
- Majority of teachers do not feel they are very knowledgeable in genetic technologies or the issues associated with GM foods, affecting their confidence in teaching these types of lessons.
 - Curriculum guides will include significant background information and links to additional resources.

What We've Learned So Far



Growth in non-GMO Project verified sales



- Most students have a vague idea of what GMOs are, but do not understand the details of the issue or have a strong stance.
 - Case studies will provide opportunities for students to learn about GM technologies, applications, and implications.
- Students have difficulty understanding what credible sources are or critiquing claims they see in news sources.
 - Curriculum focuses on explicitly building digital literacy skills.

Why Digital Literacy Is Important



- Internet makes it easier to create "news" and spread misinformation
- Easy to spread news to large audiences using social media platforms
- Difficult for students (and adults) to differentiate between good and bad information from online sources
- Especially relevant in the current climate of "fake news"
 - Stanford History Education Group
 - Center for News Literacy Digital Resource Center

Fact Checking in an Era of Fake News

- Goal: Students will learn how to evaluate a variety of web-based sources of information for their credibility using a modified version of the CRAAP Test (originally developed by CSU Chico).
 - Goal for this activity is not to become an expert in the content of the source, but to assess it for its credibility to determine whether it is worth reading.
- Create opportunities for students to engage in conversation about their beliefs with peers that may have different opinions.
- Getting Started: What does the term "fake news" mean to you?
 - Video: [How False News Can Spread – Noah Tavlin](#)



Fact Checking in an Era of Fake News

- Stanford History Education Group Assessments
 - [Claims on YouTube, Evaluating Wikipedia, Claims on Twitter, Website Reliability](#)
- Introduce the CRAAP Test as one way to assess the credibility of information or a source
 - *Currency*: the timeliness of the information
 - *Relevancy*: the importance of the information for your needs
 - *Authority*: the source of the information
 - *Accuracy*: the reliability, truthfulness, and correctness of the information
 - *Purpose*: the reason the information exists
- Now Let's Try One.
- <https://twitter.com/HealthRanger/status/1018344404912877568>

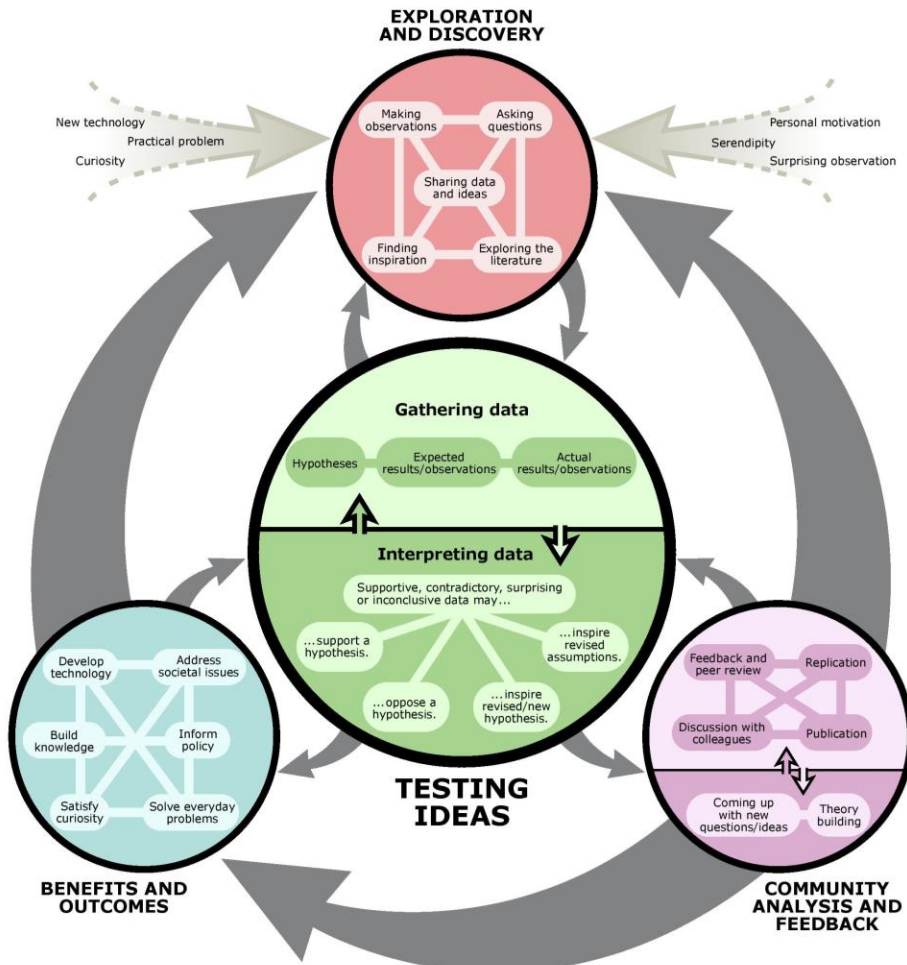


Fact Checking in an Era of Fake News

- What are the limitations of checklists like the CRAAP Test?
- Who is responsible to fact check information: the producer or the consumer?
- What are the consequences if you do not fact check information?



How science works



www.understandingscience.org

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Nature of Science

- Goal: Address the multiple misconceptions students have about the nature of science and help students understand how science happens, as opposed to memorizing the end-products or results.
- Lesson includes 3 activities that can be used as stand-alone activities or coupled together to fill an entire class period.
- Getting Started:
 - Using Science in Your Everyday Life



Methods of Food Modification

- Goal: Introduce students to the multiple ways foods have been or can be modified, either naturally or with human intervention, including natural selection, selective breeding, induced mutations, genome duplications, and gene editing.
- Getting Started:
 - In what way would you want to modify a plant you eat?

Thank you. Questions?



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Check out our curriculum here:
<http://smile.oregonstate.edu>

Interested in learning more
or participating? Talk to us!