

Thinking Glasses Small Group Activity

(Activity Choice for “Small Group Learning” PD Module)

THINKING GLASSES GROUP ACTIVITY

This is an exercise in analyzing an article about a scientifically important issue. It uses a discussion framework that assigns each person to take a different perspective. Originally called “Thinking Hats,” the framework we are using is “Thinking Glasses.”

Each draws a pair of sunglasses from the bag.

The White glasses perspective is focused on Information:

What are the facts?/What are the details?/What questions do I still need answered?

The Red glasses perspective is focused on feelings:

How do I feel about this?/What is my gut reaction?

The Yellow glasses perspective is optimistic:

What’s the upside?/What are the benefits?/Why is this a good thing?

The Green glasses perspective is focused on growth and where an idea could go in the future:

Where could this go?/What could we do with this?/How could we adapt and change this?

The Purple glasses perspective is focused on judgment and potential negative consequences:

What’s the downside?/What are the problems?/What are the obstacles?

The Blue glasses perspective is focused on the thinking process.

What are the implications?/What do I wonder about this?/What do we do next?

Group members read the article silently. Participants are encouraged to underline or highlight words or phrases that are particularly relevant to the perspective associated with their color glasses during the reading and/or make notes on their colored hats sheet, to be prepared for their turn in the discussion.

Each person then reflects out loud to the group from the perspective of their glasses color (answering their specific questions), beginning with the white glasses and proceeding in order listed above.

Then each person in turn answers the following questions out loud in turn: What did you learn most from this activity? How does this article help us understand the usefulness of what we are learning in biology for real life?

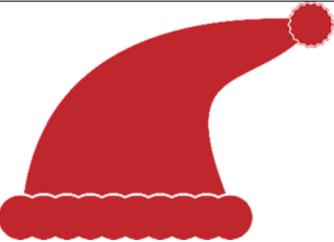
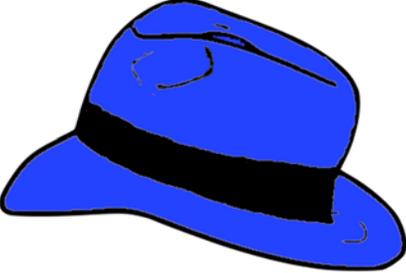
IF TIME:

What do you see as the benefits of an activity like this for teaching your subject matter?

What possible problems do you foresee in having students do this activity? What could be done to prevent or address these potential problems?

In what ways could you adapt this activity to fit into a future lesson?

SIX HAT TEMPLATE

 <p>INFORMATION</p>	<p>What are the facts? What are the details? What questions do I still need answered?</p>	
 <p>FEELINGS</p>	<p>How do I feel about this? What is my gut reaction?</p>	
 <p>OPTIMISM</p>	<p>What's the upside? What are the benefits? Why is this a good thing?</p>	
 <p>GROWTH/CREATIVITY</p>	<p>Where could this go? What could we do with this? How could we adapt and change this?</p>	
 <p>JUDGMENT</p>	<p>What's the downside? What are the problems? What are the obstacles?</p>	
 <p>THINKING PROCESS</p>	<p>What are the implications? What do I wonder about this? What do we do next?</p>	

U.S.D.A. Approves Modified Potato (by Andrew Pollack, NY Times, 11/7/2014 –*shortened, edited version*)

A potato genetically engineered to reduce the amounts of a potentially harmful ingredient in French fries and potato chips has been approved for commercial planting, the Department of Agriculture announced. The potato's DNA has been altered so that less of a chemical called acrylamide, which is suspected of causing cancer in people, is produced when the potato is fried.

The new potato also resists bruising, a characteristic long sought by potato growers and processors for financial reasons. Potatoes bruised during harvesting, shipping or storage can lose value or become unusable.

The biotech tubers were developed by Simplot Co. which was the first supplier of frozen French fries to McDonald's and is still a major supplier. The company's deceased founder, Mr. Simplot, became a billionaire.

The potato is one of a new wave of genetically modified crops that aim to provide benefits to consumers, not just to farmers as the widely grown biotech crops like herbicide-tolerant soybeans and corn do. The nonbruising aspect of the potato is similar to that of genetically engineered nonbrowning apples, developed by Okanagan Specialty Fruits, which are awaiting regulatory approval.

But the approval comes as some consumers are questioning the safety of genetically engineered crops and demanding that the foods made from them be labeled. Ballot initiatives calling for labeling were rejected by voters in Oregon and Colorado this week, after food and seed companies poured millions of dollars into campaigns to defeat the measures.

The question now is whether the potatoes will be adopted by food companies and restaurant chains. At least one group opposed to such crops has already pressed McDonald's to reject them. Genetically modified potatoes failed once before. In the late 1990s, Monsanto began selling potatoes genetically engineered to resist the Colorado potato beetle. But the market collapsed after big potato users, fearing consumer resistance, told farmers not to grow them.

This time around could be different, however, because the new potato promises potential health benefits to consumers.

Simplot hopes the way the potato was engineered will also help assuage consumer fears. The company calls its product the Innate potato because it does not contain genes from other species, as do many biotech crops. Rather, it contains fragments of potato DNA that act to silence four of the potatoes' own genes involved in the production of certain enzymes. Future crops — the company has already applied for approval of a potato resistant to late blight, the cause of the Irish potato famine — will also have genes from wild potatoes.

“We are trying to use genes from the potato plant back in the potato plant,” said Haven Baker, who is in charge of the potato development at Simplot. “We believe there's some more comfort in that.”

That is not likely to persuade groups opposed to such crops, who say altering levels of plant enzymes might have unexpected effects. Doug Gurian-Sherman, a plant pathologist and senior scientist at the Center for Food Safety, an advocacy group, said that the technique used to silence the genes, called RNA interference, was still not well understood. “We think this is a really premature approval of a technology that is not being adequately regulated,” he said, adding that his group might try to get a court to reverse the approval of the potato.

The Agriculture Department, in its assessment, said the levels of various nutrients in the potatoes were in the normal range, except for the substances targeted by the genetic engineering. Simplot has submitted the potato for a voluntary [food safety](#) review by the Food and Drug Administration.