

# Minnesota Apples: Sweet Fruit, Bitter Controversies



**4-5 class periods  
during Fall apple harvest season**

**Grade 6**

## Purpose

This lesson focuses on opposing viewpoints in regards to agricultural issues surrounding apple crops. Students will be able to practice differentiating between opinions and facts while learning about the purpose of local and federal regulations. Students will also conduct their own research to begin forming their own points of view about the issues surrounding apples.

## Academic Content Standards

### MN K-12 Academic Standards and Benchmarks

#### Social Studies

- 6.1.1.1.3** Address a state or local policy issue by identifying key opposing positions, determining conflicting values and beliefs, defending and justifying a position with evidence, and developing strategies to persuade others to adopt this position.
- 6.2.4.8.1** Explain why federal and state governments regulate economic activity to promote public well-being.

### Common Core Connections

#### Reading

##### CCSS.ELA-Literacy.RL.6.1

Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

##### CCSS.ELA-Literacy.RI.6.6

Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

##### CCSS.ELA-Literacy.RI.6.8

Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.



## CCSS.ELA-Literacy.W.6.8

Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources

## National Agricultural Literacy Outcomes

### Agriculture and the Environment

- Discover how natural resources are used and conserved in agriculture (e.g., soil conservation, water conservation) **(T1.6-8 c)**
- Discuss (from multiple perspectives) land and water use by various groups (i.e., ranchers, farmers, hunters, miners, recreational users, government, etc.), and how each use carries a specific set of benefits and consequences that affect people and the environment. **(T1.6-8 d)**
- Recognize the factors of an agricultural system which determine its sustainability **(T1.6-8 h)**

### Plants and Animals for Food, Fiber & Energy

- Explain the role of ethics in the production and management of food, fiber (fabric or clothing), and energy sources **(T2.6-8 b)**
- Identify farm practices for plant protection (e.g., using a pesticide, integrated pest management, cultural practices) and the harvest of safe products for consumers **(T2.6-8 c)**

### Food, Health, and Lifestyle Outcomes

- Explain how factors, such as culture, convenience, access, and marketing affect food choices locally, regionally, and globally **(T3.6-8 d)**
- Explain the role of ethics in the production and management of food, fiber (fabric or clothing), and energy sources **(T3.6-8 f)**

## Materials

### Needed Daily:

- Hyperdoc - accessible at <https://minnesota.agclassroom.org/educator/sclb.cfm>. The teacher can make a copy and then share it with their students. The hyperdoc can be posted to Schoology or Google Classroom so each individual student has their own copy.
- Headphones or earbuds
- Mobile device for classroom use (ipad, Chromebook, laptop, etc.)
- Pencils
- Highlighters
- Notebook Paper

### Day 1:

- Organic and conventional apples, multiple varieties if possible, to wash and cut up for taste test (optional)
- Printed copy of Twin Cities Daily Planet GMO Apple article for each student. This article is accessible through the Hyperdoc at <https://minnesota.agclassroom.org/educator/sclb.cfm>

### Day 2:

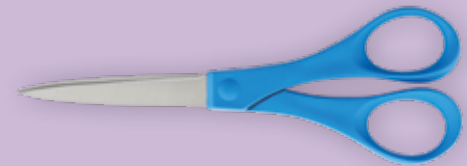
- Copies of articles that students have selected from Hyperdoc page 4
- Reading guide on page 5 of the Hyperdoc

### Day 3:

- Printed copies of the worksheets below, one for each student.
  - Evaluate Strength of Evidence
  - Evaluate the Strength of Evidence that Supports a Claim

### Day 4:

- Printed copy of Think Clearly: Analyze Support a Position worksheet, one for each student.



## Vocabulary

**Blight** – the rapid and extensive discoloration, wilting and death of plant tissues

**Carcinogen** – cancer causing agent

**Certified Organic** – inspected by the United States Department of Agriculture (USDA) to ensure compliance to organic growing / harvest procedures

**Food Labeling** – requirements for certain nutrients, ingredients and chemicals to be listed on packing materials

**Hardy** – able to withstand the cold of winter in open air

**Harvest** – the season when ripe crops are gathered

**Hybrid** – a cross breed of two different kinds of plants, often by human interference in pollination

**Insecticide** – a substance or preparation used for killing insects

**Neonicotinoids** – a specific type of insecticide that targets the central nervous system of insects resulting in paralysis or death

**Pest** – an insect or other small animal that harms or destroys garden or farm plants, trees or produce

**Toxic** – acting or having the effect of poison

## Background— Agricultural Connections

Apples are a popular Minnesota crop that students enjoy eating and learning about. 6th grade students are beginning to learn how to differentiate facts from opinion in literature, as well as identifying point of view and supporting details. In Social Studies, 6th graders are learning about opposing views in political issues, and gaining a better understanding of the purpose of local and federal regulations.

Apples offer an authentic learning connection into agricultural issues such as pesticide uses, organic and conventional growing, and genetically modified crops. Students will research and read various print and digital resources in order to better understand both sides to these issues, and to begin developing their own point of view that is supported by evidence. Teachers may pair this activity with an apple orchard field trip or simply assign students apple-tasting or shopping enrichment activities at their local supermarket.



## Interest Approach - Engagement

### Launch Question:

Who likes apples? What's your favorite kind? Do you buy organic or conventional? Why?

**Fun Fact:** Did you know that since 1888, the U of MN has bred over 30 varieties of apples?

- Students can view the varieties listed in the Hyperdoc.
- Show Minnesota Apple Harvest from 2014 at Aamodt's Apple Farm. Video link is included on page one of the Hyperdoc.

### Introduce Issue #1: Organic and Conventional

- Optional: Display images or actual apples - one apple is grown organically and one apple is grown conventionally. Organic and

conventional apple identification test: Can you tell by color, size, texture or smell? (no eating yet!)

- Organic apple taste test – (optional): How does it compare to other apples you have eaten?
- Show parts of Good Mythical Morning – Conventional vs. Organic Taste Test. Video link is included in page one of the Hyperdoc.

## **Introduce Issue #2: Genetically Modified Organisms (GMO's)**

- Show Arctic Apples video -link available on page 2 on the Hyperdoc. How does this make you feel? Intrigued? Wary?
- Provide each student with a paper copy of the Twin Cities Daily Planet GMO Apple article. Use the questions on page two of the Hyperdoc to assist students in reading this article. Instruct students to use a pencil and highlighter to identify important information. Instruct students to share their thoughts on the Hyperdoc. Discuss the point of view of the author, supporting details, and convincing quotes.



## **Procedures:**

### **Day 1**

### **Introduction to apples, topic and article selection**

**Activities 1 and 2** are completed in the Interest Approach (see above). Students will follow the instructions included in the Hyperdoc. These two activities can be completed as a class.

**Activity 3:** Topic selection – Organic and Conventional foods or GMOs and non-GMO crops. Page 3 on Hyperdoc

**Activity 4:** Article selection – practice skimming & scanning to select two articles with opposing views. Links to articles are included on page 4 of the Hyperdoc.

- Students can work independently on reviewing the articles or you may want students to pair up and select the same topic and articles

### **Day 2**

### **Reading and evaluating print-based resources**

**Activity 5:** Initial read of each article – students can use page 5 of the Hyperdoc as a reading guide.

- Students should highlight the point of view and star main ideas on the article
- Students should practice reading, marking up, and verbally summarizing articles
- Students may want to underline direct quotes and practice paraphrasing
- Teacher may want to reconvene as a class to discuss examples and answer questions



## Day 3

### Researching, reading/viewing and evaluating digital resources

**Activity 6:** Student research – can you find, read & evaluate another digital article for your topic?

**Activity 7:** Each student must use the article he/she found to complete the “Evaluate Strength of Evidence” worksheet. Additional information is on page 6 of the Hyperdoc.

**Activity 8:** Student research – can you find, watch & evaluate a video related to your topic?

**Activity 9:** Each student must use the video he/she found to complete the “Evaluate the Strength of Evidence that Supports a Claim” worksheet. Additional Information is on page 7 of the Hyperdoc.

## Day 4

### Communicating a personal point of view, synthesizing evidence and citing sources

**Activity 10:** Putting it all together- what’s your position? Each student must complete the “Think Clearly: Analyze Support a Position” worksheet. Additional Information is on page 8 of the Hyperdoc.

**Activity 11:** Create an annotated bibliography using EasyBib in Google Docs. Information for this is found on page 8 of the Hyperdoc.

## Day 5

### Work Day if needed: Wrap up above activities, allow enrichment time for those who are done

## Sources/Credits

Links for these items can be found at

<https://minnesota.agclassroom.org/educator/sclb.cfm>

- Anderson, Tim. “Counterpoint: GMO Foods Are Unsafe.” Points of View: Genetically Modified Foods, Jan. 2017, p. 6.
- Berger, Adam. “Point: Organic Foods Are a Healthier Alternative.” Points of View: Organic Food, 3/1/2016
- Bowman, Jeffrey and Marcus Griswold. “Point: Genetically Modified Foods Will Dramatically Improve Agriculture around the World.” Points of View: Genetically Modified Foods, Jan. 2017, p. 2.
- Driscoll, Sally and David C. Morley. “Counterpoint: Genetically Modified Foods Should Be Carefully Regulated.” Points of View: Genetically Modified Foods, Jan. 2017, p. 3.
- “Evaluating Perspectives about GMOs” Minnesota Agriculture in the Classroom Lesson. National Agricultural Literacy Curriculum Matrix. Topic adapted for a younger audience.

- "Organic Food: Guide to Critical Analysis." *Points of View: Organic Food*, 3/1/2016, p. 4.
- Marketwired. "Sweetango Invites Fans to Celebrate "The Sweet Spot of the Apple Season." Marketwire (English), 09 Sept. 2014.
- Pearson, John. "Point: The Many Benefits of Genetically Modified Foods." *Points of View: Genetically Modified Foods*, Jan. 2017, p. 5.
- Rich, Alex K. and Tom Warhol. "Genetically Modified Foods: An Overview." *Points of View: Genetically Modified Foods*, Jan. 2017, p. 1.
- Sprague, Nancy. "Counterpoint: Organic Food Is Unnecessary & the Current Food Supply Is Safe." *Points of View: Organic Food*, 3/1/2016, p. 3.



# Evaluate the Strength of Evidence

Name \_\_\_\_\_

Hour \_\_\_\_\_

**1. What is the main idea of the first paragraph?**

\_\_\_\_\_

**List two facts that support it most strongly. Paraphrase them in your own words.**

\_\_\_\_\_

\_\_\_\_\_

**2. Outline the passage—list the parts that the writer included. You may find them identified with boldface sub-headings. You may have to figure out what those are without that help.**

**3. What is a claim that the writer makes about the topic?**

\_\_\_\_\_

\_\_\_\_\_

**4. What is the strongest evidence the writer gives to support that claim? List two examples or facts that the writer includes that support the claim most strongly. Paraphrase them—write them in your own words.**

\_\_\_\_\_

\_\_\_\_\_

# Evaluate the Strength of Evidence that Supports a Claim

Find a video resource that explains an aspect of the apple topic you selected.

Video name and website:

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What is a claim the video creator(s) makes?

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List evidence the video uses to support the claim.

Then decide which evidence is strongest.

	Evidence
1.	
2.	
3.	

Which evidence is strongest? (circle one)    1    2    3

Why do you think it is the strongest?

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# Think Clearly: Analyze Support a Position

Name \_\_\_\_\_

Hour \_\_\_\_\_

Issue: \_\_\_\_\_

One Position	Another Position
<b>Supporting Reasons and Facts:</b>	<b>Supporting Reasons and Facts:</b>

**Which position is stronger? Explain your decision:**

## **Fun Fact**

**The Honeycrisp Apple is Minnesota's official state fruit.**

