

Agriculture connections

Focus questions	How are modern agricultural practices and technologies shaping food production, environmental quality, and sustainability?
Vocabulary	Seed/foliar treatments, tillage, precision agriculture

Modern agriculture has many tools that come with benefits but also risks. Technology has changed much of what happens on farms in order to make them more efficient and improve productivity.

Procedure

In this activity, you will be assigned one of the agricultural categories below. Research your topic using credible sources (articles, ag websites, videos, or classroom resources). Then, record your findings on this worksheet **and on your group's poster**.

Be sure to include **key points** and the **positives and negatives** about your assigned category. After presentations, use the final section to take notes on what you learn from other groups.

Circle or highlight one:

- Seed/foliar treatments (microbials, insecticides, herbicides)
- Nutrients (prescription fertilizer, manure)
- Tillage (no-till, vertical, conservation, conventional)
- Soil health (cover crops, crop rotation, soil structure)
- Precision agriculture (satellite automation, fertilizer, seed placement, tillage, harvest)
- Water quality (tillage, irrigation, nutrients)
- Equipment (combine, planter, tractor, sprayer, tillage, drone)
- Sustainability (regenerative farming, carbon sequestration, pollinators)

Key terms or concepts

List and define 3–5 important terms related to your category.

Term	Definition / explanation

Key points or current practices

Summarize what's currently being used or developed in this area of agriculture.

Key point or practice	Description / example

Positives

List the benefits or positive impacts of your category on agriculture, the environment, or food production.

Positive / benefit	Why it's important

Negatives

List the possible drawbacks, risks, or controversies related to your category.

Negative / concern	Why it's a problem

Reflection

1. How has this technology or practice revolutionized modern agriculture?

2. Where do you see this category of agriculture going in the future?

Notes from other groups' presentations

As you listen to other groups, jot down key ideas or takeaways for each category below.

Category	Key points / What you learned	Positive	Negative
Seed/ foliar treatments			
Nutrients			
Tillage			
Soil health			
Precision agriculture			

Water quality			
Equipment			
Sustainability			

Rubric for self-assessment

Skill	Yes	No	Unsure
I can describe at least one modern agricultural practice and explain both a positive and a negative impact it can have.			
I can explain how my assigned category connects to soil health, water quality, or sustainability.			
I can identify one way agricultural technology might change in the future to be more sustainable.			