

@CSTANJ

@CS4NJ

#CSPDWeek2026

#CompSciNJ

@csteachersorg



New Jersey CSPDWeek

This material is based upon work supported by the National Science Foundation under Award No. 2607763.

Meet the Presenters



Alicia Somers

Spotswood School Teacher

Dedicated to empowering early learners opportunities and exposure to CS and incorporating Agriculture in the classroom.



Caroline Etsch

Owner of Etsch Farms, Monroe Twp, NJ

- Program Leader of NJ AITC
- Executive Committee Member of National Agricultural in the Classroom Eastern Region of New Jersey



www.newjersey.agclassroom.org

WE ARE NEW JERSEY! BUT.....

-
- We are part of National Agriculture in the Classroom Organization (NAITCO) as a state affiliate. We are funded by the USDA.
 - Currently there is one program leader and two specialty educators:
 - one school garden specialist and one curriculum specialist.
 - We are looking to grow so come on board!
 - We conduct professional development during the school year and in the summer.
 - Some past topics include turkeys, vegetables/fruits and cranberries; as well as school gardens!

WHAT DO WE BELIEVE?



The mission of New Jersey Agriculture in the Classroom is to increase awareness and understanding of agriculture among New Jersey's educators and students.



WHY DO WE DO WHAT WE DO?

- *The average person in New Jersey is now three generations removed from the farm.*

This translates into:



*NOT KNOWING CUCUMBERS GROW ON A VINE
(AND CAN BE TURNED INTO PICKLES)!*



*THAT ASPARAGUS HAS AN AVERAGE 3-WEEK PICKING PERIOD
IN NEW JERSEY , THEN TURNS INTO A BUSHY FERN!*



*THAT HERBS ARE GROWN FOR SEASONING BUT ARE
ALSO A VALUABLE CROP FOR DRIED FLOWER
BOUQUETS.*



*THESE EVERYDAY FARMING AND
GARDENING FACTS WERE COMMON
KNOWLEDGE FOR OUR STUDENTS 50
YEARS AGO... BUT NOT TODAY.*

As folks moved away from the farm to pursue other careers, those who chose to stay in agriculture produce the bulk of the food for the rest of us.

In 1950, each American farmer produced food for 27 people.
Today that number is 169!

THE AVERAGE AGE OF THE U.S. FARMER IS 58



From food and nutrition lessons to career information: **teachers** will help create the next generation of agriculturalists.

OUR WEBSITE

and how to navigate it



www.newjersey.agclassroom.org



TEACHING RESOURCES



K-12 Agriculture Curriculum



NJAITC Lessons



Agricultural Learning Center

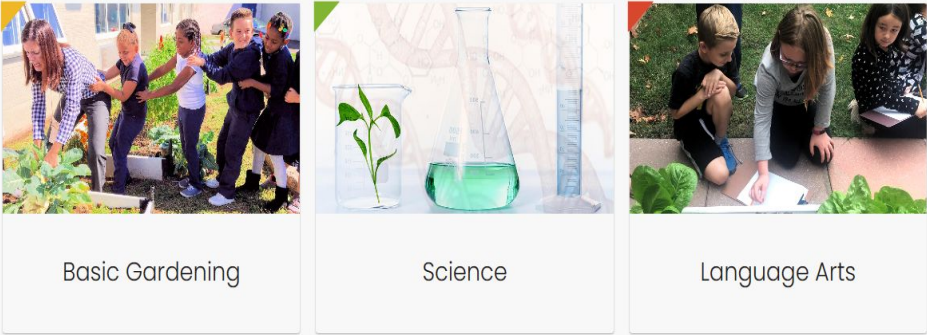
8 Teaching Modules: *K-12 Agriculture Curriculum; NJAITC Lessons, Agricultural Learning Center; 4-H; My American Farm; National Agriculture in the Classroom; American Farm Bureau Foundation; Journey 2050*

NJ AITC LESSONS

8 MODULES ALIGNED TO NEW JERSEY STUDENT LEARNING STANDARDS (NJSLS)

https://newjersey.agclassroom.org/teaching/lessons/

New Jersey Agriculture in the Classroom Lessons



Basic Gardening

Science

Language Arts

Additional lesson categories are visible in a scrollable row below.

https://newjersey.agclassroom.org/teaching/lessons-science/

TEACHING RESOURCES

New Jersey Agriculture in the Classroom Lessons

Science: Explore the science of agriculture

Introduce your students to agriculture through science! Agriculture encompasses so many sciences, including botany, entomology, meteorology, geography, and ecology. Below are lessons that link agriculture and the school garden to science. Each lesson is linked to New Jersey Learning Standards for preschool through fifth grade. If you have questions about these lessons, please contact: njagliteracy@gmail.com.



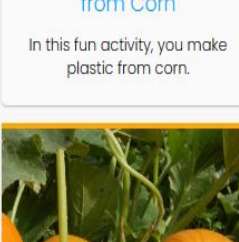
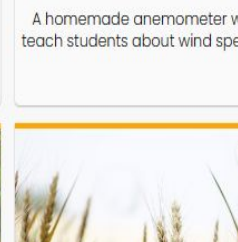
CLICK ON LESSON TITLE TO OPEN THE MODULE

“SCIENCE” HAS 17 LESSONS

ps://newjersey.agclassroom.org/teaching/lessons-science/

 Biodegradable Plastic from Corn In this fun activity, you make plastic from corn.	 Measuring Wind A homemade anemometer will teach students about wind speed.	 The Earth As An Apple Use an apple to show students how much farmland there is on Earth.	 All the Water in the World Show students how little of Earth's water can be used by humans.
 Pumpkin Circle	 From Wheat to Bread	 Dancing Like Bees	 Chlorophyll Rubbings

s://newjersey.agclassroom.org/teaching/lessons-science/

 from Corn In this fun activity, you make plastic from corn.	 A homemade anemometer will teach students about wind speed.	 Use an apple to show students how much farmland there is on Earth.	 Show students how little of Earth's water can be used by humans.
 Pumpkin Circle From seed to pumpkin to seed again, learn the cycle of plant life.	 From Wheat to Bread Teach your students where bread, cookies, and cake really come from. • Lesson for grades PreK-2 • lesson for grades 3-5	 Dancing Like Bees Learn how bees communicate with each other to find food.	 Chlorophyll Rubbings What makes leaves green and why?

EACH LESSON OPENS TO A PDF



From Wheat to Bread (Grades 3-5)

OVERVIEW: How many of your students really understand that all the things they eat made from flour – bread, pizza dough, cake, cookies, crackers, rolls – actually come from a plant? In this lesson, students will plant wheat seeds to observe how wheat grows, examine the parts of the wheat plant and parts of the wheat seed, and learn the difference between white bread and whole wheat bread.



GRADES: 3-5

OBJECTIVES: The student will be able to:

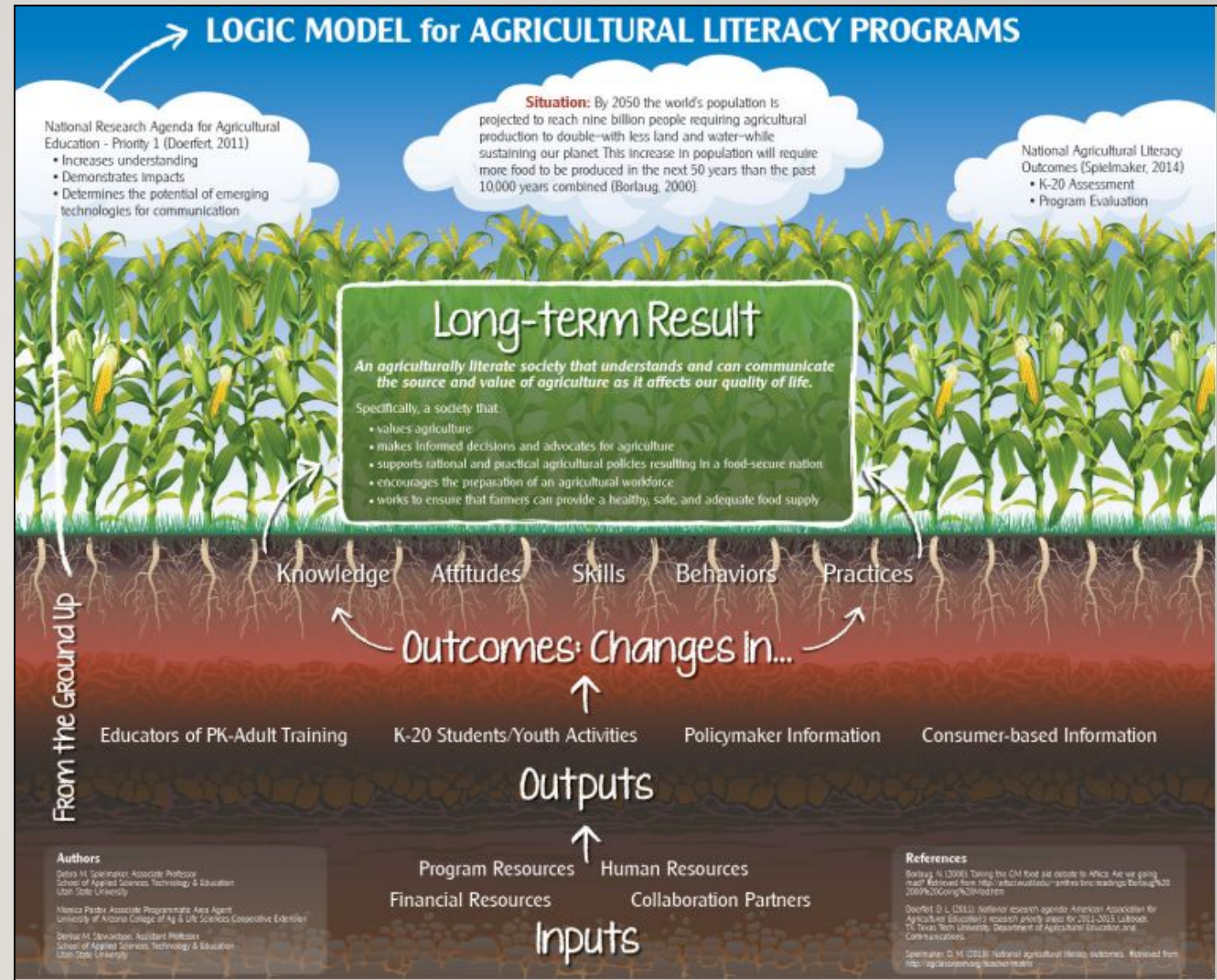
- Identify wheat as the plant that is the source of much of the flour we eat.
- Identify the parts of the wheat plant.
- Identify the parts of the wheat seed.
- Explain the difference between whole grain and refined grain and the nutritional benefits of each.

- Lessons include:
 - Overview
 - Grades
 - Objectives
 - Materials Needed
 - Introduction
 - Procedure
 - Evaluation
 - Extensions
 - New Jersey Learning Standards
 - Content material sheets including background information, diagrams and recipes



WE'RE NOT
JUST TALKING
BULL HERE!

Our Lessons are created with
NGSS and National Agricultural
Literacy Outcomes (**NALOs**),
developed by the USDA
Conference on Agricultural
Literacy.



GRANTS & AWARDS

Grants/Scholarships



White-Reinhardt Scholarships



White-Reinhardt Mini-Grant

Awards



Excellence in Teaching Award
by National Agriculture in the
Classroom



New Jersey AITC Teacher of
the Year Award

- ▶ [2023 recipient: Leevon Cogdill](#)
- ▶ [Information about the award](#)



New Jersey Farm to School
Award



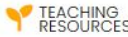
New Jersey Farm Bureau
168 West State Street
Trenton, NJ 08608
609-393-7163

The mission of New Jersey Agriculture in the Classroom is to increase awareness and understanding of agriculture among New Jersey's educators and students.

 About Us  Our News



PROGRAMS AND EVENTS





PROGRAMS & EVENTS



New Jersey AITC Workshop

National AITC Conference

NATIONAL DATABASE OF AGRICULTURAL CURRICULUM

https://newjersey.agclassroom.org/matrix/search_result/?search_term=worms&findlesson=on&findresource=on&maxlessons=25&... Search Result(s)

worms Search All

☒ Search Lessons ☒ Search Companion Resources ☒ Advanced Search

Lesson Plans (6)

[Color in the Garden](#)
Students use the art of soil painting to explore science and the natural world while learning about the color wheel, the importance of soil to agriculture, and why soils have different colors. [Grades 3-5](#)

[It's a Dirty Job](#)
In this lesson, students will create mini habitats to observe earthworm behavior and learn about the important role that earthworms play in decomposition and plant growth. [Grades 6-8](#)

[Types by Texture](#)
Students investigate soil texture and determine the texture of several soil samples. [Grades 3-5](#)

[Vermicomposting \(Grades 3-5\)](#)
Students create a worm bin which will serve as a basis for investigations about ecosystems, life and nutrient cycles, and decomposition. [Grades 3-5](#)

[Vermicomposting \(Grades K-2\)](#)
Students create a worm bin which will serve as a basis for investigations about ecosystems, life and nutrient cycles, and decomposition. [Grades K-2](#)

[Working Worms](#)
Students observe how earthworms speed the decomposition of organic matter and identify how this adds nutrients to the



K-12 Agriculture Curriculum

The Agricultural Literacy Curriculum Matrix is an online, searchable, and standards-based curriculum map for K-12 teachers. The Matrix contextualizes national education standards in science, social studies, and nutrition education with relevant instructional resources linked to Common Core Standards.

worms

CREATE A BINDER OF FAVORITE LESSONS



Agricultural Literacy Curriculum Matrix

MyBinder Sign-up

Store your favorite lesson plans in a personal binder for future access in MyBinder! If a lesson you have in MyBinder gets updated, your binder will be updated automatically! If you have already created a MyBinder profile, please [login](#).

Please complete all the information below to successfully set up your account.

First Name: Last Name:

Email:

Password:

My role in education:

- ☐ Admin/Curriculum Professional
- ☐ Elementary School Teacher
- ☐ Middle School Teacher
- ☐ High School Teacher
- ☐ Post-Secondary Teacher
- ☐ Volunteer
- ☐ AITC Staff or 4-H

My content area interests:

- ☐ Elementary (Pre K-2)
- ☐ Elementary (3-5)
- ☐ Middle School (6-8) Science
- ☐ Middle School (6-8) Career and Technical Education
- ☐ Middle School (6-8) History and Geography
- ☐ High School (9-12) Science
- ☐ High School (9-12) Career and Technical Education
- ☐ High School (9-12) History and Geography

Create MyBinder Account

MyBinder

☒ Search Lessons ☒ Search Companion Resources

Lesson Plans

- ☐ [Baa, Ram, Ewe... Sheep Tales](#)
Students explore the process of making wool into cloth. [Grades K-2](#)
- ☐ [Blue's the Clue: Sourcing Milk for Science \(Grades 9-12\)](#)
This lab introduces students to the effect temperature has on reducing and controlling the growth of bacteria. Students will use conventionally pasteurized and ultra-high-temperature (UHT) milk to observe how different temperatures (hot, room temperature, cool, and freezing) affect the growth of spoilage bacteria. They will also learn about the importance of pasteurization in keeping food safe. [Grades 9-12](#)
- ☐ [Color in the Garden](#)
Students use the art of soil painting to explore science and the natural world while learning about the color wheel, the importance of soil to agriculture, and why soils have different colors. [Grades 3-5](#)

NEW JERSEY AGRICULTURAL RESOURCES

- State Agricultural Statistics
- Electronic version of *From the Garden State to Your Plate – NJ's Top 10 Commodities*
- Video about where food comes from
- NJ Department of Agriculture Website



New Jersey Agricultural Resources

- ▶ [New Jersey State Ag Facts](#)
- ▶ [From the Garden State to Your Plate](#)
Children's book about New Jersey agriculture
- ▶ [Food Doesn't Grow in the Supermarket video](#)
- ▶ [New Jersey Food, Agriculture & Natural Resources Education](#)
- ▶ [Jersey Fresh Farm to School](#)

WHAT'S IN SEASON?

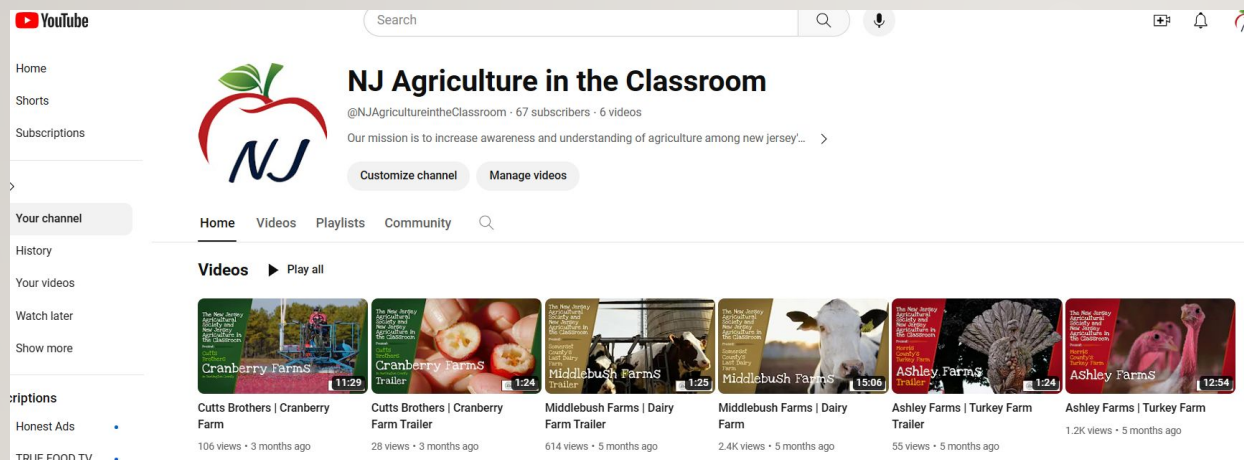
6 timely lessons to bring
Ag into ***YOUR*** Classroom



What's in Season?

- ▶ Christmas Trees Are Grown On Farms (Grades K-5)
- ▶ Christmas Farm (Grades 3-5)
- ▶ Where Does Your Candy Come From? (Grades K-5)
- ▶ Sack of Potatoes (Grades PreK-5)
- ▶ Christmas Trees Are Grown on Farms PowerPoint
- ▶ Where Does Your Candy Come from? PowerPoint

NJAITC'S YOUTUBE CHANNEL



The screenshot shows the YouTube channel page for "NJ Agriculture in the Classroom". The channel has 67 subscribers and 6 videos. The mission statement is: "Our mission is to increase awareness and understanding of agriculture among new jersey'...". The channel features a logo with a red apple and the letters "NJ". The video section displays a row of six video thumbnails: "Cutts Brothers | Cranberry Farm", "Cutts Brothers | Cranberry Farm Trailer", "Middlebush Farms | Dairy Farm Trailer", "Middlebush Farms | Dairy Farm", "Ashley Farms | Turkey Farm Trailer", and "Ashley Farms | Turkey Farm". Each video has its duration and view count displayed below the thumbnail.

YouTube

Search

NJ Agriculture in the Classroom

@NJAgricultureintheClassroom · 67 subscribers · 6 videos

Our mission is to increase awareness and understanding of agriculture among new jersey'...

Customize channel Manage videos

Home Videos Playlists Community

Videos ▶ Play all

Cutts Brothers | Cranberry Farm 1:12:29 106 views · 3 months ago

Cutts Brothers | Cranberry Farm Trailer 1:24 28 views · 3 months ago

Middlebush Farms | Dairy Farm Trailer 1:25 614 views · 5 months ago

Middlebush Farms | Dairy Farm 15:06 2.4K views · 5 months ago

Ashley Farms | Turkey Farm Trailer 1:24 55 views · 5 months ago

Ashley Farms | Turkey Farm 12:54 1.2K views · 5 months ago



News from NJAITC

[NJAITC's YouTube Channel](#)

You can tour a New Jersey farm without leaving the classroom with NJAITC's new YouTube channel.

[Subscribe to our Newsletter](#)

Stay in touch with New Jersey Agriculture in the Classroom!

SUBSCRIBE TO OUR MONTHLY NEWSLETTER

FOR EVENTS, LESSONS, BOOKS AND FUTURE PD

[Sign up to Stay in Touch! \(constantcontactpages.com\)](http://constantcontactpages.com)


Stay in touch with New Jersey Agriculture in the Classroom!
Bring agriculture into your classroom! Please fill out the following information to subscribe to our email list, receive information on upcoming workshops, and subscribe to our monthly newsletter.

* Email

* First name

* Last name

* School Name

Address

Phone number
 Type

* Grades



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You can tour a New Jersey farm without leaving the classroom with NJAITC's new YouTube channel.

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Stay in touch with New Jersey Agriculture in the Classroom!



Caroline Etsch, Program Leader
njagliteracy@gmail.com
732.794.6785

New Jersey Farm Bureau
168 W. State Street
Trenton, New Jersey 08608

www.newjersey.agclassroom.org

Farm Hands or Robot Arms?

Agricultural Labor and Technology

GRADES 9–12

What Students Will Explore:

Explore how fruits and vegetables are harvested—either by hand or machine—and examine the economic factors that influence farming decisions.

Students will evaluate whether implementing robots or human labor is the most sustainable and effective option for diverse agricultural needs.

<https://agclassroom.org/matrix/lessons/953/>



Robots in High-Tech Farming

Agricultural Labor and Technology

GRADES 6-8

What Students Will Explore:

1. Robotic Components

Students discover the four main components of robots.

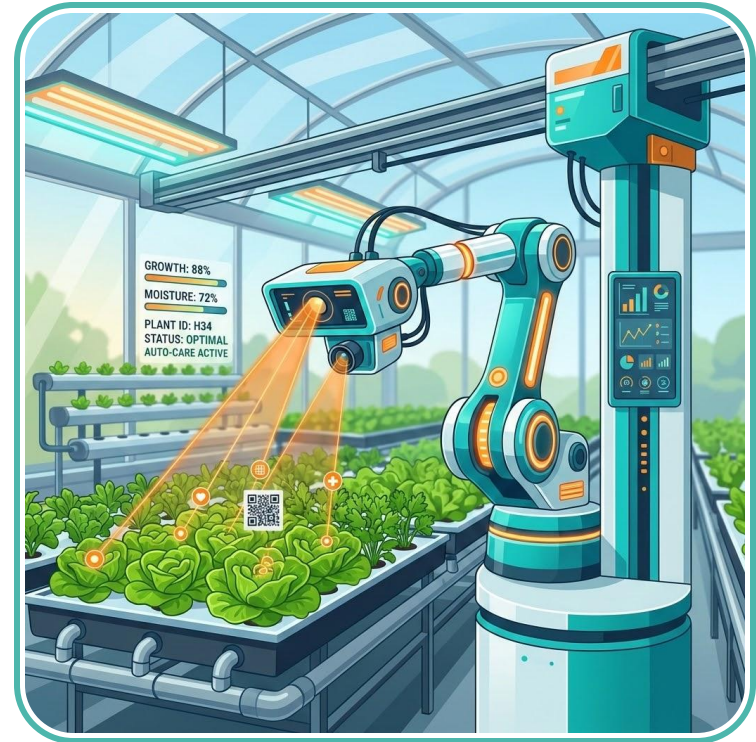
2. Agricultural Application

Explore how robots are used in modern agriculture.

3. Practical Challenge

Program and operate a robot to address a real-world farming challenge.

<https://agclassroom.org/matrix/lessons/693/>



Science You Can Eat

Food Science and Agricultural Technology

GRADES 6-8

What Students Will Explore:

Students explore the scientific processes used to make the crops we grow and the livestock we raise (commodities) into some of the foods we eat every day.

Students will discover how science, technology, and culinary processing work together to transform raw agricultural goods into nutritious household food items.

<https://agclassroom.org/matrix/lessons/21/>



Robots Wanted!

Agricultural Labor and Robotics

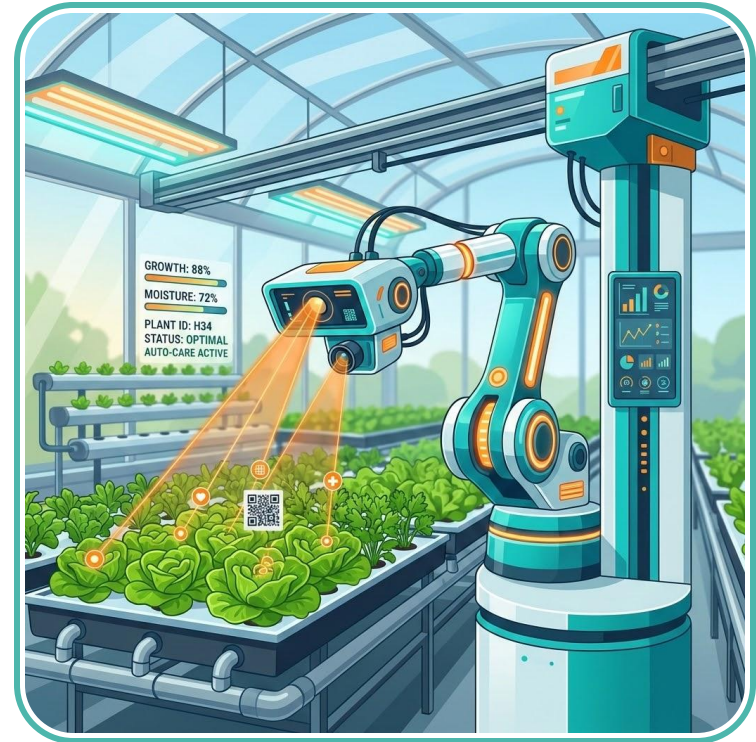
GRADES 6-8

What Students Will Explore:

Through project-based learning, students examine fruit and vegetable farms to discover the amount of manual labor required to plant, grow, and harvest some of our food.

They research the business economics of agricultural production and explore how high-tech robotic solutions can address labor challenges.

<https://agclassroom.org/matrix/lessons/756/>



GPS & GIS in Agriculture

Precision Farming and Technical Careers

GRADES 6-8

What Students Will Explore:

Students will explore technical careers in agriculture and learn how GPS and GIS technologies are used to improve agricultural production and efficiency.

They will discover how digital mapping, spatial data, and satellite navigation work together to guide modern tractors, optimize crop yields, and conserve resources.

GPS and GIS Technology in Agriculture – Curriculum Matrix



What Happens When Farming Goes High-Tech?

Precision Agriculture and Modern Tools

Soil maps, GPS guidance, and even drones are becoming critical tools for modern farmers.

Precision Agriculture

These advanced methods help increase crop yields and optimize resource management on the farm.

Economic Efficiency

High-tech farming practices can save farmers a surprising sum of money along the way.

What Happens When Farming Goes High-Tech? – Curriculum Matrix



CSTA- New 2026 Standards

Explore the New Guidelines

The Computer Science Teachers Association (CSTA) has updated its standards for 2026. Access the official interactive portal to browse, search, and implement these new computer science education benchmarks in your PreK-12 curriculum.



Official CSTA Portal

csteachers.org/teacherstandards/interactive

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Resources



New Jersey Agriculture in the Classroom

Free Climate Resources & Lesson Plans | SubjectToClimate

<https://newjersey.csteachers.org/cstanewjersey/cstanj-home>

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**TAKE A
QUICK SURVEY**

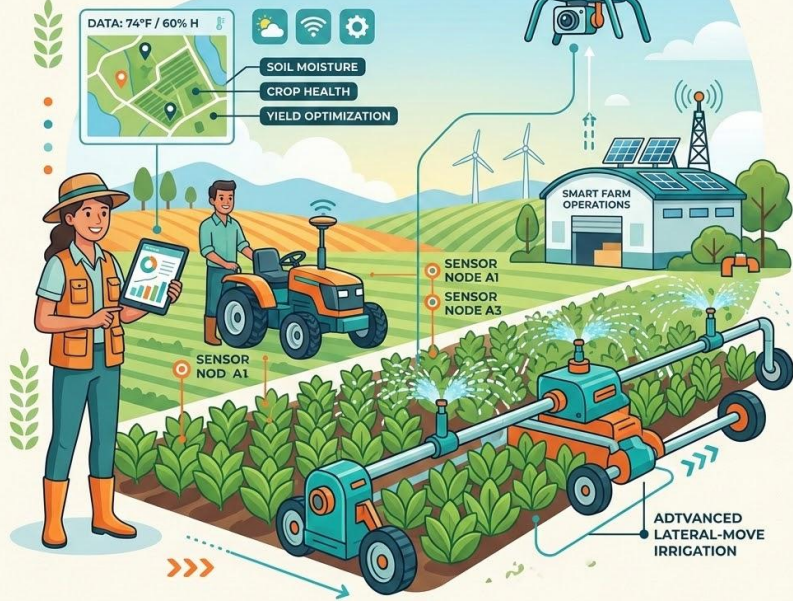
**Please complete the survey
after each session and complete one at the
end of the day for Stipend~**

There will be one at the end of the week~

- Click feedback on sched now or you will receive an email

Thank you for choosing CS in your classrooms!

TECHNOLOGY & SMART FARM AGRICULTURE



<https://newjersey.agclassroom.org/>

I Thank You!

We appreciate your dedication to advancing Agricultural, Farming, Computer Science, and AI in the classroom.



NJ Agriculture in the Classroom

Visit our website and Facebook page for lessons, updates, and classroom resources designed to connect students with modern agriculture.



CSTA-NJ Chapter

Attend monthly chapter meetings held during the school year for professional development and extensive teaching resources.

[Visit CSTA-NJ Chapter](#)

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