

Name of Activity:

Maryland Agricultural Innovators: Designing a Digital Platform for Sustainability

By: Meenu Choudhary

Purpose

To engage high school students in a learning project where they design a digital educational platform to engage other Maryland youth about agricultural challenges and sustainability issues. Learning Skills: Critical thinking, research skills, digital media literacy, and civic engagement.

Background Agricultural Connections

- **Maryland's unique agricultural landscape:** Maryland's agriculture is highly diverse, ranging from Delmarva's poultry industry to the state's significant grain, dairy, and horticulture sectors. Maryland's farming practices have a major impact on the Chesapeake Bay, with agricultural runoff being a significant source of nitrogen and phosphorus pollution.
- **Youth involvement in the food system:** The agricultural and sustainability issues are highly relevant to youth in Maryland. This lesson connects students to the source of their food, educates them on local environmental issues, and empowers them to become advocates for sustainable agriculture.

Grade levels

9–12 (Environmental Science, Digital Media, Social Studies, and Agricultural Education).

Lesson Length

10–12 class periods (45–50 minutes each) Ongoing throughout the year.

Learning Objectives

Upon completion of this lesson, students will be able to:

- **Research and analyze** agricultural challenges and sustainability practices in Maryland.
- **Collaborate** in a team to design a digital educational platform.

Materials and Equipment Needed

- Computers or tablets with internet access.

- Poster board and markers for brainstorming.
- Access to research materials, (Maryland Department of Agriculture (MDA), University of Maryland Extension (UME), and Chesapeake Bay Program websites)

Teacher Preparation

1. **Review Resources:** Familiarize yourself with agricultural challenges and sustainability practices in Maryland, focusing on Chesapeake Bay health, climate impacts.
 - **Define Project :** Will it be a powerpoint, or a short video pitch, hands on?
 - **Rubric:** Create a rubric detailing expectations for research, design, and presentation.
 - **Local Experts:** Invite a guest speaker or a local farmer

Activities and Procedures

Phase 1: Research (4 periods)

- **Introduction to Maryland Ag-Sustainability (Period 1):** Study Maryland's agricultural industry, its relationship with the Chesapeake Bay, and challenges and solutions. Introduce the project: designing an educational platform for other teens.
- **Identify the Challenge (Period 2):** In small groups, students research agricultural challenges in Maryland, such as nutrient runoff, soil health, climate change adaptation, or economic pressures on farmers. Students record their findings and identify a key problem their platform will address.
- **Sustainability Solutions (Period 3):** Students research sustainable agricultural solutions used by Maryland farmers. They identify the "what," "how," and "why" of these practices.
- **Create strategy (Period 4):** Students brainstorm how to engage their peers. They create a plan to create interactive maps, video stories, quizzes.

Phase 2: Design and Creation (5 periods)

Students use paper or a digital tool to design the sections of their platform. They should plan the navigation, pages, and content placement. Teams create the content for their platform like Writing scripts for videos, infographics, content for different sections, Developing interactive quizzes or games.

Phase 3: Presentation and Reflection (2–3 periods)

- **Platform Pitches (Period 10–11):** Each group presents their work/platform to the class. Presentations should explain:
 - The agricultural challenge addressed.
- The platform's features and content.
- The target audience and how they will be engaged.
- The overall impact they hope to achieve.
- **Peer Review and Reflection (Period 12):** Students provide constructive feedback on their peers' projects. The class discusses the different approaches and what they learned about agricultural sustainability in Maryland. Students write a short reflection on their experience.

References/Resources

- **Maryland Agricultural Education Foundation (MAEF):** *Curriculum resources and information about Maryland agriculture.* maefonline.com.
- **Maryland Department of Agriculture (MDA):** *Detailed reports and information on state regulations and programs.* mda.maryland.gov.
- **University of Maryland Extension (UME):** *Research-based information on agricultural practices and sustainability.* extension.umd.edu.
- **Chesapeake Bay Program:** *Data and resources related to watershed health and agricultural impacts.* chesapeakebay.net.