

STEAM AGRISCIENCE CURRICULUM:

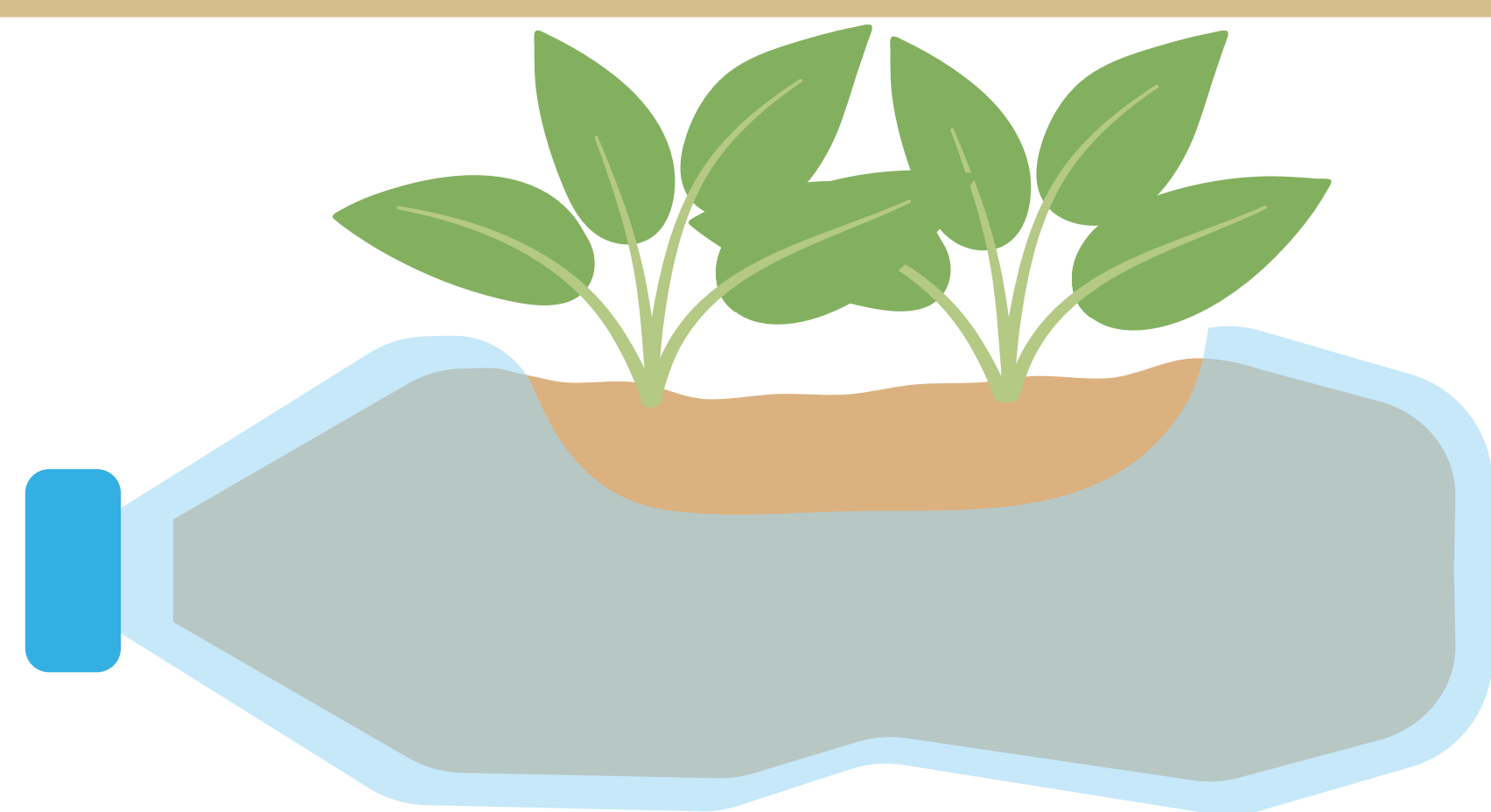
PREPARING THE NEXT GENERATION OF AGRICULTURAL RESEARCHERS THROUGH INQUIRY BASED LEARNING

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DESIGNED TO HELP INTEGRATE SCIENCE, TECHNOLOGY, ENGINEERING, AGRICULTURE, AND MATHEMATICS (STEAM)
INTO HIGH SCHOOL CURRICULUM.

Introduction

STEAM Agriscience curriculum helps high school agricultural educators integrate STEAM concepts through inquiry-based lessons and agricultural research activities. Developed by Texas State University and funded by USDA NIFA (Grant 2021-77040-34881), the curriculum provides lessons, videos, instructional materials, and hands-on experiments that build high school students' critical-thinking, communication, and research skills.



Curriculum Structure

The STEAM Agriscience curriculum consists of five lessons designed to guide students through the research process while integrating agricultural applications. Each lesson includes pre-recorded lecture videos, downloadable PowerPoint presentations, student notes, homework assignments, teacher notes, and hands-on classroom activities or experiments. The curriculum is designed to be flexible, allowing teachers to implement lessons individually or as a complete unit.

Lesson Breakdown

- 01** ➤ **Research 101:** Introduces students to scientific inquiry, the scientific method, types of research, and credible sources.
- 02** ➤ **Developing a Research Project:** Focuses on research design, data collection methods, and quantitative and qualitative research concepts.
- 03** ➤ **Analyzing and Preparing a Research Report:** Guides students through organizing data, interpreting results, and creating research reports.
- 04** ➤ **Ethics and Integrity in Research:** Explores ethical research practices, academic integrity, plagiarism, and research misconduct.
- 05** ➤ **Research Poster Development:** Directs students on how to design and present professional research posters using visual communication techniques.



How it Works

Educators can access all instructional resources through the STEAM website, located on the Texas State University Department of Agricultural Sciences website. There is where materials are organized by lesson topic including lecture materials and supporting resources. Teachers may choose to follow the curriculum structure as designed or adapt the materials to fit their instructional style and classroom schedule.

**Check out the
Curriculum
Website with this
Code**



Costs

All curriculum materials are provided free of charge through the STEAM website. Because lessons include ready-to-use instructional resources, teachers can implement activities with minimal preparation and limited additional costs. Many experiments and classroom activities can also be adapted using materials commonly available in agricultural science classrooms.