



Texas 4-H STEM Project

Project Description

The Texas 4-H STEM project cultivates young innovators by immersing them in the expansive world of Science, Technology, Engineering, and Mathematics, fostering critical thinking, creativity, and problem-solving.

The Texas 4-H STEM project offers an expansive canvas for young minds to explore the vast domains of Science, Technology, Engineering, and Mathematics. From understanding the intricacies of biological processes to building innovative technological solutions, participants are exposed to a plethora of learning avenues. Engaging in hands-on experiments, computational challenges, and engineering tasks, they develop a robust foundation in STEM disciplines.

Basic

- Introduction to scientific methods and experimentation.
- Basics of computational thinking and programming.
- Understanding foundational concepts in physics, chemistry, and biology.
- Simple hands-on engineering challenges.
- Exploration of everyday technology and its workings.

Intermediate

- Delving deeper into specific scientific domains
- Engineering projects that require design, prototyping, and testing.
- Introduction to data science and basic analytics.

Advanced

- Advanced scientific research methodologies
- Complex engineering projects
- Deep dive into specialized areas
- Exploration of the societal and ethical implications of emerging technologies.

TAKE SCIENCE, TECHNOLOGY, ENGINEERING & MATH FURTHER

Project Learning Opportunities:

- Workshops: Interactive sessions focusing on specific STEM topics, techniques, or technologies.
- STEM Fairs: Events where members can showcase their projects, experiments, and innovations.
- Tours: Visits to research institutions, tech companies, or engineering facilities.
- Project Meetings: Regular sessions for brainstorming, knowledge sharing, and collaborative learning.
- STEM Camps: Dedicated multi-day events diving deep into specific STEM subjects or challenges.
- Competitions: Opportunities to compete in coding challenges, science fairs, or engineering contests.
- Guest Lectures: Insights from professionals and experts in various STEM fields.
- Field Trips: Trips to natural sites for ecological studies, factories for industrial insights, or observatories for astronomical observations.

Resources:

- Texas 4-H STEM web page
 - <https://texas4-h.tamu.edu/projects/science-engineering-technology/>
- Texas 4-H Roundup Science Fair
 - <https://texas4-h.tamu.edu/events/roundup/>
 - Texas 4-H Explore Guide - Scientific Method
 - <https://texas4-h.tamu.edu/resources/>
- National 4-H STEM Challenge
 - <https://4-h.org/programs/stem-challenge/>

Did you know?

4-H is a club for kids and teens to develop life skills and make friends. Youth can join 4-H in all 254 counties. Everybody ages 8-18 and in 3rd-12th grades can join 4-H. Kids in Kindergarten to 2nd grades can join as Clover Kids. There are 43 different project areas in five project categories: Agriculture & Livestock, Family & Community Health, Leadership & Citizenship, Natural Resources, and STEM.

Want to get started?

First...Contact your County Extension Agent!

- Contact information can be found at texas4-h.tamu.edu > contacts information at the bottom of the page > county offices

Explore more at texas4-h.tamu.edu