4-H youth programs connect kids to the resources of Cornell University and the land-grant system, strengthening the next generation of scientists, inventors, entrepreneurs and problem-solvers.

- 4-H programs reach more than 140,000 youth in New York State with hands-on learning experiences that foster exploration, discovery and passion for STEM fields and strengthen science.
- 4-H provides STEM enrichment experiences to families through a number of venues and delivery methods, primarily camps, clubs, school enrichment, afterschool programs, events, and activities.

**STEM PROJECT EXAMPLES FROM ACROSS NYS:**

- **4-H Robotics** - Twenty-five New York counties have participated in robotics clubs, hosting robotics camps, or competing in regional competitions. Nationally, there is a new robotics curriculum and a formal partnership with FIRST® Robotics, with many 4-H FIRST® teams in New York.

- **Mapping it Out** - 4-H'ers are having a blast exploring geospatial sciences from simple geocaching (using Global Positioning System (GPS) receivers to look for hidden treasure boxes all around the world) to complex community mapping projects. Local clubs are forming as a result of generous grants from the Environmental Systems Research Institute. The result is 4-H'ers are learning to use GPS receivers to collect spatial data, plot results on detailed maps, and provide useful resources to community planners.
MORE 4-H SCIENCE PROGRAM EXAMPLES:

- **Energy Explorations** - Youth, families, and community leaders hear about energy use and consumption, but most need more information in order to understand it well. The goal of the CCE Energy & Climate Change Team is to increase the capacity of Cornell Cooperative Extension (CCE) 4-H Educators to present quality programs with a focus on energy and an emphasis on STEM knowledge and processes. A set of sustainable energy learning labs have been developed and are used in a variety of 4-H educational settings.

- **Science at 4-H Camps** - Each summer, more than 11,000 children master new skills, gain confidence, feel what it’s like to be part of a community and find meaning through service — all at 4-H camps across New York State. The 4-H camping system offers young people, ages 6-18, the chance to explore educational activities and classes in more than 25 subject areas, including science and technology. New York’s nine 4-H camps are open to all interested youth, not just current 4-H members. We also engage military youth in a variety of camping experiences around the State. As a part of these camps we have provided hands on science and technology programming through the NASA After School Universe Astronomy curriculum, the Operation Military Kids: Tech Discover curriculum, and mobile technology lab equipment.

CONNECTING TO CORNELL

- **Connecting with kids through 4-H STEM outreach** - Many Cornell University departments are actively engaged in 4-H youth outreach projects focused on STEM. Such projects include the Lost Ladybug citizen science project, climate change backyard measurements, “smart” textile design, invasive plant control, and helping to stop the Emerald Ash Borer.

As youth get older, they can participate in the annual 4-H Career Explorations conference at Cornell, where more than 500 youth interact with Cornell researchers during three days of hands-on experiences.

Today, county fairs remain vibrant venues, changing to reflect their communities yet remaining a treasured annual tradition and attracting scores of new families, as well as faithful fairgoers.

- **4-H fairs connect kids to Cornell** - As New York’s land grant university, Cornell University offers support for 4-H youth programs across the state. Youth and adults who participate and plan 4-H fairs use Cornell resources and project materials in many ways. Youth consult Cornell research in the areas of animal science, engineering, environmental issues, horticulture, geospatial sciences, health, human ecology, and others areas as they prepare their exhibits.