Take Action: Further Exploration

Career Exploration

As drone technology evolves, how the technology can be used and new opportunities for STEM careers will evolve (http://www.stemjobs.com/future-stem-careers/). Check these out!

- Journalism (http://voices.nationalgeographic.com/2013/11/30/so-you-want-to-fly-drones/) Geography (http://www.asprs.org/Students/Career-Brochure.html http://www.aag.org/galleries/jobs-careers-files/Careers_resources_overview_02192013.pdf)
- Remote sensing (http://www.sciencebuddies.org/science-engineering-careers/math-computer-science/remote-sensing-scientist-or-technologist)
- And more: (http://www.careeronestop.org/)

Also, check out the work being done at one of the Federal Aviation Administration's six UAS research and test sites
https://www.faa.gov/uas/programs_partnerships/coe_test_sites/

Challenge youth to research the various industries using drones and share what they've learned with your group.

Check out the NYSD website to hear stories from professionals in the field.

Citizen Science

Citizen science involves volunteering to work on a research project with professional scientists. It's a way of learning while also contributing to science. Consider one of the projects below, or visit SciStarter (http://scistarter.com/) to choose your own project and learn more.

YardMap

Use your mapping skills to help scientists and neighbors create larger areas of animal-friendly habitat. YardMap (www.yardmap.org) focuses on the most common habitat of all – our backyards, parks and schoolyards. YardMap citizen scientists draw digital maps of their yards on the YardMap website, locating plants, water sources, non-living elements and other things that could affect animals. You can upload photos taken with your drone (or other camera) to your YardMap account. Scientists at the Cornell Lab of Ornithology use this information, combined with bird count data, to answer questions about how to improve wildlife habitats and help protect birds and other wild animals. Apply what you've learned through the Drone Zone challenges and use your drone skills to map your backyard, share the results with YardMap scientists and citizen scientists from around the world!

Fossil Finder

You can help scientists interpret the environments of the past and learn about ancient human cultures. Scientists in the Fossil Finder (http://www.fossilfinder.org/) project are using drone and other aerial technology to collect images of landscapes in the Turkana Basin in northern Kenya for paleontological and archaeological research. Citizen scientists in this project interpret these data, looking through high-resolution photos for fossils. Using Fossil Finder, you can analyze the photos by checking image quality, identifying rock types, and pointing out potential fossils or stone tools.

Civic Engagement

Get on the map!
Is your state represented on the National 4-H History Map? Are the important things that have happened in your state's 4-H history shown on the map?

The National 4-H History Map shows the location of various points of 4-H history or interest. To see the current National 4-H History Map:
http://arcg.is/1QBM4qf

You can play a role in "mapping" your state's 4-H history. It's easy! All you need to do is enter the geographical location in your community or state where an important 4-H historical event occurred. It can be in the form of written 4-H history, a digital interview, or even location imagery that you obtain from a drone flyover.
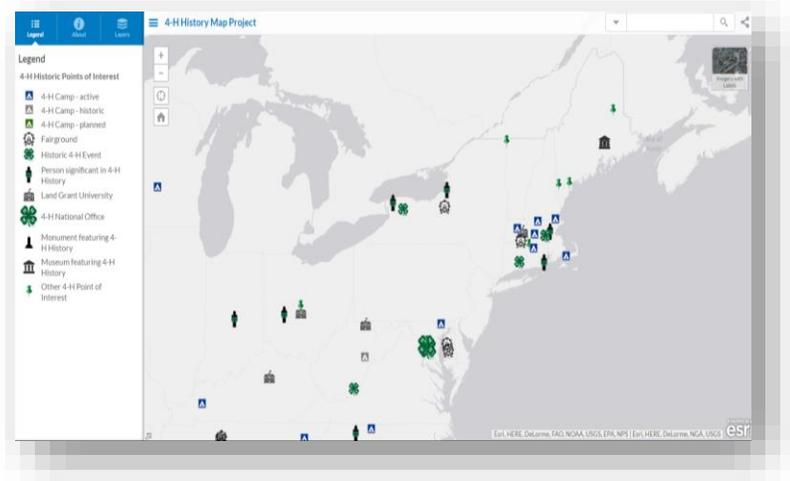
Once you've decided what you want to add to the National 4-H History Map, go to http://4-hhistorypreservation.com/History_Map/ to nominate the location of your point of interest or 4-H history. Your proposed submission will be reviewed by a national team 4-H staff, volunteers and youth for permanent addition to the National 4-H History Map.

Raise Your Voice
At the beginning of 2016, the Federal Aviation Administration suggested new regulations around the use of drones, including limitations, operator responsibilities and aircraft requirements. Review and reflect on these regulations: https://www.faa.gov/uas/nprm/. Then ask:

- What are the opportunities and challenges of widespread use of drones?
- What safety and privacy implications do drone technologies introduce?
- How do these regulations address those opportunities and challenges?
- What is missing?
- What suggestions would you make to lawmakers about drone regulations?