

Greater St Louis Area Council STEM Exploration DRONES E-mail Logan Lawrence to schedule logan.lawrence@scouting.org

This module is designed to help you explore how **drones are involved in everyday life.**

1) **Exploration** Learn about the history, manufacture, and use of drones or unmanned aerial vehicles (UAVs). This can include watching videos or live performances or reading (Cub Scouts do 30 – 60 mins; **Scouts BSA and Venturing – 2 hours**) Then do the following: a) Keep a list of the sources you read/watched to show your counselor. b) Create at least 3 to 5 questions or ideas from what you learned. c) Discuss two of the questions or ideas with your counselor that relate to drones or unmanned aerial vehicles. What did you find most interesting? How might you get answers to your questions?

2) **Drone Pre-flight activities** Before flying, it is important to know as much as possible about the drone / UAV you will be flying. Find answers for each of the following. a) Name the four main types of drones / UAVs. b) List four components of a drone that are required for it to fly. c) What are two similarities and two differences between hobbyist and commercial drones? d) List three differences between rotor drones and fixed wing drones. e) Pick an industry and explain three ways the industry is currently using drones or could benefit from using drones in the future.

3) **Safety Check** It is important to understand the safety requirements and where you are permitted to fly a drone. a) Where do you find the rules and safety tips to help you fly safely? b) List five of these rules for recreational flyers and three for commercial flyers c) Complete the Recreational Drone Safety Test. (Cub Scouts please do this with an adult) (<https://pilotinstitute.com/courses/drones/>) and click on the header “TRUST” Or you can access the Pilot Institute TRUST website directly at: (<https://trust.pilotinstitute.com/login/signup.php>) This free website will let you get your recreational drone certificate to be able to legally fly your drone. Be sure to download your certificate before exiting the site as all your information (account) will be deleted once you finish the exam. d) Discuss with your counselor or another adult why these rules are important.

4) **Visit / Meet / Experiment** Complete THREE activities from the following list. a) Visit a place where drones/UAVs are used and talk to someone about how they use drones (this can be done virtually by watching a drone/UAV being used). Discuss with your counselor what you learned from this visit. b) Watch the following video or a similar video instruction on how to fly a drone:

https://www.youtube.com/watch?v=N_XneaFmOmU Take notes to talk with your counselor about what you watched. c) Build a drone and show it to your counselor i) From a kit (SBSA and Venturing) ii) Make a model of a drone using recycled materials (Bear to AOL Cub Scouts) iii) Draw a picture of a drone and label the parts of the drone (Lion/Tiger Scouts) d) Fly a drone for ~15-30 minutes i) A drone with a controller (Bear to AOL Cub Scouts) ii) A “hand operated” drone (Lion/Tiger Scouts). Search Amazon or internet for hand-operated drones. iii) Obstacle flight test – set up an obstacle course, ie: a hula hoop taped to stand up and maneuver the drone through the obstacle. e) Come up with five potential new uses for drones f) Learn about Drone racing and report what you learn to your counselor. g) Learn about careers involving drones and report what you learn to your counselor. 5) **Discuss Reflect** on what you have done in this module, and how the technology of drones impacts your everyday life. Discuss with your counselor what you have learned and what you expect in the future regarding drones.

Cub STEM April 2026
For more details go to STLBSA.ORG/STEM



Cubs Exploring Energy: Meet the Gas Pros!
Hosted by Ameren

Calling all curious Cub Scouts (Wolves and up)! Ever wonder how natural gas gets safely to your home to heat your shower or cook your favorite meal? It does not just magically appear. It takes a skilled team of hardworking professionals to build, maintain, and protect that underground system every single day. Now your Scout can meet them! Join us for a **hands-on, action-packed afternoon** at the **Ameren Maryville Operating Center** where **Wolves, Bears, Webelos, and Arrow of Light** Scouts will rotate through exciting activity stations led by real gas industry pros.

What Scouts Will Do: Learn the basics of natural gas safety• **Build their own hula hoop** using real PE pipe• **Assemble a working model** of a gas meter• Explore real construction tools and equipment• Safely **operate a mini excavator** with expert guidance

Location: **Ameren Maryville Operating Center**, 2600 N Center St, Maryville, IL 62062

Date & Time: Saturday, May 9, Program: 1:00 PM to 3:30 PM, Registration opens at 12:45 PM

What to Bring:• **Closed-toed shoes are REQUIRED.** No exceptions. • **Water bottle**• **A parent or guardian** must remain on site

• **STEM Nova Twilight Camp**

STEM Nova Twilight Camp is perfect for curious minds who love to build, test, and explore. Scouts attend camp for five consecutive evenings and dive into hands-on science, technology, engineering, and math activities designed specifically for Cub Scout ages. This evening-only format fits around daytime schedules while giving Scouts a fun, focused STEM experience that supports STEM Nova achievements.

Non-Scout siblings are welcome also! They need to be Cub Scout age (entering second grade in the Fall on up).

Where: Cub World - Beaumont Scout Reservation

When: June 22 (Monday) - June 26 (Friday)

Time: 6:15 - 8:45 p.m.

Theme: Science, Technology, Engineering, Math

How Much: \$75 per Cub Scout