

## Civil Air Patrol Connections to Tennessee State Science Standards

Because physical science standards are found in sixth and eighth grades, these grades are more aligned with CAP STEM Kits. Some specific connections are listed below.

### Sixth Grade

#### **Standard: 6.ESS2: Earth's Systems**

- 5) Analyze and interpret data from weather conditions, weather maps, satellites, and radar to predict probably local weather patterns and conditions.

#### CAP STEM Kit: Weather Station Kit



Acu-Rite Professional Weather Station STEM Kit measures rainfall, barometric pressure, wind speed, and more. Comes with software and app for forecasting.

#### **Standard: 6.ESS3: Earth and Human Activity**

- 1) Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability.
- 2) Investigate and compare existing and developing technologies that utilize renewable and alternative energy resources.

#### CAP STEM Kit: Renewable Energy



This kit provides hands-on approach to the understanding of solar, hydro and wind energy. Students will investigate concepts by constructing working models out of the parts included in this kit. This kit allows participants to work cooperatively while building, problem-solving, discussing, designing, and evaluating energy sources. Included with this kit are Assembly Instructions that will assist in the planning and implementation of this product.

## **Eighth Grade**

### **Standard: 8.PS2: Motion and Stability: Forces and Interaction**

- 5) Evaluate and interpret that for every force exerted on an object there is an equal force exerted in the opposite direction.

#### **CAP STEM Kit: Rocketry**



This kit includes beginning Alpha III rockets and follows the CAP curriculum: Model Rocketry and Advanced Model Rocketry. Kit includes A8-3 motors -- two for each rocket; launch pad; controller; curriculum; and instructional video to initiate this invigorating program.

### **Standard: 8.PS2: Motion and Stability: Forces and Interactions**

- 1) Design and conduct investigations depicting the relationship between magnetism and electricity in electromagnets, generators, and electrical motors, emphasizing the factors that increase or diminish the electric current and the magnetic field strength.

#### **CAP STEM Kit: Snaptricity**



With the *Snap Circuits Snaptricity STEM Kit*, students use hands-on activities to explore how electricity and magnetism is used in daily items. Using the kit, learners can demonstrate the workings of magnetic fields, electricity, parallel circuits, and switches. Snaptricity includes a motor, lamps, switches, fan compass, and electrodes in conjunction with over 40 parts. The kit can be used to build over 75 different projects that are covered in an enclosed curriculum guide.

## **Club or Related Arts Activities**

There are a number of possibilities in this category. Two are included below.



#### **CAP STEM Kit: 30 Days Lost in Space**

The 30 Days Lost in Space STEM Kit is an electronics kit that teaches all the basics of programming, wiring and more using the Arduino IDE and the components inside the kit. The story takes place on a foreign planet, where your spaceship has crash-landed at the bottom of the ocean. Your goal is to fix your spaceship and make it home successfully by learning the necessary programming/wiring skills you need to do so.

### CAP STEM Kit: Outdoor Quadcopter



Use the Outdoor Quadcopter to teach beginners the joy of flying. While cadets and students are learning to navigate the skies, they will also become skilled in teamwork activities, eye-hand coordination, motor skills and a variety of disciplines in and out of the classroom. Cadets and students can even experiment with simple modifications of the quadcopter to allow for drone racing and obstacle course flying. Included with the quadcopter will be a remote-control transmitter, an extra battery and a battery

charger. For further applications and activities of the kit, download the *CAP Unmanned Aerial Vehicle Activity Booklet* that is available in the *AE Downloads and Resources* section of the CAP member portal, [eServices](#).

- Additional TN Standards-connected CAP Products and Programs Forthcoming