

## Division 6021 - 4-H ELECTRIC Torey Earle – Extension Specialist for 4-H Youth Development

- 1. See General Rules applying to all 4-H exhibitors and general rules applying to all 4-H exhibits other than livestock.
- 2. Exhibits must be made based on the appropriate units in the 4-HCCS Electric Excitement project books. **Projects entered using Snap Circuits® kits will be disqualified.**
- 3. One exhibit per county per class. Exhibitor is limited to one entry per division.
- 4. All exhibits requiring bulbs must have the correct size.
- 5. Use of molded plug-ins is **not prohibited but** discouraged.
- 6. Any electric project observed or judged to be unsafe or potentially harmful to the public or surrounds will be disqualified immediately and disabled for further use.
- 7. Effective strain relief should be provided for all wire to terminal connections. Knots, clamps, connectors, or staples are acceptable when used appropriately.
- 8. A class champion will be selected for each individual class and one Grand and one Reserve Champion rosette selected from the entire exhibit.
- 9. 4-H electric exhibits will be divided into the following classes:

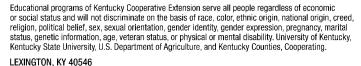
### MAGIC OF ELECTRICITY (4HCCS BU-06848) (All exhibits must be DC powered).

- Battery powered series and parallel circuits (Circuits must include both series and parallel, a simple switch and can be no more than 9 volts).
- Homemade Galvanometer (Must be able to detect the presence of an electrical current)
- 647 Electromagnetic Circuits (Must be a working electromagnet with a simple switch and can be no more than 9 volts).
- 648 Simple homemade DC motor (Rotor must turn under its own power).

### INVESTIGATING ELECTRICITY (4HCCS BU-06849) (all exhibits must be DC powered)

- Battery powered series or parallel circuit (Circuit may be either series or parallel, must contain either a momentary and/or three-way switch, a circuit diagram with explanation and can be no more than 9 volts).
- Original design soldered circuit project (Circuit must contain an on/off switch, a motion or tilt activated switch, a light and sound producing device and must be powered by 9 volts.









All connections in the circuit must soldered and a circuit diagram with explanation must be included).

# WIRED FOR POWER (4HCCS BU-06850) (all exhibits must be AC powered and be able to be safely connected and disconnected from a standard 120-volt duplex outlet).

- Display of wire sizes and types with description and example of usage (display must contain at least 12 different examples)
- Simple household or farm use circuit (Circuit must contain one single pole switch controlling one electrical load device. Circuit should be mounted on a sturdy mounting surface and free standing. Wiring should be done with Romex NM-B 12-gauge wire and clamped or stapled appropriately. A circuit diagram with explanation must be included)
- Complex household or farm use circuit (Circuit must contain at least two three-way switches, and may also contain a four-way switch, controlling one electrical load device. The circuit must also contain a working duplex electrical outlet. Circuit should be mounted on a sturdy mounting surface and free standing. Wiring should be done with Romex NM-B 12-gauge wire and clamped or stapled appropriately. A circuit diagram with explanation must be included)
- Table, desk, vanity or floor lamp, any purpose original design only. (Pop Can Lamp kits will be disqualified)

# ENTERING ELECTRONICS (4HCCS BU-06851) (exhibits may be either DC or AC powered. AC powered exhibits must be able to be safely connected and disconnected from a standard 120-volt duplex outlet).

- Basic electronic circuits without solid-state components (from project book).
- Basic electronic circuits with solid-state components (from kit).
- Basic electronic circuits with solid-state components (original circuit design, must include circuit diagram and explanation).

#### **GREEN ENERGY**

- 658 Wind or solar powered energy project (original design).
- Solar powered energy project (original design).