



### Division 6021 - 4-H ELECTRIC

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.
7. Effective strain relief should be provided for all wire to terminal connections. Knots, clamps, connectors, or staples are acceptable when used appropriately.

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

- 645 Battery powered series and parallel circuits (Circuits must include both series and parallel, a simple switch and can be no more than 9 volts).
- 646 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 it's own power).

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

- 649 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).
- 650 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 be 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).**

- 651 Display of wire sizes and types with description and example of usage (display must contain at least 12 different examples)
- 652 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)
- 653 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)
- 654 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).**

- 655 Basic electronic circuits without solid-state components (from project book).
- 656 Basic electronic circuits with solid-state components (from kit).
- 657 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 (from kit).
- 659 Wind or solar powered energy project (original design).