

TUESDAY MORNING/AFTERNOON, JULY 5, 2016

10:00 A.M – 6:00 P.M.

DIVISION A

### **4-H Electric & Small Engines 800's**

\*800. Small Engines, any type

Electricity Rules:

- A. 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.
- B. All exhibits requiring bulbs must have the correct size.
- C. Use of molded plug-ins is not prohibited but discouraged.
- D. Any electric project observed or judged to be unsafe or potentially harmful to the public or surrounds will be disqualified immediately.
- E. 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** – All exhibits must be DC powered).

- \*801. Battery powered series and parallel circuits (Circuits must include both series and parallel, a simple switch and can be more than 9 volts).
- \*802. Homemade Galvanometer (Must be able to detect the presence of an electrical current)
- \*803. Electromagnetic Circuits (Must be a working electromagnet with a simple switch and can be no more than 9 volts).
- \*804. Simple homemade DC motor (Rotor must turn under its own power).

**INVESTIGATING ELECTRICITY** – All exhibits must be DC powered)

- \*805. 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).
- \*806. 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** (All exhibits must be AC powered and be able to be safely connected and disconnected from a standard 120 volt duplex outlet.

- \*807. Display of wire sizes and types with description and example of usage (display must contain at least 12 different examples)
- \*808. 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).
- \*809. 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).

\*810. Table, desk, vanity, or floor lamps (any purpose – original design or kits)

**ENTERING ELECTRONICS** (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).

\*811. Basic electronic circuits without solid-state components (from project book).

\*812. Basic electronic circuits with solid-state components (from kit).

\*813. Basic electronic circuits with solid-state components (original circuit design, must include circuit diagram and explanation)

**GREEN ENERGY**

\*814. Wind or solar powered energy project (from kit).

\*815. Wind or solar powered energy project (original design).

*Tip: Don't know what to do with your ribbons you've won this year. Recycle them. Return your gently used ribbons to the Extension Office and we will count and re-use them the following year.*