

# ELECTRICITY

## Department 23

### Check-In:

Tuesday, 1 - 7 p.m., Exhibition Hall

### Judging:

Tuesday, 1 - 7 p.m. Individual Conference Judging, Exhibition Hall

**Department Chairperson:** Mike Iselin - (608) 445-9367

**Superintendents: \*\*Superintendents Needed. Please email the Fair office at [info@danecountyfair.com](mailto:info@danecountyfair.com).**

**Eligible 4-H Project Areas:** Electricity

### Regulations:

1. For safety reasons, please inspect your project at home before use at the Fair.
2. Electric plugs must be the "put together" type.

### Premiums:

	<u>Blue</u>	<u>Red</u>	<u>White</u>	<u>Pink</u>
Class A	\$1.75	\$1.50	\$1.25	\$1
Class B	\$2	\$1.75	\$1.50	\$1.25
Class C	\$2.25	\$2	\$1.75	\$1.50
Class D	\$3	\$2.50	\$2	\$1.50

### **CLASS A. Magic of Electricity - Unit 1**

- 1) Display of simple switch
- 2) Alternating current display
- 3) Electric question board
- 4) Steady hand tester
- 5) Simple electric attraction and repulsion exhibit  
(Securely attach a 3"x5" card explaining how it works.)
- 6) Simple static electrical generator  
(Securely attach a 3"x5" card explaining how it works.)
- 7) Display showing wiring in a simple circuit
- 8) Display showing closed/open circuits
- 9) Display on conductors
- 10) Display on magnetism
- 11) Display on electrical energy transferred into motion

### **CLASS B. Investigating Electricity - Unit 2**

- 1) Homemade electric motor
- 2) Display showing a simple step-down transformer  
(Securely attach a 3"x5" card explaining how it works.)
- 3) Display of a simple electromagnet
- 4) Simple homemade buzzer
- 5) Display showing circuit diagrams with explanation
- 6) Example of series circuit with explanation
- 7) Example of parallel circuit with explanation
- 8) Momentary Switch
- 9) Three Way Switch
- 10) Display showing a soldered connection
- 11) Rocket Launcher
- 12) Burglar Alarm

### **CLASS C. Wired for Power - Unit 3**

- 1) Poster showing five types of lighting with a written explanation of how this is defined
- 2) Diagram or photographs of electrical improvements made at home
- 3) Wiring layout of your home or other building
- 4) Electrical Tool and Supply Kit
- 5) Display of symbols on wires and cables and their meanings
- 6) Constructed or repaired light - duty extension cord  
(Attach a 3"x5" card explaining work performed.)
- 7) Constructed or repaired heavy - duty extension cord  
(Attach a 3"x5" card explaining work performed.)
- 8) Constructed or repaired lamp  
(Attach a 3"x5" card explaining work performed.)
- 9) Display showing how to replace a switch

### **CLASS D. World of Electronics - Unit 4**

- 1) Display on Soldering Circuit Assembly
- 2) Display on Diodes
- 3) Display on voltage and polarity
- 4) "Blinky" Flasher
- 5) Alarm that activates in the presence of light
- 6) Light Meter
- 7) SCR Intruder Alarm
- 8) 6-8 Watt homemade amplifier with explanation
- 9) 14"x22" poster showing at least 12 common electric symbols

### **Special Awards and Sponsorships:**

**Miller & Sons Supermarket** - Trophy to Champion and Rosette to Reserved Champion of the designated class.