# **DEPT. 23 – ELECTRICITY**

JUNIOR DIVISION



**Superintendent**: Mike Van Deurzen

336-0520

**Christian Wagner** 

**Entries Due:** July 15<sup>th</sup> **Arrival:** Tuesday, 1:30 – 5:30 p.m.

**Judging (Face-to-face):** Tuesday, 1:30 – 6:00 p.m.

**Release:** Sunday, 6:00 p.m.

IN ADDITION TO THE RULES LISTED BELOW, PLEASE REFER TO <u>ALL THE RULES AND REGULATIONS</u> LISTED IN THE FRONT SECTION OF THIS BOOK.

### **GENERAL RULES:**

- 1. **Batteries**: Exhibits must be complete with batteries where needed.
- 2. **Exhibitor Requirement**: Exhibitors must be enrolled in the Electricity project or doing similar work in another youth organization in order to exhibit/show.
- 3. **Grounding**: Cords and trouble lights must be grounded.
- 4. **Posters**: All posters must be no larger than 14" x 22" and displays must be no larger than 36" x 36".
- 5. Safety Standards: All entries must comply with current OSHA safety standards.

# **DIVISION 183 – MAGIC OF ELECTRICTY**

PREMIUMS FOR DIVISION 183:	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
	\$2.00	\$1.75	\$1.50	\$1.25

#### **CLASS NO.**

- 1. Circuit with Two Batteries & One Light Bulb
- 2. Compass
- 3. Electric motor
- 4. Electromagnet

- 5. Galvanometer
- 6. Homemade flashlight
- 7. Simple switch
- 8. Any other exhibit not listed above

# **DIVISION 184 – INVESTIGATING ELECTRICITY**

PREMIUMS FOR DIVISION 184:	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
	\$2.00	\$1.75	\$1.50	\$1.25

#### **CLASS NO.**

- 1. Burglar Alarm
- 2. Circuit Diagrams with Explanation
- 3. Momentary Switch
- 4. Parallel Circuit
- 5. Rocket Launcher

- 6. Series Circuit
- 7. Soldered Connection
- 8. Three-way Switch
- 9. Any other exhibit not listed above

# **DIVISION 185** – WIRED FOR POWER

PREMIUMS FOR DIVISION 185:	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
	\$2.50	\$2.25	\$2.00	\$1.50

#### CLASS NO.

- 1. Chart showing the electrical usage of appliances
- 2. Display of light bulbs and the jobs they do best
- 3. Display of symbols on wires and cables and their meanings
- 4. Electrical tool and supply kit
- 5. Poster on how to read an appliance nametag
- 6. Poster on how to replace a switch
- 7. Any other exhibit not listed above

### **DIVISION 186 – WORLD OF ELECTRONICS**

PREMIUMS FOR DIVISION 186:	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
	\$3.00	\$2.50	\$2.00	\$1.50

#### CLASS NO.

- **1.** Display of at least 6 electronic parts and their purpose
- 2. Display of different kinds of resistors
- 3. Homemade Capacitor Flasher and Study Circuit
- 4. Homemade Crystal Radio
- 5. Homemade Electronic Organ
- 6. Homemade Photoelectric Controller
- 7. Homemade Radio Broadcaster
- **8.** Homemade Repulsing Coil to demonstrate magnetic effect
- 9. Homemade Simple Computer
- 10. Homemade Simple Microphone

- 11. Homemade Simple Vacuum Tube Amplifier
- 12. Homemade Tachometer
- 13. Homemade Two-Transistor Radio
- **14.** One-transistor Amplifier for use with a Crystal Radio
- 15. Poster Demonstration on Resistor Color Code
- **16.** Poster showing graph of several cycles of alternating current with description of the meanings of the terms: frequency, polarity and amplitude
- 17. Any other exhibit not listed above

### **DIVISION 187 – BEHIND THE SWITCH**

PREMIUMS FOR DIVISION 187:	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
	\$2.50	\$2.25	\$2.00	\$1.50

#### CLASS NO.

- 1. Any piece of Homemade Solar Equipment
- 2. Your *Personal Research Results* Book of Ways your Local Power Supplier Supplies our Power
- **3.** Demonstration on How Electricity is Induced in a Conductor by Magnetism
- Poster or Display on Basic Safety Rules to Follow Around Electric Lines
- **5.** Poster or Display on the Different Sources of Energy Found in your Community
- 6. Poster or Display on Ways to Save Energy
- Poster or Display Showing How to Read an Electric Meter
- 8. Any other exhibit not listed above