## ELECTRIC

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| PROJECT SUPERINTENDENT: | Carol Schmidt, 317-441-6829, dcakschmidt@comcast.net |
| EXHIBIT CHECK-IN: | Sunday, July 12, 4-6 PM |
| JUDGING: | Division I Monday, July 13, 8:30 AM, Open Judging |
| | Division II Monday, July 13, 9:30 AM, Open Judging |
| | Division III Monday, July 13, 10:30 AM, Open Judging |
| | Division IV & Advanced Monday, July 13, 11 AM, Open Judging |
| RELEASE: Tuesday, July 21, 9-11 AM and, 5-7 PM | |
| STATE FAIR ENTRIES: | One (1) entry for Div. I and a total of five (5) entries for Div. II and higher |

**Project Description:**
The 4-H electricity/electronics project develops practical skills such as safe practices, proper use of fuses and circuit breakers, proper lighting and wiring techniques, as well as life skills in the area of decision making, using science and technology, and developing communication skills. **Select a division to start based on skill level.** More information can be found at http://www.extension.purdue.edu/hamilton/4-Hprojects.aspx and also at ***https://extension.purdue.edu/4h***.

**Levels:**
**Division I**
**Division II**
**Division III**
**Division IV**
**Division Advanced**

**Project Guidelines:**
NOTE: Project member may choose to display a poster or a display board that relates to a topic in your divisions manual rather than a wiring project. If so**,** posters and display boards must follow poster rules, Page 30, #15, must be 22" x 28" and be displayed horizontally.

While a poster has pictures, diagrams and wording, a display board also has objects fastened to it. Record sheets do not need to be turned in with the exhibit.



**Exhibit Requirements:**
All posters, notebooks, and display boards must include a reference list indicating where information was obtained, giving credit to original author**.**

**Division I: Getting On Track With Electricity or Electric City CD**
Complete two (2) activities in manual.
Exhibit ONE (1) Circuit board using kit. Circuit board should be ***no larger than 6" by 6"*** and must be labeled to identify whether it is "parallel" or "series" circuit. Include batteries with your circuit board exhibit. Circuit kits are available for purchase in the Purdue Extension office along with pre-cut ready to stain boards.

**Division II: Scoring Electricity Through Magnetism**
Complete three (3) activities in manual.
Exhibit ONE (1) magnetic powered flashlight using kit OR a poster (See poster rules, Page 30, #15) on a topic described in the manual. Kits are available for purchase in the Purdue Extension office along with pre-cut ready to stain boards.

**Division III: Altering Your Thoughts About Electricity**
Complete three (3) activities in manual.
Exhibit ONE (1) of the following and adhere to project manual requirements:

- Build an extension cord using all new parts.
- Build an incandescent or fluorescent trouble light using all new parts.
- Repair an extension cord or trouble light by replacing the cord, plug, connector body, or socket handle with a new part(s). It is recommended that you attach a note describing the repairs and possibly before and after pictures of the work that was done to correct the dangerous parts.
- Create a poster about: (See poster rules, Page 30, #15)
  - ◊ Wire size
  - ◊ Wire type
  - ◊ Current carrying capacity
  - ◊ The parts of an extension cord or trouble light
  - ◊ An important safety-related topic
  - ◊ Any topic covered in the Division III manual

Kits are available for purchase in the Purdue Extension Office. For safety reasons, a special **RUBBER COATED,**

**SHATTER RESISTANT Rough Service Bulb** is required for trouble lights if you do NOT use the fluorescent trouble light kit available for purchase in the Purdue Extension office.

Extension cord or trouble light MUST include a card explaining HOW the exhibit will be used. This note tells the judge if the materials used are consistent with its intended purpose as discussed in manual.

**Division IV: Lighting The Way**

This is the first year that you will NOT be building an item from a kit. Your lamp design is up to you! However, you MUST carefully follow the Exhibit rules starting on page 11 of your manual. It is not possible to restate all the safety and design requirements in this county handbook that are already listed in your Division IV project manual. Refer to "Helpful Hints" sheet in your project manual. Lamp parts and partial lamp kits are available for purchase in the Extension Office. If you would like to purchase an entire lamp kit with a wooden base, contact the Project Superintendent.

NO Molded plugs or quick connect plugs (i.e. clamp-on, insulation displacement, or quick-snap style) are allowed. You MUST use a plug that you have wired yourself as discussed in the manual.

Complete four (4) activities in manual. Exhibit one (1) of the following:

- Made or remade lamp
- Poster or display board on any topic covered in this manual. (See poster rules, Page 30, #15) ***Display boards should be appropriately sized for the displayed equipment.***

Lamp MUST include an attached card explaining how the exhibit is to be used (i.e. is the lamp for reading, general lighting, a decorative lamp, an accent lamp, etc.). This note tells the judge if the design of the lamp is consistent with its intended purpose as discussed in the manual.



**Advanced Division: Electricity & Electronics**

Advanced Divisions 5-10- Electricity & Electronics (This book is being updated and you may find other resources at your local library, electricians, instructors, internet, etc. to provide guidance for your project.)

The Advanced Division is split into two (2) different categories. One (1) area is "Advanced Electric 5-10" and the second is "Advanced Electronics 5-10." You may choose one (1) category for your Advanced 5-10 exhibit.

Exhibit ONE of the following:

1. An article based on wiring around the home, farm, or facility, etc.
2. An article made in the area of heating and cooling.
3. An article made in the area of lighting.
4. An article made in the area of electronics (advanced division electronic projects may contain and use molded plugs if they are part of the electronic kit).
5. An article made in the area of power.
6. A written report on: consumer buying, better electrical methods, or electrical careers.
7. A written notebook report with photos of individual steps (close-up) and overall work, illustrations, explanation of each step performed, explanation of overall work done, reasons for performing work, reasons for selecting materials used, list of materials used and prices (budget), schematics, etc. of electric project. This option allows you to use your imagination and complete any electrical project that you cannot physically bring to the fair to exhibit. You could wire a room in a house, the barn, outdoor lighting, indoor lighting, control systems, alarm sys- tems, etc.
8. Display board showing home wiring (3-way switch, 4-way switch, GFCI Grounding, Circuit Protection, etc.) or any topic covered in the Advanced Division manual.
9. Create a video showing the work accomplished and skills learned. This video should include the same type of information as required in written notebook listed above. This video is to be no more than ten minutes in length and formatted as MP3 or MP4 and submitted on a thumb drive. This video can also be uploaded to a YouTube account with the video being made public and the link submitted for evaluation.

*****For other exhibit ideas, refer to the Advanced Electric Project Ideas resource available on the Indiana 4-H Electric project page.***

Attach to the exhibit any kit instructions or book/manuals if you feel they will help explain the operation of the exhib- it. This may be important for advanced electronic projects.

If the exhibit is not a poster, attach a note explaining how it is to be used.

***Display boards should be appropriately sized for the displayed equipment.***