

ELECTRIC

The 4-H electricity/electronics program provides youth with educational information about electricity and how it can be used to benefit the human race. The electricity/electronics program develops project skills (i.e., safe practices, proper use of fuses and circuit breakers, proper lighting techniques, proper wiring techniques) and life skills (i.e., decision-making, using science and technology, developing communication skills).

Superintendent: Jeremy Montgomery

State Fair Entries: *One State Fair Entry from each Division*

RULES

1. Refer to the Parke County 4-H Policies and Entry & Exhibit Requirements.
2. Refer to exhibit requirements in the project manual.
3. It is recommended a note be attached to your exhibit explaining what was done, the intended use, and the materials you used in completing the exhibit.
4. All Electric Project Members are encouraged to attend annual electric workshops for project assistance.
5. Circuit board kits for Division 1, magnetic powered flashlight kits for Division II and extension cord and trouble light kits for Division III are available at cost at Electric Workshops and the Parke County Extension Office.

All posters, notebooks, and display boards must include a reference list indicating where information was obtained, giving credit to the original author, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be attached to the back of a poster or display board, be the last page of a notebook, or included as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed.

EXHIBITS

State Fair entries in all divisions

SUGGESTION FOR ALL DIVISIONS: include an explanation card on how your exhibit is to be used.

Division 1

Project Completion Recommendations

1. Make a circuit board.
2. Conduct a Hazard Hunt.
3. Complete your record.

Exhibit:

- Exhibit at your local or county fair a circuit board no larger than 6" by 6" (using kit provided, label parallel or series circuit). "What I Have Done and Learned" is required for county only.

Division 2

Project Completion Recommendations

1. Make a magnetic powered flashlight or exhibit a poster (22" x 28") on a topic described in the manual.
2. Complete your record

Exhibit: one of the following

- a magnetic powered flashlight
- a poster (22" x 28") as outlined in the project manual or project CD.

Division 3

Project Completion Recommendations

1. Make one of the following:
 - a. Build an extension cord using all new parts
 - b. Build an incandescent trouble light using all new parts

- c. Build a fluorescent trouble light using all new parts
- d. Repair an extension cord or trouble light by replacing the cord, plug, connector body or socket handle with a new part(s).
- e. Create a poster about
 - 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

Note: All poster exhibits are to be displayed horizontally, sized 22"x 28", mounted on a firm backing (foam-core board or other) and covered in clear plastic or transparent material. Place standard identification label with your name, grade and county in the lower right-hand corner of the poster.

2. Complete your record.

Note: For parameters on any of the above project options, see the Division III electric manual

Exhibit - one of the following

- an Extension cord
- a trouble light
- a poster as outlined in the project manual.

Division 4

Project Completion Recommendations

1. Complete the activities presented in the manual.
2. Make or remake a lamp, or make a poster or display board on any topic covered in the manual
3. Complete your record

Exhibit: one of the following:

1. Made or remade lamp
2. Display board on any topic covered in manual
3. Poster on any topic covered in this manual

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 exhibit.

All poster exhibits are to be displayed horizontally, sized 22" x 28", mount on a firm backing (foam-core board or other) and covered in clear plastic or transparent material. Place standard identification label with your name, grade and county in the lower right-hand corner of the poster.

Advanced

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 different categories. One area is "Advanced Electric 5-10" and the second is "Advanced Electronics 5-10." You may choose one 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 systems, 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 exhibit. 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.

