PURDUE UNIVERSITY | Extension - 4-H Youth Development

Electric

Description:

The 4-H electricity and electronics program provides youth with educational information about electricity and how it can be used to benefit the human race.

NOTE: The Judges would appreciate an attached note with a description of what work the 4-H'er did to complete their exhibit including cost, hours, and intended use.

State Fair Entries:

5 electric exhibits per county, one per level

1 electronic exhibit per county, level 5

Exhibit Guidelines:

Artificial Intelligence (AI) may be used, with parent permission, when creating this exhibit and is to be documented as a reference. A majority of the work to create this exhibit is to be the 4-H member's original work. 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 way references are listed.

Posters are to be 22"x28" and displayed horizontally and placed in a clear plastic sleeve or covered with clear plastic to protect contents. Display boards should be designed to sit on a table using no more than 36" of tabletop space. Space should be left in the lower right hand corner to place an exhibit tag provided by Purdue Extension staff.

Youth are encouraged to complete the activities as instructed in the manual or found on the 4-H electric web page.

Judges evaluating exhibits should recognize individual differences and creativity, therefore using information in this document as a guide rather than a requirement.

Exhibit Class Guidelines:

Electric Level 1 (1st year in Electric)

Exhibit one article of choice displaying proper wiring techniques, made during the current 4-H program year. It must demonstrate a minimum of five (5) or more of the appropriate level of "Skills to be Attained" items as outlined in the "4-H Electric and Electronic Skills & Knowledge Chart". A completed copy of the "Exhibit Skills & Knowledge Sheet" must accompany the project. Skills sheets are for judging purposes only and will not be returned to the exhibitor.

Exhibit Suggestions:

- Circuit board – 6" by 6" of Series/Parallel Circuit
- Electromagnet
- Galvanometer
- Poster board (22" by 28")
- Display (appropriately sized for displayed equipment)

- Notebook/Report that covers any topic that is in the National 4-H Electric Curriculum Electricity Excitement Book 1 or Investigating Electricity Book 2, Purdue Extension website Level 1 activities/project sheets, or from the appropriate level of the Skills & Knowledge Chart. Refer to the Written Report Scorecard 4-H-824, to determine expected items to be included.

Electric Level 2 (2nd year in Electric)

Exhibit one article of choice displaying proper wiring techniques, made during the current 4-H program year. It must demonstrate a minimum of five (5) or more of the appropriate level of "Skills to be Attained" items as outlined in the "4-H Electric and Electronic Skills & Knowledge Chart". A completed copy of the "Exhibit Skills & Knowledge Sheet" must accompany the project. Skills sheets are for judging purposes only and will not be returned to the exhibitor.

Exhibit Suggestions:

- Magnetic Powered Shake Flashlight – with optional display
- Circuit board – 6" by 6" of Series/Parallel Circuit (with modifications if exhibited in Level 1)
- Electromagnet
- Galvanometer
- Electric Motor
- Poster board (22" by 28")
- Display (appropriately sized for displayed equipment)
- Notebook/Report that covers any topic that is in the National 4-H Electric Curriculum Electricity Excitement Book 1 or Investigating Electricity Book 2, Purdue Extension website Level 2 activities/project sheets, or from the appropriate level of the Skills & Knowledge Chart. Refer to the Written Report Scorecard 4-H-824, to determine expected items to be included.

Electric Level 3 (3rd year in Electric)

Exhibit one article of choice displaying proper wiring techniques, made during the current 4-H program year. It must demonstrate a minimum of five (5) or more of the appropriate level of "Skills to be Attained" items as outlined in the "4-H Electric and Electronic Skills & Knowledge Chart". A completed copy of the "Exhibit Skills & Knowledge Sheet" must accompany the project. Skills sheets are for judging purposes only and will not be returned to the exhibitor.

Exhibit Suggestions:

- Wiring Project – (ie. extension cord, trouble light, wire sizes and uses, plug configurations, test equipment, etc.)
- Electrical tool and supply kit
- Poster board (22" by 28")
- Display (appropriately sized for displayed equipment)
- Notebook/Report that covers any topic that is in the National 4-H Electric Curriculum Wired for Power Book 3, Purdue Extension website Level 3 activities/project sheets, or from the appropriate level of the Skills & Knowledge Chart. Refer to the Written Report Scorecard 4-H-824, to determine expected items to be included.

Electric Level 4 (4th year in Electric)

Exhibit one article of choice displaying proper wiring techniques, made during the current 4-H program year. It must demonstrate a minimum of five (5) or more of the appropriate level of "Skills to be Attained" items as outlined in the "4-H Electric and Electronic Skills & Knowledge Chart". A completed copy of the "Exhibit Skills & Knowledge Sheet" must accompany the project. Skills sheets are for judging purposes only and will not be returned to the exhibitor.

Exhibit Suggestions:

- Wiring – Wire a lamp. The lamp can be a re-wired lamp or one that is built new.
- Electrical tool and supply kit
- Poster board (22" by 28")

- Display (appropriately sized for displayed equipment)
- Notebook/Report that covers any topic that is in the National 4-H Electric Curriculum Wired for Power Book 3, Purdue Extension website Level 4 activities/project sheets, or from the appropriate level of the Skills & Knowledge Chart. Refer to the Written Report Scorecard 4-H-824, to determine expected items to be included.

Electric Level 5 (5th year or more in Electric)

Exhibit one article of choice, displaying proper wiring techniques, made during the current 4-H program year that demonstrates a minimum of five (5) or more of the appropriate level of "Skills to be Attained" items as outlined in the "4-H Electric and Electronic Skills & Knowledge Chart". A completed copy of the "Exhibit Skills & Knowledge Sheet" must accompany the project. Skills sheets are for judging purposes only and will not be returned to the exhibitor.

Exhibit Suggestions:

- Equipment Wiring – including but not limited to: parts identification, appliance repair, lamps and other lighting, equipment wiring, control system, security system, topic that covers safety, motors/generators, electric heating, heat pumps, AC, water heaters, and other electric equipment.
- Home Wiring – included by not limited to any circuits found in the wiring of a house or "barn", service entrance, switching, receptacles, generator transfer circuit, safety, electrical math, and others.
- Electronic Equipment – Any project or kit containing transistors or integrated circuits or vacuum tubes such as radio, TV, computer, robot, cell phone, and others.
- Poster board (22" by 28")
- Display (appropriately sized for displayed equipment)
- Notebook/Report that covers any topic that is in the National 4-H Electric Curriculum Entering Electronics, Purdue Extension website Level 5 activities/project sheets, or from the appropriate level of the Skills & Knowledge Chart. Refer to the Written Report Scorecard 4-H-824, to determine expected items to be included.
- Video Presentation 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 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.

ELECTRIC- Check-in and judging

Check-in: **Tuesday, June 10, 5-7 p.m. <u>OR</u> Wednesday, June 11, 8 a.m.-4 p.m.**
(judges note, and skills sheet)

Judging: **Open judging**

After check-in of **<u>all</u>** projects, put current year's record sheets in Green Record Book and turn in at designated boxes in the Community Building.

You have until May 15 to add or drop this project from your current year's enrollment.

The Best of Show and Runner-Up Best of Show winners will be recognized Sunday of the fair.