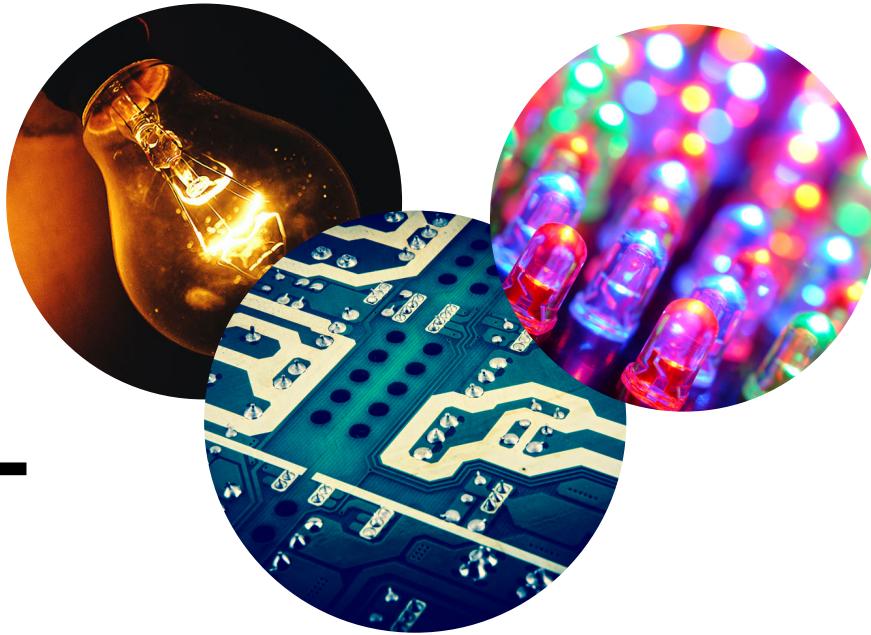




**COLORADO STATE UNIVERSITY  
EXTENSION**



## Electricity

**Project Unit 1 is designed for members 8-18 years old with little to no electrical energy experience.**

### Unit 1 - Magic of Electricity

**Inspiring youth to:**

- Accomplish the following learning experiences:
  - Plugging in
  - Bright lights
  - Control the flow
  - Circuit sense
  - Electric attractions
  - Make it spin

**Project Units 2 & 3 are designed for members 8-18 years old who understand basic electrical principles.**

### Unit 2 - Investigating Electricity

**Inspiring youth to:**

- Accomplish the following learning experiences:
  - AC and DC electrical currents
  - Investigating Ohm's law
  - To flow or not to flow
  - Series and parallel circuits
  - Switching circuits
  - Building an alarm

### Unit 3 - Wired for Power

**Inspiring youth to:**

Accomplish the following learning experiences:

- The code of safe practices
- How much electricity are you using?
- Fuses and circuit breakers
- Types of wires and bulbs
- Appliance nameplates
- Plug/outlet types, grounding
- Locating circuits in your home

**Project Unit 4 is designed for members 11 and older with an understanding of advanced electrical principals.**

### Unit 4 - Entering Electronics

**Inspiring youth to:**

Accomplish the following learning outcomes:

- LED or SCR
- Operating with diodes
- Performance with LED
- Burglar proof
- Turn up the volume

# Electricity

## Judging Criteria:

- Project is evaluated on the completeness of the manual and e-record, and the quality of the exhibit
- E-record includes demonstrations, talks, story, and pictures, with at least one action shot of the member doing something with his or her project
- Neatness and legibility



## Tips:

- Do at least three required activities and four optional activities (Brain Boosters) each year. Check them off on page 5 of the manual.
- Be sure to list day, month, and year for the completed activities.
- Be sure to have your leader or parent initial each activity.
- Take part in at least two leadership experiences each year.
- Be sure to include your completed manual with your e-record in a secure binder.
- If you plan to take the unit for more than one year, make sure that each exhibit is different each year.
- Entering Electronics is for Senior 4-H members only.
- Enter your project in your county fair.
- Share information learned in talks and displays.

## Resources:

- Exhibit & Judging Requirements
- Record Books
- Manual Information

Located at: [Colorado4h.org](http://Colorado4h.org)



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# Electrical Careers



## Electrician

To repair existing or install new electrical systems



## Safety

Provide oversight and educational awareness to those involved in electrical occupations and the public



## Regulation & Inspection

Work with a variety of entities to ensure safe products and infrastructure that involve electricity



## Research

Test out new methods and techniques, increase efficiency, and improve safety



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## Degrees/Certifications:

Construction Electrician Degree

Lineman Certification

National Fire Protection Association

Certifications (Electrical)

CAD Technician/Design

Electrical Engineer

Teaching including Agricultural

Education

Business Management

Construction Technology



## Education

Opportunity to teach others about electricity, designs, and application



## Emergency/Disaster

Work in different avenues to provide electrical service repairs and rebuilds



## Retail

Sale of products to support the electrical industry including raw materials, retail products, and support to consumers



## Manufacturing

Create and assemble products for use with electrical functions