



UW-MADISON EXTENSION

Electricity Project

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What is it All About?

De-mystify the “magic” of electric circuits, magnetism, motors and electronics. From building burglar alarms to learning how to select a good stereo and other consumer items. This project offers opportunities for hands-on experiences and knowledge you will use in the future. Experience technology firsthand while learning communication and decision-making skills.

Grow in Your Project

Starting Out

- Learn about safety and equipment used in working with electricity
- Identify tools and parts used in working with electricity
- Wire a simple circuit
- Build a compass
- Build a flashlight
- Construct a simple switch
- Build an electric motor

Resources

- Magic of Electricity, Level 1 (06848)*
- Investigating Electricity, Level 2 (06849)*

Learning More

- Work with electrical equipment and tools
- Build and test circuits
- Measure circuit voltage
- Develop a basic electrical tool and supply kit
- Locate your home wiring system
- Make simple electrical repairs

Resources

- Wired for Power, Level 3 (06850)*

Going Further

- Research the influence of electricity on society
- Identify electrical and electronic parts and devices
- Learn how to solder and prepare parts for assembly
- Assemble a circuit using a transistor

Resources

- Entering Electronics, Level 4 (06851)*

Resources for All Three Levels

- Electric Excitement Helper's Guide (06852)*

Take Your Project Further!

- Take a field trip to your local power plant or electric cooperative.
- Explore fields of study and careers in electricity.
- Plan and conduct an electric quiz bowl or skillathon.
- Contact your local power supplier for educational opportunities.
- Visit a local electrician.
- Visit a coal preparation plant to see how coal is processed for use by utility plants.
- Research the history of energy consumption in American homes.
- Host an electrical bingo game for your club.



Applying Project Skills to Life

Enhance Your Communication Skills

- Create a video about how to build a compass.
- Make a poster about closed and open circuits.
- Give a speech about the history of electricity.
- Demonstrate how to communicate in Morse Code.
- Give a speech about electrical safety to your school class, local community group or 4-H club.

Get Involved in Citizenship and Service

- Check friend's or relatives' homes for any electricity hazards.
- Conduct an appliance survey.
- Do simple repairs for neighbors and friends.

Learn about Leadership

- Organize a safety workshop.
- Plan, conduct and participate in an electric quiz bowl.
- Teach an electricity workshop.

Showing What You've Learned

- Build an electronic game board on the basic symbols used in electronic diagrams.
- Make a display about basic electrical tools and parts and what they are used for.
- Give a presentation on how electricity is produced.
- Make a poster on ways to conserve energy use.
- Build a homemade flashlight.
- Create a simple switch.
- Build a circuit with two batteries and a light bulb.
- Build an electromagnet, galvanometer or compass.
- Create circuit diagrams with explanations.
- Display a soldered connection.
- Create a display of light bulbs and the jobs they do best.
- Create a poster on how to read an appliance nametag.
- Develop a chart showing the electrical usage of appliances.
- Create a poster on how to replace a switch
- Build a diode or transistor.
- Build a 6- to 8-watt amplifier with an integrated.



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