

My 4-H Electricity II Project

Each year at the Hancock County 4-H Fair, WIEC sponsors the “Best Electricity Project” award. This year’s award went to Jacob Lionberger of the LaHarpe 4-Leaf Clovers. He is the son of Jeff and Natalie Lionberger of Dallas City. Here is his paper he wrote concerning his project. **Congratulations, Jacob!**

This year I chose to build an exhibit of a parallel and series circuit, a three-way circuit & switches, a momentary switch, and a motor: all powered by one battery.

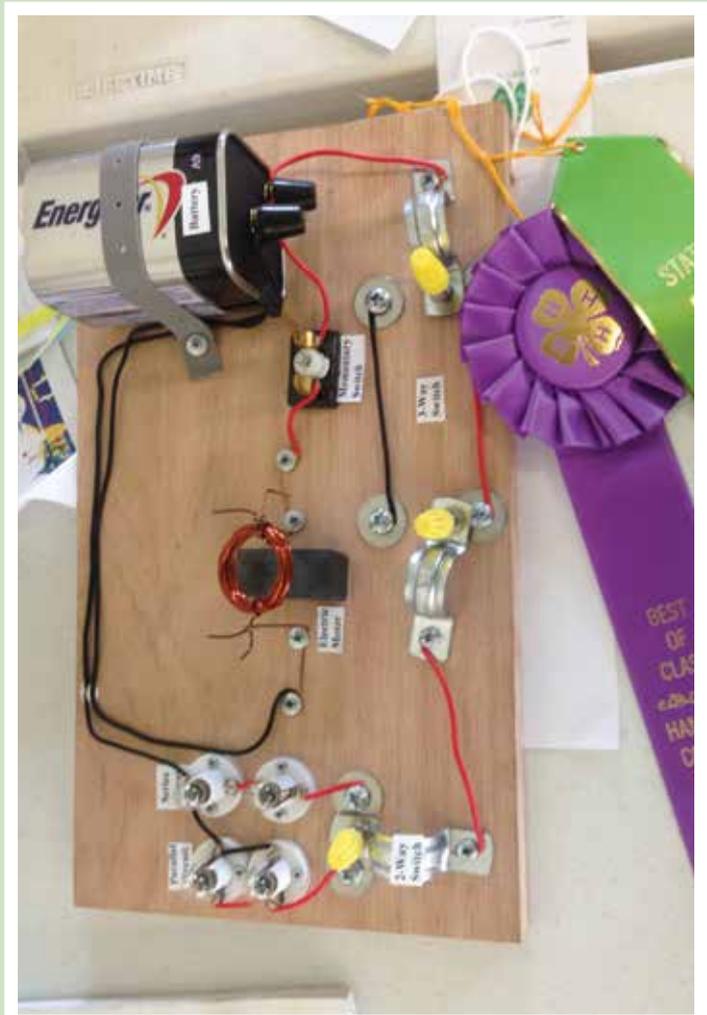
I used “home-made” switches constructed from plumbing conduit holders, wire nuts and bolts; so that it is easier to see the routing of electricity (rather than regular household switches).

The series circuit and the parallel circuits each have 2 light bulbs. The erect of series versus parallel can be seen when the switch is moved from one to the other. The parallel circuit produces brighter light because the voltage is 6 volts across each bulb; whereas, in series, the voltage is split so that each bulb only gets 3 volts.

The 3-way circuit has two 3-way switches. Each switch can turn on, or off, the lights (in the series/parallel set-up). This is common in homes for stairways, or even opposite sides of a large room. It requires an extra wire between the two 3-way switches to make it work.

The electric motor requires a magnet to run. It is made of copper-wire coil. When the momentary switch is closed, and the motor is turned (started), the motor will run. This is because the coil creates a magnetic field which is attracted, and repelled, by the magnet underneath. It will continue to turn because of the “making” and “breaking” of the circuit which makes the magnetic field “come & go”, and will continue to turn, until the circuit is broken (by opening the switch).

By Jacob Lionberger





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MAP LOCATION CONTEST

Every month we are printing four members' map location numbers in the newsletter. If you find your map location number call the WIEC office by the 25th of the following month, tell us where it is and we will give you a \$10.00 bill credit. Keep on reading the WIEC News.

**Energy Efficiency
Tip of the Month**



Looking for an easy efficiency upgrade? Additional insulation can make a difference! The Department of Energy estimates you can reduce heating and cooling needs up to 30 percent by **(5516-7)** properly insulating and weatherizing your home.

Source: energy.gov

Welcome New Members

- Marcos E. & Diane M. Chavez, Nauvoo
- Daniel Corrigan & Amanda Kerker, West Point
- David Alan Crow, Perry MO
- William M. Daniels, Martinez, GA
- Brett & Ashley Housewright, Carthage
- Lewis W. Hunter, Keokuk IA
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- Natalie Runnels, Grand Bay AL
- Rydell L Schott, Carthage
- Austin A Tiffany, Warsaw
- Kelli Wilson, Carthage



**WIEC will be closed
on September 7
in observance
of Labor Day.**

LED Lifetime Characteristics

Compare and contrast the lifespan and power consumption for the available light bulb options.

*Source: energy.gov

	 Incandescent	 LED	 CFL	 Halogen
Lifespan (hours)	750-2,000	35,000-50,000	8,000-10,000	3,000-4,000
Power Consumption	100 W 75 W 60 W 40 W	16-20 W 9-13 W 12 W 8-9 W	23-26 W 18-20 W 13-15 W 10-11 W	70-72 W 53 W 43 W 28-29 W

You could be a winner!

Every other year, the Association of Illinois Electric Cooperatives (AIEC) conducts a statewide member survey project on our behalf. You may be randomly selected to participate in the project. People who complete and submit the survey questionnaire will be entered in a drawing to win one of five-\$100 bill credits.

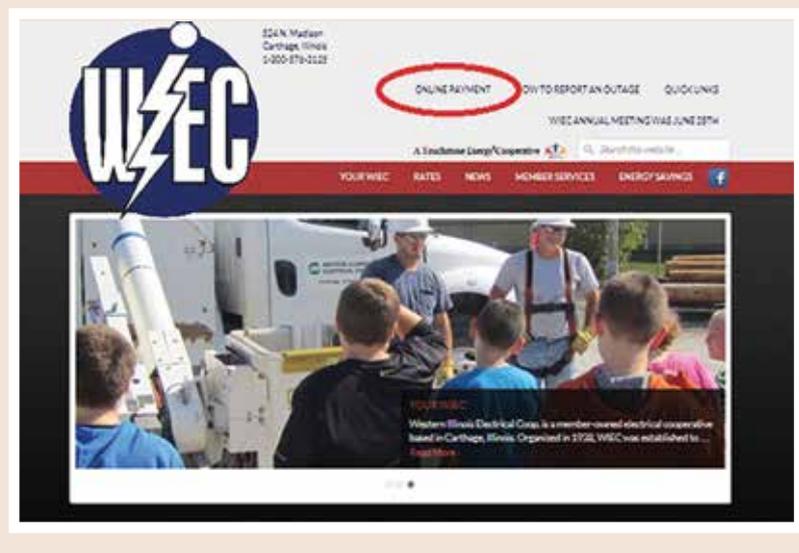
The AIEC and the vendor used to conduct the survey do not sell or share your private information. They provide us with the blind results, and we evaluate the information that is gathered to improve how we serve you. The more completed surveys we receive, the more accurate the information we receive will be. So please help us and yourself by participating. **(6615-41)** We anticipate that survey questionnaires will be distributed in September and October.

Please contact the WIEC office if you have any questions.

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www.wiec.net



Shield your home from energy loss with adequate insulation

By Anne Prince

Walls. Floors. Ceilings. Attic. These are some of the prime areas of a home that need insulation in order for you to maximize energy efficiency. According to the Department of Energy (DOE), adding insulation to your home is a sound investment that is likely to quickly pay for itself in reduced utility bills. In fact, DOE estimates that you can reduce your heating and cooling needs up to 30 percent by properly insulating and weatherizing your home.

If your home is more than 20 years old (5817-33) and was not specifically constructed for energy efficiency, additional insulation can likely reduce your energy bills and increase the comfort level of your home. The actual amount of savings for each home depends upon several factors—the current level of insulation, your climate, efficiency of your heating/cooling system and your utility rates. On average, older homes have less insulation than homes built today, but even adding insulation to a newer home can pay for itself within a few years.

So, where do you start?

You first need to determine how much insulation you already have in your home and where it is located. There are professions who can conduct energy audits for you. Or for those with the DIY spirit, you can conduct an insulation audit yourself. Here is what you will be looking for:

- Where your home is, isn't, and/or should be insulated
- The type of insulation in your home
- The R-value and the thickness or depth (inches) of the insulation

A prime area that is chronically under-insulated is the attic. Whether you live in a cool or warm climate, attic insulation is essential to help keep warm air inside in the winter and prevent hot attic air from heating your living spaces in the summer. If you



have R-19 or less insulation in your attic, consider bringing it up to R-38 in moderate climates and R-49 in cold climates. For flooring in cold climates, if you have R-11 (6720-5-1) or less insulation, consider bringing it up to R-25.

How does insulation work?

Heat flows naturally from a warmer space to a cooler space. During winter months, this means heat moves directly from heated living spaces to adjacent unheated attics, garages, basements and even outdoors. It can also travel indirectly through interior ceilings, walls and floors—wherever there is a difference in temperature. During summer months, the opposite happens—heat flows from the exterior to the interior of a home. Proper installation of insulation creates resistance to heat flow. Heat flow resistance is measured or rated in terms of its R-value—the higher the R-value, the greater the insulation's effectiveness. The more heat flow resistance your insulation provides, the lower your heating and cooling costs will be.

Save green by going green

Today, you have choices when it comes to selecting insulation for the home, including an environmentally-friendly option made of recycled materials, such as scrap blue jeans. It looks similar to chopped up blue jeans and is treated for fire safety. With an insulating R-value similar to fiberglass insulation, this blue-jean insulation is a great option.

Get started and get saving

While an older home will never be as efficient as a new home, an insulation upgrade will make a noticeable difference in your energy use and wallet. A well-insulated home is one of the most cost-effective means of saving energy and decreasing heating and cooling bills.

Anne Prince writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.