



## Winner of the Best Electrical Project 2018 4-H Fair

By: Jacob Lionberger

This year I am exhibiting an electric motor, 3-way switch, solar power and series and parallel circuit. All but one of my switches is homemade. The one switch that is not homemade is a momentary switch. The momentary switch only works when you push the switch down. When you let off the switch, it turns off. A 3-way switch is nice for turning a light off from two places. Do you have a light switch at the top and bottom of your stairs? If you do, this would be an example of a 3-way switch.



I have a homemade electric motor. I got some copper wire and coiled it up into a circle, then I wrapped the copper wire around the coil on both sides. Then I got some sand paper and sanded off the outer coating. I had a stand for it and put a magnet under it. All motors need a magnet to work.

Solar power, I have a 6v solar panel on my board. The solar panel puts out 6v. Normally you would need a charge

control, but since the panel is very small and the battery is the same volts as the output of the panel, I do not need a charge control. This summer, I got a job working for precision energy. I used my knowledge of electricity to help me with this job. On the job, we install solar panels. Normally the panels put out 300w. I have helped install around 150 panels. I ever help install 48 panels at my house. I have built solar racks. I have hooked up solar optimizer. An optimizer is a solar edge product, and it allows you to see the solar output from every panel.

## Congrats, Jacob!



Congratulations to Jacob Lionberger of the LaHarpe 4-Leaf Clovers who won the 2018 Best Electricity Project at the Hancock Co. 4-H Fair. His 4-H projects also earned Best of Class in Electricity III, and he was named a State Fair Delegate.

WIEC sponsors (6720-31) the award to encourage youth to explore the power and possibilities of electricity. It is our hope to spur interest in the field or a career with an electric co-op as a lineman, engineer or other electrical-related jobs in the future.

### WIEC Board approves capital credit refund

Western Illinois Electrical Coop. will retire \$250,000 in capital credits this fall, Manager Todd Grotts has announced. Capital credits represent cooperative member-owners' equity in WIEC.

This refund was approved recently by the WIEC board of directors and will represent a portion of capital credits earned in 1983. (751-24) The board decides to retire capital credits when the cooperative is financially able to do so.

The value of a member's capital credit, or equity, reflects their portion of the margins made for that year. Prior to refunding the credits, WIEC uses member equity in place of commercial loans to help construct our physical system (wires, poles, transformers, etc.).



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#### OFFICE HOURS

8:00 a.m. - 4:30 p.m.

Monday - Friday

#### BUSINESS OFFICE

217-357-3125

#### TO REPORT AN OUTAGE

800-576-3125

#### BOARD OF DIRECTORS

- **Kent Flesner** —  
President, **West Point**
- **Mark Burling** —  
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#### STAFF

- **Todd Grotts** — Manager
- **Ryan Biery** — Manager  
of Operations
- **Becky Dickinson** — Office  
Manager

#### 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.

## Busting the myths about "smart meters"

By Tom Tate

By now, most Americans have likely heard of the "smart grid." This phrase is used to describe the computerization of America's electrical infrastructure. The purpose of this computerization is to improve the reliability, efficiency, resiliency and security of the electric grid.

A key component of the smart grid is an advanced metering infrastructure, or AMI in the utility world. AMI systems utilize digital meters as well as computer technology to measure electric use at homes and businesses more precisely than was possible with analog meters. The digital meters communicate via radio or the existing power lines and have been loosely termed as "smart meters." AMI benefits electric co-op members with greater accuracy in billing, faster outage restoration, operational savings versus manual meter reading and detailed data that you and your co-op can use to manage electric use much more accurately.

Unfortunately, a number of myths have developed over the years concerning smart meters. These myths can be classified into three categories: privacy concerns, security and health effects. Let's look at each.

Western Illinois Electrical Coop. takes great pains to keep your information private – and that information includes the details of your electric use. The only people who see that data are co-op employees and you. Your co-op will not release this info to anyone else without your permission. The myths are that the data collected can tell when you are home or away and exactly what you are doing when you are there and that this data is being given to the government. Naturally, the data will show when you are home because for most families, energy consumption is higher then. But having said that, the current smart meter cannot identify what activities are taking

place down to the specific appliance in use. This myth is simply unfounded.

What about the myth that these meters actually make the electric grid less secure by providing an avenue for hackers to break into systems through the smart meter and wreak havoc? While hackers continually attempt to break into electric systems, their focus is at higher levels in the operation. Hacking a meter is unlikely for a variety of reasons. Hackers like to work remotely via the internet, and smart meters don't offer that option. Radio-based smart meters require the hacker to be nearby to catch the weak communication signal, break the proprietary communication protocol and to be there for extended periods of time to collect the short burst of data sent. Therefore, smart meters are an unlikely and unprofitable target for hackers.

Finally there are the myths surrounding smart meters and ill effects on health. These concerns state that having the radio-based smart meter is the equivalent to having a cell tower attached to the side of your home. Again, this is unfounded. Let's look at why. Number one is that they communicate intermittently for as few as five minutes a day. These devices are regulated by the Federal Communications Commission, and their output is well below the levels this federal agency sets. As one doctor observed, the radio waves emitted are more like those of a cordless phone or wireless router. Radio waves emitted by smart meters are much weaker and less frequent than other sources we use daily.



<http://www.facebook.com/westernillinoiselectricalcoop>

# Warning: Signs on utility poles can cause harm

In the summer, we often see utility poles littered with fliers for garage sales, signs looking for lost pets, or a community event that's coming up. While it may seem like a harmless act, with no malice intended, these little pieces of paper can cause big harm for utility workers and are illegal in many areas.

Utility workers are tasked with climbing those same utility poles to work around power lines that carry 7,200 or more volts of electricity. Foreign objects such as staples or nails embedded in the pole can lead to the utility worker snagging (5516-19) or getting a hole in their gloves. Those gloves are meant to insulate workers from high voltage and protect them from being electrocuted.

Hunting stands and basketball hoops are other items that have been found attached to utility poles. It is extremely dangerous for utility workers, yourself and anyone who uses these items. Satellite dishes are never to be installed onto a utility pole.

There's also a public safety risk that comes with posting signs and other items on utility poles. Nails, staples and other materials put into wooden



utility poles can cause poles to deteriorate more quickly. This can reduce their structural integrity and stability, increasing the risk for the pole to fall over when struck by a vehicle.

Fallen poles mean power outages, and electric utilities must spend valuable resources on repairing or replacing damaged utility poles. Downed lines also create dangers for pedestrians and motorists. If you see a downed power line, stay away and call 911.

Keep yourself and those in your community safe by not posting or hanging anything on utility poles. Find other (6616-5) alternatives to post in your community, such as yard stakes or online community groups.

For more information on staying safe around power lines, utility poles and electricity, visit [SafeElectricity.org](http://SafeElectricity.org).

★ HAPPY ★  
**Labor**  
DAY

**WIEC will be closed on September 3 in observance of Labor Day. In case of power emergencies, please call 1-800-576-3125.**

# Lighting Labels and Lingo

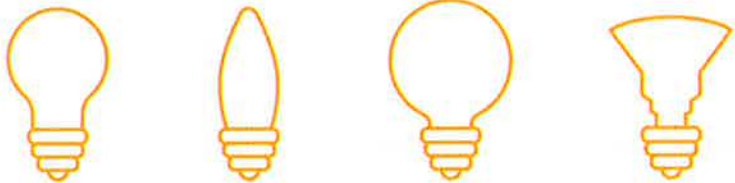
These days, consumers have endless options when it comes to purchasing light bulbs, but the labels can be confusing! Use the information below as a helpful guide for browsing bulbs.

Lighting Facts	
Per Bulb	
<b>Brightness</b>	655 lumens
<b>Estimated Yearly Energy Cost</b>	\$1.08
Based on 3 hrs/day 11c/kWh Cost depends on rates and use	
<b>Life</b>	22.8 years
Based on 3 hrs/day	
<b>Light Appearance</b>	
<b>Energy Used</b>	9 watts

Source: U.S. Department of Energy

## Read the Label

Under the Energy Labeling Rule, all light bulb manufacturers are required to give consumers key, easy-to-understand information on bulb efficiency. Take advantage of the Lighting Facts label, which gives you the information you need to buy the most energy-efficient bulb to meet your lighting needs. The label includes information on the bulb's **brightness**, **energy cost**, **life**, **light appearance** and **energy used** (wattage).



## Save Energy

Bulbs are available in **many shapes and sizes** to fit your home's needs. Choosing more efficient bulbs can help reduce energy consumption and save you money!

- LEDs use 25%-30% of the energy and last eight to 25 times longer than halogen incandescent bulbs.
- Purchase ENERGY STAR-rated bulbs to maximize energy efficiency.

## Buy Lumens, not Watts

Lumens measure the amount of light produced by the bulb. Watts measure energy consumption.

*Tip: To replace a 100-watt incandescent bulb, look for a bulb that produces about 1,600 lumens.*



Incandescent  
100 watt  
1,600 lumens



LED  
14 - 20 watt  
1,600 lumens

## Welcome New Members

Timothy Campbell, Abingdon,  
Clayton Hulen, Alpharetta, GA  
J.R. McCulley, Burlington  
Ten Acre Treehouse, Nauvoo  
Tina Tully, Niota  
David W. & Susan Wilson, Nauvoo

## Energy Efficiency Tip of the Month

Turn off kitchen, bath and other exhaust fans within 20 minutes after you're done cooking or bathing. When replacing exhaust fans, consider installing high-efficiency, low-noise models.

Source: [energy.gov](http://energy.gov)

