



STORY BEHIND THE SWITCH



Story Behind the Switch

At Mountain View Electric Association, safety comes first! To increase electrical safety awareness for our mini members, MVEA offers *Story Behind the Switch* - an interactive electricity demonstration available for free to elementary schools within our service territory.

Our demonstration teaches students about electricity and safety with hands-on activities including a Van de Graaff generator, plasma ball, and more. The 45-60 minute program covers:

- Diverse energy resources
- Energy efficiency
- The path of electricity from the power plant to the home
- Electric cooperative career paths
- Conductors vs. insulators

Want more information? See the reverse side for a full lesson plan. Interested in scheduling a demonstration? Contact Erica Meyer at (719) 494-2654 or erica.m@mvea.coop.

Elementary-Aged Students

45-60 minutes

Free

GRADES

LENGTH

COST





STORY BEHIND THE SWITCH



Lesson Plan

Motivation

Welcome, background of *Story Behind the Switch*; Three Properties of Electricity quiz:

1. Electricity is lazy! It always takes the shortest, easiest path.
2. Electricity always wants to go to the ground.
3. Electricity travels on the outside of the wire.

Information

- Difference between natural and man-made electricity (lightning, the human body, and static)
- Different ways of making electricity (wind, solar, hydro, natural gas, nuclear, and coal) and the importance of varied ways of generating electricity to meet the demand
- Each generation method has advantages and disadvantages - discussion of each
- Insulators vs. conductors
- Value of electricity
- Be responsible energy consumers, not wasteful
- Discussion of renewable vs nonrenewable energy sources

Summary

We trace the path of electricity from the power source to the home, school, or business.

Outdoor safety discussion:

- Dangers of flying kites and climbing trees near power lines
- Using farm equipment, ladders, or tent poles near power lines
- Digging near underground power lines
- What to do if there's a power line on the ground
- What to do if you are in a car that runs into a utility pole
- How to exit a vehicle if an emergency situation occurs (hop 33 feet away from the car with both feet together)

Lineman and safety equipment

What linemen wear and why they are the only people who can handle wires (rubber sleeves, gloves, safety glasses, and a hardhat).

Inside safety discussion

- Water and electricity don't mix (bathrooms; kitchens)
- Don't pull cords, insert objects into outlets, or overload outlets

Practice and application, demonstrations and kinesthetic learning

- Efficiency and electrical meter (shows the amount of electricity different types of light bulbs use)
- Van de Graaff generator (static electricity; electricity wants to go to the ground)
- Plasma ball (insulators; electricity wants to go to the ground; electromagnetic fields)
- Energy stick (illustrates open and closed circuits)

