

YOUR LOCAL ELECTRIC COOPERATIVE  
AND TRI-STATE GENERATION AND  
TRANSMISSION ASSOCIATION INC. PRESENT  
**THE STORY BEHIND THE  
SWITCH**

STARRING THE ELECTRIC SUPER SAVERS  
**TRI-STATE TRACY & ELECTRIC ERIC**

Tri-State Generation and Transmission Association's traveling demonstration program about electricity has been going strong since 1983.

"The Story Behind the Switch" is a 60-minute safety program presented by a Tri-State demonstrator, in partnership with your local electric co-op, explaining how electricity is made and how it gets from the power plant to your home.

About 20 minutes of the program is dedicated to hands-on demonstrations, including a Van de Graaf generator, plasma ball and more. Students can also closely examine coal, samples of power lines and safety clothing worn by linemen.

The program targets fourth and fifth grade students throughout Tri-State's service territory. There is no charge for the program for Tri-State member systems.

For more information contact your local electric cooperative or Michelle Pastor, communications coordinator for Tri-State G&T, at 303-254-3187 or [mpastor@tristategt.org](mailto:mpastor@tristategt.org).



The best ideas  
are electric!

Be safe around  
electricity!



**TRI-STATE**  
Generation and Transmission  
Association, Inc.

A Touchstone Energy<sup>®</sup> Cooperative 

# THE STORY BEHIND THE SWITCH

## Electrical Generation, Transmission and SAFETY Lesson Plan

**Motivation:** Greetings! Background of SBTS, 3 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 having many different ways of generating electricity to meet the demand. All ways have advantages and disadvantages.
- Coal facts (coal piece)
- The mining process (machinery, reclamation process)
- How we make electricity in a coal-based power plant – generator (pulverized coal)
- Electrical transmission (high voltage wires, substations, distribution wires, transformers)  
(wire samples 345KV, 500KV, 7.2KV 240 volt)
- Insulators vs. conductors
- Electricity has great value! We must be responsible energy consumers, not wasteful.

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

(42" flat screen HDTV PowerPoint presentation along with two 7-foot graphic banners to illustrate the information)

**SAFETY DISCUSSION!!! Outside Safety**

- Dangers of flying kites, climbing trees near power lines
- Using farm equipment, ladders, 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's run into a utility pole
- How to exit a vehicle if an emergency situation occurs (hop with both feet together, 33 ft)

**Lineman and safety equipment** they wear, why they are the only people who can handle wires (rubber sleeves, gloves, safety glasses, hardhat)

**SAFETY DISCUSSION!!! Inside Safety**

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

**Practice and Application:** Demonstrations and hands-on with students

- Electrical meter (shows the amount of electricity different types of light bulbs use) EFFICIENCY
- Van de Graaf Generator (static electricity, electricity wants to go to ground)
- Plasma Ball (insulators, electricity wants to go to ground, electromagnetic fields)

**Teacher Packet:** Each teacher receives a Teacher Packet including a full-color workbook containing lesson plans, reproducible student activities, and fascinating facts about electricity; pencils and stickers for each student along with Safety Checklists, Energy Efficiency Checklists and a presentation evaluation form.

**Schools provide:** 8-foot table if possible, access to a power outlet and projector and screen (if possible)

