

Post-Field Trip Activity

Grades 7-8



The Smart Energy Hub

The following are suggested follow-up activities to help students reflect on their field trip experience.

After the Trip

Ask students their overall impressions of the field trip. **What did you enjoy? What didn't you enjoy? What surprised you? What do you want to learn more about?**

Have them share their general observations and reactions.

You may want to have the class compose and send thank-you notes to the field trip site host and/or other persons that supported the field trip. Mention a favorite activity or information learned during the field trip.

Demonstrate Knowledge

During the trip, students may have been amazed to learn that ComEd delivers electricity to millions of customers in northern Illinois through 105,000 miles of power lines. It is quite a delivery system. As a group, have students recall what they learned about how electricity is delivered from a power plant to a home, school, or business. Encourage students to think about the delivery system like a giant circuit.

1. The power plant generates the electricity.
2. The electricity flows through power lines attached to transmission towers.
3. The strength of the electricity is likely decreased using a transformer at a substation, since the power coming from the power plant is around 750,000 volts.
4. Power lines on utility poles then carry the lower voltage electricity to a home with a meter to measure the electricity used.

Next, allow students time to complete Part 1 of the ComEd Delivers activity sheet. Students will draw a diagram of how electricity is delivered from a power plant to a home.

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After students have completed Part 1, have students think-pair-share how the smart grid and smart meters are changing how ComEd workers do their jobs and how electricity is delivered. If students need to review information about the smart grid, watch The Power of the Smart Grid video at:

<https://www.comed.com/technology/smart-meter-smart-grid/Pages/smart-grid.aspx>

How the smart grid and smart meters are changing jobs and the delivery of electricity:

- The smart grid and smart meter can alert overhead electricians to potential problems in the grid and let them know immediately when someone's power is out.
- The smart grid has the ability to automatically reroute electricity to reduce the amount of time someone is without power.
- ComEd employees will have to learn more about smart technologies and how to fix smart switches and smart meters.
- Homes can generate their own electricity.

Then have students write their answer on Part 2 of the ComEd Delivers activity sheet.

Name _____

Date _____



ComEd Delivers

Part 1

Sketch how electricity is delivered from a power plant to a home using the following items in your diagram. Label each item.

power plant

power lines

transmission tower

utility poles

substation (transformer)

home with smart meter

Part 2

By the end of 2018, ComEd plans to install millions of smart meters in homes and business across northern Illinois. Describe how the smart grid and smart meters will improve the delivery of electricity.