



Senior Level Lesson 4: The Dangers of Electricity - Staying Safe

Curricular Links

SESE › Energy and Forces › Magnetism and Electricity

SPHE › Myself › Safety and Protection

Objectives

1. Become aware of and understand the dangers of electricity
2. Understand the terms electric shock and electrocution
3. Identify ways of being safe around electricity, as well as situations which can be unsafe
4. Identify how to stay safe with electricity in the local environment

Resources

Pencils, A4 paper, clipboard with paper and pen for group work. Stay Safe, Stay Clear safety tips poster PDF available at www.esbnetworks.ie/education. Electricity danger signs available at www.esbnetworks.ie/education.

Introduction

- Ask the pupils to identify the dangers of electricity to humans i.e. burns, electric shock and electrocution. Ask the pupils to recall from lesson 3 how humans can act as electrical conductors, allowing the flow of electric current through their bodies. Discuss what is meant by 'electric shock' and 'electrocution'.

Electric Shock - Just like the conductors investigated in lesson 3, when electricity enters a person's body, they become part of the electrical circuit. The electrical current flowing through the person is what gives an electric shock.

Electrocution - a fatal electric shock.

- Show the pupils the Stay Safe, Stay Clear safety tips poster and recap on the six tips outlined in lesson 2.
- Then ask the pupils in pairs or small groups, to write down examples of unsafe situations around electricity, noting the risk of burns, electric shock or electrocution. For example:
 - » "My friends and I were playing football and the ball went over the fence into an electricity station. We really wanted our ball back." "Here there is a danger of a serious electric shock or electrocution."
 - » "I was in the park with my friends and we saw an overhead wire lying on the ground. There were lots of younger children in the park. We didn't know what to do." "Here there is a serious danger of electrocution."
- Ask each group to read out their example and as a class identify the appropriate safe behaviour for dealing with each situation e.g. "I told my mum immediately and she phoned the ESB Networks Emergency number."

Development

- Show the pupils the electricity danger sign and discuss what the sign signifies. Then ask the pupils to think about where they might find signs of electricity outdoors e.g. electricity danger signs, electricity poles, overhead wires, mini pillars, pylons, electricity stations.

***Remember to always Stay Safe, Stay Clear with electricity!**



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Electricity Walk

- Explain that you are going on an 'electricity walk' and reinforce the importance of staying safe around electricity.
- Ask each pupil/small groups to bring a clipboard, paper and pen. Head on a walk in your locality, asking the pupils to identify signs of electricity.
- As different signs of electricity are identified, ask the pupils to think about some of the following details and to make notes on their clipboards.
 - » Identify the function of the electrical feature e.g. mini pillars – located in towns and villages to enable electricity to be brought into buildings.
 - » Materials used - referring to lesson 3 'Electrical conductors and insulators'
 - » Possible dangers and unsafe situations e.g. the danger of sitting on a minipillar
 - » How electrical safety is considered – location, materials used, warning signs
 - » Draw a sketch of the feature

Back in the classroom

- Discuss observations and notes from the walk.
- Ask the pupils as a class to list the places in the local area they need to Stay Safe, Stay Clear with electricity e.g. places which have electricity danger signs, staying clear of a local pylon, noting where there are trees near overhead wires. Discuss as a class and create a school poster, drawing a map of the area around the school and highlighting places where people need to stay safe with electricity. Also include a list of 'How we will stay safe with electricity in (name of local area)'.

Conclusion

- Give each pupil an A4 page, asking them to pick one of the Stay Safe, Stay Clear safety tips and to create a poster to give other children the message about how to stay safe around electricity. Encourage them to give one clear message, using picture/s to reinforce it.
- These posters can be entered into the Stay Safe, Stay Clear with ESB Networks competition. Winning entries will receive a prize for their school and will be featured in a calendar that will be sent to Primary Schools Nationwide.

Extension Activity

- Ask pupils to investigate some different ways in which electricity is produced around the world.
- For more information on the competition and for lots more resources about electricity go to www.esbnetworks.ie/education.



Junior Level Lesson 4: The Dangers of Electricity - Staying Safe

Stay Safe, Stay Clear with ESB Networks – Safety Tips

Stay away from places marked with a danger sign

The danger sign is there to warn you that something is harmful (and potentially fatal) if you aren't careful. You will see danger signs, for example, on electricity poles, pylons, electricity stations and mini pillars (on footpaths).

Never climb trees near overhead wires

Stay away from all overhead wires and never climb trees near them. Even if you don't touch the overhead wires, electricity could 'jump' through the air and electrocute you.

Never fly kites, helicopters or drones near overhead wires

Never fly kites near overhead wires. If your kite goes near the overhead wires - let it go! If it gets stuck, leave it there and call ESB Networks on 1850 372 999 or the Gardai. If the kite string is hanging down, don't touch it, as electricity can travel along the string.

Never fish near overhead wires

When you are fishing, keep clear of overhead wires. If the fishing rod or line touches or comes close to the wire, electricity could flow through the rod and injure or kill you. Always take your rod apart when moving from one location to another.

Never approach a fallen wire, tell an adult

Never ever touch or go near fallen wires. Tell an adult and call ESB Networks on 1850 372 999.

Never climb a pylon

Climbing electricity pylons is very dangerous. Even if you don't touch the overhead wires, electricity could 'jump' through the air and electrocute you.