



Electrical safety

Curriculum links:

- Science Energy and forces
- Geography Human environments
- SPHE Myself and the wider world

Lesson objectives:

To learn about the potential dangers of electricity in our environment and the precautions necessary for safety.

Teacher guidelines

Some children in Irish classrooms may be affected by electrical accidents, and as such, this may be a sensitive subject for some children. It is suggested that the teacher ensures that students are familiar with the vocabulary and the concepts introduced in the previous module before starting this lesson.

Keywords and concepts introduced in previous modules:

warning signs electric fences red light overhead electricity wires

Electricity has many uses in the home and on the farm. There are warning signs to look out for that give danger warnings for the presence of electricity, such as overhead electricity wires

Keywords for this lesson:

pylons poles volts sub-stations wires flow minipillars

Stay safe around electricity, pylons and sub-stations

Do not climb or play near **pylons** or electricity **poles**. Electricity is measured in **volts**. The poles used to transport electricity carry thousands of volts and you risk getting a fatal shock by going near them. Even if you do not touch the power lines directly, the electricity could jump through the air and electrocute you. Electricity **sub-stations** contain dangerous equipment and should never be entered.

Watch out for overhead electricity wires

In stormy weather, electrical **wires** may fall in the farmyard or in the fields. Fallen wires can be very dangerous, do not touch or go near them. Alert an adult or call ESB Networks on the emergency line 1850-372-999 immediately. Touching or coming close to electric wires can kill. Farmers and builders take care when driving high machinery like tractors with loaders or tipping trailers or diggers near overhead electricity wires.



Do not fly kites or toy planes under overhead electricity wires. Do not attempt to free any objects which have become stuck on power lines or any other electrical equipment. If you go fishing, check that there are no overhead electricity wires nearby before you begin, as a rod or fishing line that comes into contact with a power line could kill you. Never climb a tree that is near an overhead electricity wires or you could be electrocuted.

Electricity and water

It is very important to keep electrical appliances and tools away from water. Never touch any electrical appliances or tools with wet hands or while standing in water. Electricity flows easily through water and can **flow** from an appliance through your wet hands and into your body, which can be very dangerous and can cause serious injury. Never bring electrical appliances into the bathroom. Some electrical appliances such as electric kettles and washing machines are specially made for using water, but you should always take care when using electrical products.

Stay safe, Stay clear around electricity distribution boxes (minipillars)

In towns and villages and housing estates, electricity is often brought into the houses using underground cables. These cables are connected to the main power supply by metal boxes that are often positioned on the footpath or beside garden walls. These are called **minipillars** and have a 'Danger' warning sign on the door. Never interfere with these boxes as you could get seriously injured or killed.



Suggested activities:

- Photocopy the activity sheet, on page 51
- Examine how appliances have changed and evolved through the years
- Use a battery to make a bulb light up in science class
- Discuss what you should do if someone is injured by electricity
- Bend some water. Turn a tap on. Use a comb to create static energy and hold it near the water. Watch the water bend
- Watch Agri Aware's 'Once Upon a Farm' and discuss electrical dangers on a farm
- Log onto www.esbnetworks.ie/education to learn more about electrical safety and play Match3 online game
- For extension material, see Module 4
- Sign your class up to participate in the "Farm Safe Schools" interactive programme. For more information on how to register your class, visit: www.farmsafeschools.ie

Learning outcomes:

At the end of this lesson, students should be able to identify electrical warning signs. Know what electricity pylons and minipillars are and that they are dangerous.

Additional resources:

- www.agriaware.ie/farmsafety • www.agrikids.ie
- Check out Agri Aware's 'Once Upon a Farm' video on YouTube
- For safety posters showing electrical hazards, 6 safety tips, as well as activities, lesson plans, competitions, online Match3 game and electrical Safety videos, see www.esbnetworks.ie/education

Developed with:





Electrical safety

Name: _____

Date: _____

1 Read the description below and match it to the correct word

The type of measurement for electricity

Water

Farmers take care when driving machinery in case they hit off these

Sub-stations

These contain dangerous electrical equipment

Overhead electricity wires

Electricity can flow through this

Volts

2 List 5 ways to stay safe around electricity

1. _____
2. _____
3. _____
4. _____
5. _____

*To be used with teacher guidelines, page 22



Energy for generations

