



## Senior Lesson Plan 1 – Static Electricity

### Objectives

1. Learn key electrical terms and keywords
2. Understand the potential dangers of electricity in our environment
3. Observe the effects of static electricity on everyday things in the environment

### Introduction

#### How do you think electricity gets to your school?

Electricity is generated in a power station, usually using coal, peat, oil or more recently renewable energy like wind or solar. It then travels along wires and cables to reach homes and businesses across the country.

- **Volts** – electricity is measured in volts
- **Pylon** – is a tall structure, usually a steel tower, used to support an overhead power line when it is travelling a long distance and carries high voltage overhead wires.
- **Poles and overhead wires** – wooden poles are then used to bring the electricity wires to the towns and villages around the country.
- **Mini Pillars** – in towns and villages, electricity is often brought into the houses using underground cables. The cables are connected to the main power supply by metal boxes that are often on the footpath or beside garden walls. These are called 'Mini Pillars' and have a 'Danger' sign on the door. Never poke anything into these or sit on them.
- Electricity danger warning signs mean keep away from this area. Danger signs can be on electricity poles, mini pillars, and around pylons. Also electricity wires can be dangerous, do not touch or go near them.

### Electricity and Water, Beware!

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 give you an electric shock. Never bring electrical appliances into the bathroom. Some electrical appliances such as electrical kettles and washing machines are made especially for using water, but you should always be careful.

More safety tips at [www.esbnetworks.ie/education](http://www.esbnetworks.ie/education)

### Resources

Cereal, pencils and sheets of paper.

### Whole Class Activity

- Ask children to write down how electricity gets into their home using a simple diagram to show the journey it takes
- Download the additional activity sheets on [www.esbnetworks.ie/education](http://www.esbnetworks.ie/education)

### Group Activity

When people have a build up of static electricity, they frequently get a 'shock' when they touch something metal. This is because electricity wants to go into the ground, or earth.

#### Experiment:

- Wrap a piece of thread around a piece of cereal and attach to a piece of furniture so it hangs freely
- Charge the balloon by rubbing it vigorously on hair or a woollen jumper
- Bring the balloon near the cereal and see what happens
- Try to touch the cereal with the balloon and see what happens

Children should write up their experiment in their science copy including a diagram.

### Extension

Children write a paragraph explaining static electricity in their own words.

### Whole Class Activity

Ask one or two children to summarise the activities in their own words for the class ensuring to explain the results

### Useful websites

[www.esbnetworks.ie/education](http://www.esbnetworks.ie/education)