Lesson 2 - Current Electricity

Review with students about static electricity.

Ask:

What is static electricity?

How is static electricity produced?

What are some examples of static electricity in everyday life?

How can you reduce or control static electric charges?

Find an electrical device in your home. With the cord unplugged turn the device on. Ask:

Why did the device not come on when you turned it on?

What is needed in order to make the device work?

Where does electricity come from?

Introduce the term *Current Electricity*

Ask:

Why do you think it is called current electricity? Current electricity is the movement of electricity from one place to another. How does the electrical energy travel? A

current of electricity is created by a stream of moving electrons.

How is current electricity different from static electricity?
Static electricity is when the electrons

What does the word current mean?

build up on an object and they do not move about.
Current electricity is the movement of electrons from place to place.

Electrical Devices and Energy Transformations

Have them list electrical devices used in school, home and in the community.

Explain to them that in each device, electrical energy is transformed or changed into another type of energy.

This electrical energy is not used up or destroyed, but changed.

For example: Electrical energy is changed into the following types of energy.

Lamp – light energy (heat energy is also produced but is not the type of energy wanted)

Stove – heat energy

Fan – mechanical energy

Radio – Sound energy

Electrical energy can be changed into the following types of energy: light, sound, heat/cold and mechanical(movement).

Activities: Have them fill in the sheet on Current Electricity and Energy Transformations. Once completed both send a picture to me. Do only 6 of the Energy Transformation boxes. You can do all if you wish.

Here's a few examples:

Electrical Device	Energy Used	Output
Toaster	electrical energy	heat, mechanical
Fridge	electrical energy	cold

Date: _____ Name: _____

Current Electricity

1. Name of electrical device: _____
2. Draw a labelled diagram of the electrical device:

3. The electrical energy from this device is changed into what other forms(s) of energy? _____

4. Explain how to use this electrical device safely. _____

Portage & Main Press, 2000, Hands-On Science, Level 6, ISBN: 978-1-894110-60-0

Date: _____ Name: _____

Energy Transformations

Electrical Device	Energy Used (Input)	Energy Transformation (Output)
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	
	electrical energy	

Portage & Main Press, 2000, Hands-On Science, Level 6, ISBN: 978-1-894110-60-0

Lesson 3 – Electrical Safety

Have the students work on the booklet on Electricity Safety First.

Students can go to our website under other – subject links – Science – Electricity websites

They go to the site Switched on Kids – Electrical Safety and play the games.

Assignment:

They are to create an Electricity Safety Poster. A rubric is in the package so students know what they will be marked on.

Criteria:

A large title called- Electrical Safety

- Coloured pictures and words to show what they have learned about electrical safety.

- use rulers, pencils to draw first

- make sure everything is spelled correctly

Take a picture of the finished page with your name on it and email it to me.