



## ONE DAY WITHOUT ELECTRICITY

### Goal(s):

- To understand how many of our everyday activities use electricity.
- To identify ways to reduce electricity consumption.

### General description of the activity:

Energy figures into almost every human activity: it heats our homes, fuels our cars, ploughs our soil and powers our machinery. Harnessing the world's energy supply has brought standards of living to unimaginable heights. People are so accustomed to energy use that one can scarcely imagine surviving at a time before it existed.

The pupils list what they use electricity for in their everyday lives and reflect on what our forefathers did before electricity was discovered. They then try to live one day without using electricity and discuss what they experienced.

### Required materials:

- None but pictures of "old times" may help start the discussion.

### Required pupil skills:

Ability to grasp the concept of electricity

### How does this activity fit into the curriculum:

This activity is well suited for lessons in Science and Social studies.

### Safety issues:

None

### Individual steps of the activity:

1. Sensitize the pupils to the concept of electricity and electric appliances. How can you tell that an appliance needs

### Required time:

1 lesson



electricity to operate? How can you tell that an appliance is using electricity right this moment? How many electric appliances do the pupils use in their typical everyday lives? Let the pupils make a log i.e. list these appliances one by one from morning until bedtime.

2. Help the pupils appreciate the link between electricity consumption and environmental consequences such as global warming (assuming that a major share of the electricity is produced by fossil fuels and not renewables).
3. What did our forefathers who did not have electricity do? Make a large timeline showing approximately when certain electrical appliances were introduced.
4. As homework assignment the pupils have to try to live a day without using electricity.
5. Discuss whether it was possible to avoid using electricity. What was possible? What did the pupils do instead of what they normally do? Was it fun?
6. Discuss how to limit electricity consumption without limiting the daily activities. The idea is to show how unnecessary waste of electricity can be avoided. Let the pupils guess which appliances use the most electricity.

Homework assignment

1 lesson

### **Suggestions for combination with other AL activities:**

“Standby power in my home” – Investigation of the standby power consumption at home.

“Race of the pots” – How to heat a pot energy efficiently. Under what conditions does the pot heat its contents fastest? How much energy is consumed?

### **Variations:**

Testing knowledge online: Younger pupils can look at the ‘Happy House’ activity on: [http://www.ltscotland.org.uk/climatechange/frame\\_panel/full\\_screen.htm](http://www.ltscotland.org.uk/climatechange/frame_panel/full_screen.htm).

Drawing and writing: Encourage discussion and creative writing/drawing to show what future appliances may be like e.g. the ‘house robot’. How much electricity will be used then, less or more?

Introduction of a competitive element: Challenge! Can you save 500 Watt in a week? Get the pupils to plan how to do this and then use their ‘pester power’ to get their parents to help.

### **Available aids:**

Aid 1 – Alternatives to activities requiring electricity



### Alternatives to activities requiring electricity

What activities are influenced by the availability of cheap electricity? Think about how our forefathers lived without electrical devices 200 years ago.

Here are some examples of alternatives to electric appliances:

Light bulbs – candles

Videorecorder and movies – theatre

Electric heater – fire place

Air conditioners – open windows

Telephone – letter

Microwave oven – fire powered oven

Radio – live entertainment

Television – read books by day or candle light

Synthesizer – piano and organ

Computer – pen and paper

Internet – books and reality

Can you think of more examples?



## One day without electricity – Aid 1



### Search words:

<b>Energy end-use</b>	<b>General topic</b>	<b>Educational subject</b>	<b>Age level</b>
Transport	General sustainable development	<b>Science</b>	<b>6-8 years</b>
Space heating & cooling	Renewable energy	<b>Citizenship</b>	9-10 years
Hot & cold water	<b>Energy efficiency (saving)</b>	<b>Social studies</b>	11-12 years
<b>Lighting</b>	CO <sub>2</sub> wise transport		
<b>Electric appliances</b>			