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# Teacher notes and activities

This resource provides teachers in the early years with a versatile classroom resource that can be used on the Internet or printed out and presented as a booklet or worksheets. Linking the curriculum areas of English and Science, the resource provides simple factual information about using electricity safely. Photographs, illustrations and interactive activities stimulate interest and help to develop an awareness of electricity and electrical safety in the home.

The resource can be used in a number of ways. For example you could:

- ★ focus on the key ideas and elements with small groups or individuals
- ★ encourage children to complete activities on screen
- ★ print the resource and compile it as a book for shared reading with the whole class or a small group
- ★ print the resource and use it for directed reading with small groups or individuals
- ★ print individual chapters and use them to introduce discussion of the key ideas
- ★ print individual pages for use as worksheets.

A variety of activities to support and extend the learner have been included within the student resource and a number of other ideas for teaching about electricity are included in these teacher notes. You could adapt these and include further activities to accommodate the needs and interests of individual students. The local context should also be considered to enhance the relevance of the learning experiences.

***Teachers need to reinforce the importance of electrical safety and closely supervise any real-world experiences.***

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Learning from the resource links to the following Levels 1 to 3 outcome statements from the Energy and Change strand of the Science syllabus:

- 1.2** Students identify the effects of energy in their daily lives.
- 2.2** Students identify and describe forms of energy in their community (including heat and energy of movement).
- 3.2** Students identify forms of energy (including electrical and sound energy) and describe the effects and characteristics of those different forms.
- 1.3** Students make links between the way they use energy and the immediate source of that energy.
- 2.3** Students illustrate the ways that energy is used in their community.

The following steps guide you through one way the resource could be used to supplement a whole-class or small-group study of safe use of electricity.

## **Introduce the topic electricity**

Before students begin to explore the resource, introduce the topic of electricity using some of the following ideas:

- ★ Conduct a walk around the local environment looking for evidence of electricity use. Students could photograph, draw or make lists of things they see. Sort and classify the information into groups according to how the electricity is used (for lighting, cooling, heating, cleaning or entertaining). A class book could be written to provide a record of the experience.
- ★ Students could complete a similar activity as homework by observing electricity use in their home environment.
- ★ Invite an electrician to explain how electricity is used and what safety precautions are needed. Before the visit, brainstorm to establish students' prior knowledge and make lists of questions to ask the visitor.
- ★ Observe electrical work being done in or around the school. Consider the safety precautions the workers are taking.
- ★ Bring an electrical appliance into the classroom and have students observe that it needs to be plugged in and switched on to make it

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work. Locate other appliances in the classroom that need electricity to make them work.

- ★ During cooking activities, consider the different ways electricity is used to prepare food. Brainstorm appliances used during cooking that need electricity to make them work.
- ★ Establish an Electricity Centre in the classroom. This could include appliances, books, posters and leaflets related to electricity use and safety. Students could add pictures to a chart showing different ways electricity is used.

## Introduce the resource

When you have introduced the topic of electricity, focus students' attention on the resource using the following steps.

### Look at the cover

- ★ Have students seated where they can all see the computer screen or a copy of the printed resource. Look at the cover.
- ★ Ask:
  - What can you see in the illustration?*
  - What do you think you will be finding out about?*
  - What makes you think that?*
  - Do you think this resource will tell a made-up story or contain factual information?*
  - What makes you think this?*

### Look at the contents page

- ★ Read the information on the contents page:
  - What information is on this page?*
  - Why do you think we need a contents page?*
  - Which chapters do you think sound the most interesting? Why?*
  - What will you learn about in this resource?*
  - Do you think it is a fiction or non-fiction resource? Why?*

### Talk about the resource

- ★ Look through the resource and talk about the information that is provided in the illustrations. Read some of the captions, labels and speech bubbles.
  - How is information presented in this resource?*
  - How will the characters help us learn about using electricity safely?*

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## Read the resource

- ★ Read ***Living safely with electricity*** to the children. Point out features as you read. Pause to allow children to comment and question throughout.
- ★ Model using the glossary as you read to show the children how this can help the reader find out more information.
- ★ Talk about the resource:

*What did you think about **Living safely with electricity**?*

*Do you think this is important information?*

*Why do you think this?*

*What did you already know about using electricity safely?*

*What did you find out that was new?*

*Who else should know this information about using electricity safely?*

*What else would you like to learn about using electricity safely?*

## Work through each chapter

### Chapter 1 We all use electricity

- ★ Brainstorm and locate all the ways electricity is used in the school.
- ★ Classify electrical appliances in the school according to their use – heating, cleaning, cooling, lighting, cooking, entertaining.
- ★ Have the students collect information about electricity use at home. Classify the appliances in the home as above.
- ★ Talk about where electricity comes from:
  - How does electricity come into the school?*
  - How does electricity come into your home?*
  - How do we get the electricity to make appliances work?*
- ★ Emphasise the importance of:
  - switching appliances on to make them work
  - switching appliances off at the wall when they are not being used.
- ★ Have students complete the activities in Chapter 1.

### Chapter 2 Water and electricity

- ★ Brainstorm and locate places where water is used in the school.
- ★ Find out what electricity is used there.
- ★ Investigate if electricity is used safely in those situations.
- ★ Discuss how the situations could be made safer.
- ★ List and talk about appliances that are made especially for using with water.

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- ★ Have the students collect information about the use of electricity and water at home. An adult should supervise student observations at home.
  - ★ Talk about the importance of always switching powerpoints off at the wall.
  - ★ Have students complete the activities in Chapter 2.

### Chapter 3 **Electrical powerlines and wires**

- ★ Investigate how and where electricity comes into the school.
- ★ Locate the overhead powerlines and electrical wires.
- ★ Ask:
  - Are there wires and powerlines where children play?*
  - How can we make sure students in the playground are safe?*
  - What should we do in an emergency?*
- ★ Students could repeat the investigation at home and for play areas near their home environment.
- ★ Have students complete the activities in Chapter 3.

### Chapter 4 **Cords, plugs and power points**

- ★ Observe cords, plugs, power points and switches that are in good condition and safe to use.
- ★ Role-play a safety inspection of the classroom, locating and examining the switches, cords, plugs and power points. Electricity should be switched off before any physical inspection is made.
- ★ Discuss the results of the safety inspection.
- ★ Extend the role-play to a safety inspection of other areas of the school.
- ★ Students could repeat this activity at home.
- ★ Have students complete the activities in Chapter 4.

***These activities should be closely supervised by adults.***

### Chapter 5 **Keeping everyone safe**

- ★ Talk about the rules for electrical safety.
- ★ Investigate what safety precautions are taken in the school.
  - Do we have a safety switch at school?*
  - What other safety precautions are taken?*
- ★ Complete the safety inventory at school and at home.
- ★ Discuss the results.
- ★ Action could be taken following the safety inventory. Students could raise awareness of electrical safety through activities such as making posters, talking to other classes or making displays for the library.