



Saving energy Lesson plan



Lesson title

Saving energy

Key stage

Key stage 1

Subjects

- ▶ Science
- ▶ Geography
- ▶ Citizenship
- ▶ Maths
- ▶ English

Lesson objectives

- ▶ to learn that everyday appliances use electricity; these include things that light up, heat up, produce sounds and move
- ▶ to learn that plug-in appliances are connected to the mains and that they must be used safely
- ▶ to learn that some devices use batteries which supply electricity; these can be handled safely
- ▶ to discuss the importance of saving energy to the environment
- ▶ to learn how choices affect us, other people and the environment
- ▶ to investigate and consider alternatives when making an informed choice

- ▶ to learn about the responsibility involved in making choices

Resources and preparation

- ▶ Print and copy enough worksheets for the class to survey and record information about objects that use electricity. You could design your own survey, or use the template provided at the end of this lesson plan.
- ▶ Ensure there is a selection of appropriate electrical and non-electrical objects in the room to complete the activities.
- ▶ Open or bookmark the Pod's key stage 1 page so that you can play the 'Save' game with the class: www.jointhepod.org/keystage1

Key words

- ▶ electricity
- ▶ mains electricity
- ▶ survey
- ▶ record

Eco-schools

Remember, to qualify for an Eco-Schools Award, you need to show that environmental issues have been covered in curriculum work. Curriculum links are included at the end of this lesson plan.

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Introduction

- ▶ Hand out the worksheets.
- ▶ Ask the children to search around the classroom and write a list of objects they can find or see. These should be objects that serve a useful purpose or can be used to perform a particular task, *for example lights, desks, pencils or a whiteboard.*

Activities

Activity 1

The children should sort the objects into groups – *those that use electricity eg lights, whiteboard, and those that do not use electricity e.g pencils, desks etc.*

Objects that DO use electricity	Objects that DO NOT use electricity
Lights	Pencils
Whiteboard	Desk
<i>etc</i>	<i>etc</i>

Discuss the safety issues around mains electricity. These include:

- ▶ Never poke anything into an electrical socket. You could get an electric shock.
- ▶ Never plug too many things into one plug socket. It could cause a fire.
- ▶ Never take plug-in electrical items into the bathroom. Water and electricity are very dangerous together.
- ▶ Never touch electrical items with wet hands. You could get an electric shock.
- ▶ Always ask a grown up to change light bulbs.
- ▶ Never stick anything inside a toaster. You could get an electric shock.
- ▶ Be careful when near hot things like cookers and irons. They can burn you.

Activity 2

As a class, discuss how the objects in the group use electricity. Do they use it to light up, heat up, produce sounds or move? Do they use it for a combination of these things?

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Activity 3

Divide the group of objects that use electricity into two sets:

- ▶ objects which use mains electricity
- ▶ objects which are powered by batteries.

Use mains electricity	Use batteries
Television	Clock
Whiteboard	Camera
<i>etc</i>	<i>etc</i>

Activity 4

Explain that reducing the amount of electricity we use is important. It will help to reduce pollution, conserve natural resources and make sure that future generations have enough electricity.

Play the Pod's 'Save' game (www.jointhepod.org/keystage1).

Go through the list of electrical appliances that the children have made. Discuss all the items which could be switched off to save electricity, and the difference between disposable and rechargeable batteries.

Extension activities

Tell the class about how the changes they make in school to save energy can also be made at home.

Ask them to design and conduct a survey to record everything in their home that uses power. Then discuss as a class what sort of changes they can make at home. You could upload ideas for saving energy to the Pod's blogs for friends, family and other schools to share.

Plenary

Talk about personal responsibility – why is it important to get up and switch off the television rather than using a remote control to put it on to standby?

Outline that personal decisions can make a difference and that it is important to consider this when making choices.

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Curriculum links

England

Science

Sc4 Physical processes

Electricity

Pupils should be taught:

- about everyday appliances that use electricity

Sc2 Life processes and living things: Living things in their environment

Pupils should be taught:

- care for the environment

Sc1 Scientific enquiry

Investigative skills – obtaining and presenting evidence

Pupils should be taught to:

- communicate...in a variety of ways, including using ICT [for example...tables]

Geography

Geographical enquiry and skills

Pupils should be taught to:

- express their own views about people, places and environments

Knowledge and understanding of environmental change and sustainable development

Pupils should be taught to:

- recognise how the environment may be improved and sustained

Citizenship

Preparing to play an active role as citizens

Pupils should be taught:

- to take part in discussions with one other person and the whole class
- to take part in a simple debate about topical issues
- to recognise choices they can make
- to agree and follow rules for their group and classroom
- what improves and harms their local, natural and built environments and about some of the ways people look after them

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Maths

Ma2 Number: Processing, representing and interpreting data

Pupils should be taught to:

- solve a relevant problem by using simple lists, tables and charts to sort, classify and organise information

English

En1 Speaking and listening: Group discussion and interaction

To join in as members of a group, pupils should be taught to:

- take turns in speaking
- relate their contributions to what has gone on before
- extend their views in the light of discussion
- give reasons for opinions and actions

QCA units

Science Unit 2F: Using electricity

Geography Unit 8: Improving the environment

Citizenship Unit 02: Choices

Wales

Science

Scientific enquiry

Communication in science

Pupils should be taught:

- to present scientific information appropriately in a number of ways, through diagrams, drawings, tables and charts
- to sort and classify scientific information

Physical processes

Electricity

Pupils should be taught:

- that many everyday appliances use electricity and that they should be used with care.

Maths

Using and applying mathematics

Developing mathematical language and communication

Pupils should be taught to:

- present their work in a variety of forms to include ... charts

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Number

Classifying, representing and interpreting data

- collect, record and interpret data arising from an area of interest for identified purposes, using...charts...tables

English

Oracy

Range

Pupils should be taught to:

talk for a range of purposes, including:

- using talk to develop their thinking by exploring, developing and clarifying ideas; predicting outcomes and discussing possibilities
- describing events, observations and experiences; making simple, clear explanations of choices; giving reasons for opinions and actions

consider how talk is influenced by the purpose and by the intended audience, including:

- working in groups of different sizes
- talking and presenting work to different audiences, including friends, the class, the teacher and other adults in the school

listen carefully and show their understanding of what they see and hear by:

- making relevant comments
- remembering specific points that interested them
- listening to others' reactions

Skills

Pupils should be taught to:

- speak with confidence, making themselves clear through organising what they say and choosing words with precision
- use the conventions of discussion and conversation, e.g. taking turns in speaking, and structuring their talk in ways that are coherent and understandable

Scotland

Sciences

Planet Earth

Electricity

- I know how to stay safe when using electricity.... (SCN 0-09a)

Energy sources and sustainability

- I have experienced, used and described a wide range of toys and common appliances. I can say 'what makes it go' and say what they do when they work. (SCN 0-04a)
- I am aware of different types of energy around me and can show their importance to everyday life and my survival. (SCN 1-04a)

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Mathematics

Information handling

- I can collect objects and ask questions to gather information, organising and displaying my findings in different ways. (MNU 0-20a)
- I can match objects, and sort using my own and others' criteria, sharing my ideas with others. (MNU 0-20b)
- I have used a range of ways to collect information and can sort it in a logical, organised and imaginative way using my own and others' criteria. (MNU 1-20b)

Health and wellbeing

Social wellbeing

- Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. (HWB 1-13a)

Social studies

People, places and environment

- I explore and appreciate the wonder of nature within different environments and have played a part in caring for the environment. (SOC 0-08a)
- I can consider ways of looking after my school or community and can encourage others to care for their environment. (SOC 1-08a)

Literacy and English

Listening and talking

Tools for listening and talking

- As I listen and talk in different situations, I am learning to take turns and am developing my awareness of when to talk and when to listen. (LIT 0-02a/ENG 0-03a)

Understanding, analysing and evaluating

- Within real and imaginary situations, I share experiences and feelings, ideas and information in a way that communicates my message. (LIT 0-09a)
- When listening and talking with others for different purposes, I can exchange information, experiences, explanations, ideas and opinions, and clarify points by asking questions or by asking others to say more. (LIT 1-09a)

Technologies

Technological developments in society

- Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment. (TCH 1-02a)

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Northern Ireland

The World Around Us

Interdependence

Pupils should be enabled to explore:

- interdependence of people and the environment
- the effect of people on the natural environment over time

Place

Pupils should be enabled to explore:

- positive and negative effects of people on places

Movement and Energy

Pupils should be enabled to explore:

- sources of energy in the world

Change over Time

Pupils should be enabled to explore:

- positive change and how we have a responsibility to make an active contribution

Language And Literacy

Talking And Listening

Pupils should be enabled to:

- participate in talking and listening in every area of learning
- listen to and respond to guidance and instructions
- take turns at talking and listening in group and paired activities
- express thoughts, feelings and opinions in response to personal experiences.... and curricular topics and activities
- present ideas and information with some structure and sequence
- think about what they say and how they say it
- speak audibly and clearly, using appropriate quality of speech and voice

Mathematics And Numeracy

Handling Data: Collecting, Representing and Interpreting Data

Pupils should be enabled to:

- collect data, record and present it using real objects...tables
- discuss and interpret the data
- extract information from a range of charts, diagrams and tables

Objects in the classroom

Which objects use electricity?

Objects that DO use electricity	Objects that DO NOT use electricity

Mains electricity or batteries?

Mains electricity	Batteries