genesis school-gen

Introducing electrical energy

Overview

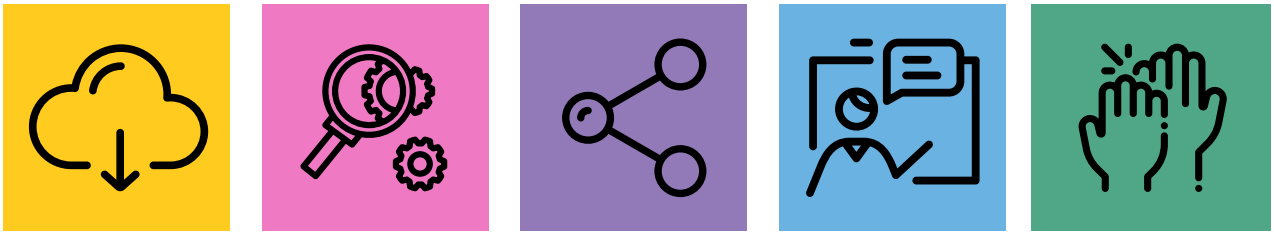
Find out about energy and electricity. Which appliances and devices around you use electrical energy?

Curriculum links:

LEARNING AREAS	ACHIEVEMENT OBJECTIVES	LEVELS	YEARS
Science: Physical World: Physical inquiry and physics concepts	Explore everyday examples of physical phenomena, such as electricity and magnetism and light.	1-2	1-4
Science capabilities:	Gather and interpret data, Use evidence, Engage with science	1-2	1-4
English: Speaking, writing and presenting	Acquire and begin to use sources of information, processes and strategies to identify, form and express ideas	1-2	1-4
Other curriculum links	Mathematics: Statistics	1-2	1-4

Teacher information:
Electrical energy

Learning sequence



Learning intentions

Students are learning to:

- Begin to understand the concepts of electricity and energy
- Identify which appliances and devices in their environment use electricity

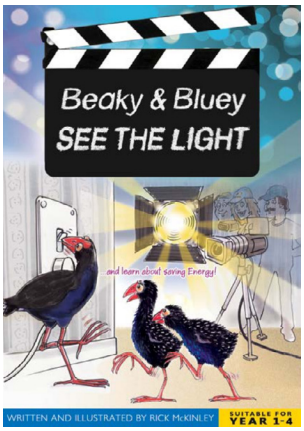
Success criteria

Students can:

- Explain the concepts of energy and electricity
- Record details about appliances and devices which use electricity

Resources needed

- Exploring energy and electricity slideshow
- School-gen e-book: Beaky and Bluey see the light English version
- Google sheet: Things I know use electricity



Vocabulary:

Energy, electricity, potential, appliance, device, wire, magnet, battery, solar, power, electrical.

Background information and supporting resources

Science Learning Hub by University of Waikato: What is energy article

Why is energy important video

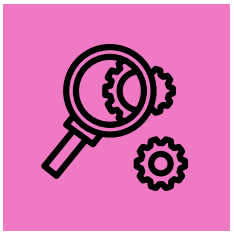
Learning experience suggestions

Note: These are suggestions only and teachers are encouraged to adjust the activity to suit the needs and interests of their students.

1. Introducing knowledge

Allow approximately 15 minutes

- Students can share their prior knowledge about electricity with a partner.
- View the Google slides presentation: Exploring energy and electricity
  This slideshow introduces the vocabulary: energy, electricity, device, appliance and more. It introduces some basic concepts of electricity and how it is used.
- Read the School-gen eBook: Beaky and Bluey See the Light with or to students, to find out about energy, electrical energy and what you can do to save energy
  (see resources on page 2).
- Talk about the dangers of electricity and how students need to be cautious when dealing with electrical appliances, and use them under the supervision of an adult.



2. Explore and investigate

Allow approximately 20 minutes

Thinking like a scientist

Ask questions about where electricity flows in your classroom. How does it get there? Explore how electrical energy is used in your classroom.

- Students can collect information about appliances and devices at home and school, using the spreadsheet template below.

Appliance or device	How many?	What does it give us? (Heat/light/ sound/movement)	What is the source of its power? (electricity/ solar/batteries etc...)	How can we save energy when using this?

Google slides version of this spreadsheet

3. Make and share

Allow approximately 15 minutes

- Students could draw a picture or make presentations or books about how they use electricity in their lives, using appropriate tools or software, such as: Book Creator, PowerPoint or GAFE.

4. Reflect and extend

Allow approximately 10-20 minutes

- Reflect on how many appliances and devices in your classroom, home or school use electricity. Create graphs or pictograms using your spreadsheet data
  What other questions do students have about energy and electricity? Form an inquiry around a big/fertile question.

5. Make a difference

Allow approximately 15-30 minutes

- Students can use their findings to explore how they could use less electricity in the classroom.
- Create posters or digital presentations which explain how to save electricity.