



Roby Park Primary School Year 4
Physics
Electricity



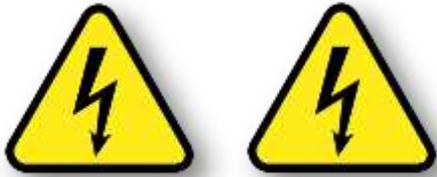
What we already know:

- ✓ Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
- ✓ Sources of light and sound may need electricity to work.

We are learning to:

- Identify common appliances that run on electricity
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- Recognise some common conductors and insulators, and associate metals with being good conductors.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

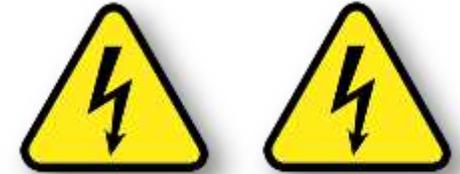




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What we already know:

- ✓ Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
- ✓ Sources of light and sound may need electricity to work.

Key Vocabulary

Circuit - A closed path along which electrical current can flow.

Cell - A single device in which chemical energy is converted into electricity and used as a power source.

Battery - A container containing multiple cells in which chemical energy is converted into electricity and used as a power source.

Component - Part of the whole electrical circuit. Wires, bulbs, motors and batteries are all components.

Insulator - A material that does not allow electricity to flow through it (wood, rubber, glass and plastic)

Conductor - A material that does allow electricity to flow through it (water, copper, gold and our bodies)

Appliances - a device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical.

The Power of Five

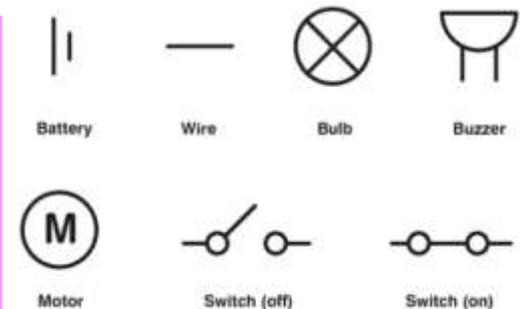


Some appliances use batteries and some use mains electricity.

Batteries come in different sizes depending on how much and for how long the appliance is used.

Some materials do not allow electricity to pass through them. These materials are known as electrical insulators. Plastic, wood, glass and rubber are good electrical insulators.

Some materials let electricity pass through them easily. These materials are known as electrical conductors. Many metals, such as copper, iron and steel, are good electrical conductors.



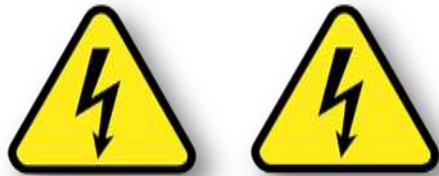
Where does electricity come from?
Electricity is generated using energy from natural sources such as the Sun, oil, water and wind. These can also be called fuel sources.

Investigate!

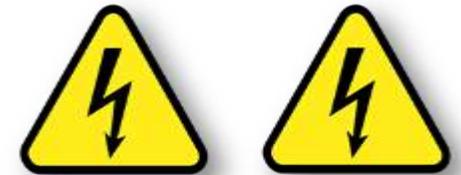
Design a new electrical appliance that would make life easier.

Construct a simple circuit using components including wires, bulbs, buzzers, switches and batteries. Predict and test objects of different materials to see which conduct electricity. Construct circuits using buzzers and bulbs and insert switches into their own circuits





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4Ws

What is another name for a cell?

Why is it dangerous to use an electrical appliance near water?

What happens when more batteries are added to a complete circuit?

What is the symbol for a bulb?

VOCABULARY UNSCRAMBLE

p a p i l n a e c s
Equipment that relies on electricity.

c i u t r i c
When complete, electricity travels around it.

l e c l
A single device in which chemical energy is converted into electricity and used as a power source.

3 2 1

List 3 electrical conductors

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.....
.....

List 2 electrical insulators

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.....

Recall 1 way a circuit will stop working

.....



Name 5 mains powered appliances



Speedy Pencil. Write as much as you can remember in 5 minutes



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