



Changing Circuits



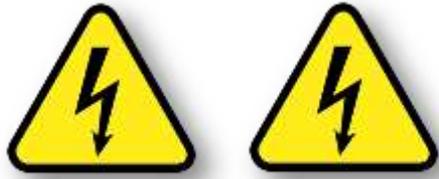
What we already know:

- ✓ 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.
- ✓ Where electricity comes from
- ✓ Which appliances need electricity
- ✓ What a circuit is, the components of a circuit and how it works.
- ✓ What electrical conductors and insulators are.
- ✓ What happens when a switch is added to a circuit.
- ✓ What forces and resistance are.

We are learning to:

- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
- Use recognised symbols when representing a simple circuit in a diagram.

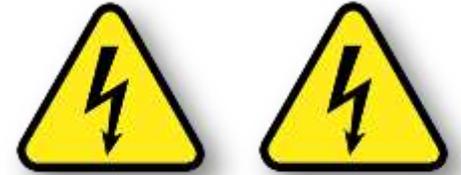




Roby Park Primary School Year 6

Physics

Changing Circuits



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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.

Current – The flow of an electrical charge around a circuit.

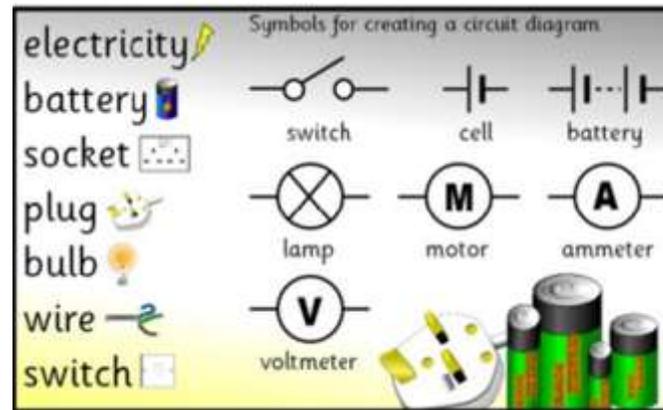
Component – Part of the whole electrical circuit. Wires, bulbs, motors and batteries are all components.

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

The Power of Five

DANGER! HIGH VOLTAGE!

Electricity is everywhere so always be safe. Be careful of mains switches, open sockets and any signs to do with electricity. The human body is 80% water so it conducts electricity. If someone has had a shock always turn the electricity off first, then call for help!



When a switch is open (off), there is a gap in the circuit. Electricity cannot travel around the circuit.

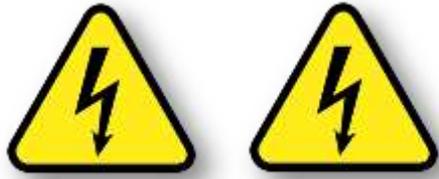
A circuit always needs a power source, such as a battery, with wires connected to both the positive (+) and negative (-) ends.

When a switch is closed (on), it makes the circuit complete. Electricity can travel around the circuit. Adding more batteries to a simple circuit will increase the electrical energy, which will make a bulb brighter. Lengthening the wires in a simple circuit will reduce the electrical energy, as it has further to travel. The extra distance will make the bulb dimmer

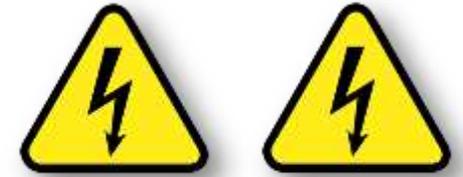
Investigate!

Draw a circuit to make a bulb light. Investigate the relationship between batteries and bulb brightness. Test predictions by building circuits. Observe the differences between selections of wires, then create questions to prompt investigations about different wires and bulb brightness. Make a circuit to turn a buzzer on and off. Discuss mending a faulty scoreboard,





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5Ws

What does the symbol for a buzzer look like?

When a switch is open what happens?

Why could a buzzer become quieter?

Which symbol is a circle with an M inside?

What does an electrical conductor do?

3 2 1

Draw 3 circuit symbols:

List 2 ways to make a bulb dimmer

Recall 1 fact about electricity



List 5 components of a circuit



VOCABULARY UNSCRAMBLE

e c l l

Produces a voltage and a current

i r c u c i t

A path that electricity can travel around

t c n o e m o p

Part of the whole electrical circuit.

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

