



Topic: Electricity

Year: 6

Term: 5

Background Information

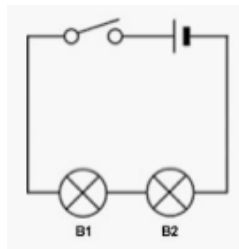
To know that:

- 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

Diagrams



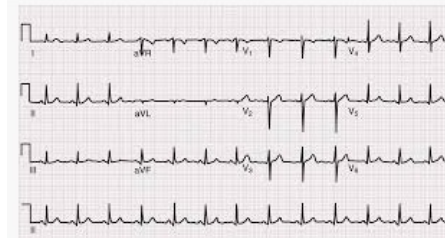
Dim to bright



Interesting facts

- Electricity travels at the speed of light -- more than 186,000 miles per second!
- A spark of static electricity can measure up to 3,000 volts.
- Lightning is a discharge of electricity in the atmosphere. Lightning bolts can travel at around 130,000 miles per hour and reach nearly 54,000 °F in temperature.
- Electric eels can produce strong electric shocks of around 500 volts for both self-defense and hunting.
- Have you ever wondered why birds sitting on a power line don't get electrocuted? If a bird sits on just one power line it is safe. However, if the bird touches another line with a wing or a foot, it creates a circuit, causing the electricity to flow through the bird's body. This results in electrocution.
- Coal is the world's biggest source of energy for producing electricity. Coal is burned in furnaces that boil water. The steam from the boiling water then spins turbines that are attached to generators.
- Did you know that electricity plays a role in the way your heart beats? Electricity causes muscle cells in the heart to contract. Electrocardiogram (ECG) machines, used by medical professionals, measure the electricity going through the heart. As the heart beats in a healthy person, the ECG machine displays a line moving across the screen with regular spikes.

ECG scan



- Electric fields work in a similar way to gravity. Whereas gravity always attracts, electric fields can either attract or repulse.

Vocabulary

amps	How electric current is measured.
bright	Giving off light or filled with much light
circuit	A path that an electrical current can flow around.
circuit diagram	An image to show a working circuit.
circuit symbol	A visual picture that stands for a part of an electrical circuit.
current	The flow of electrons, measured in amps.
dim	Not giving or having much light.
electron	Very small particles that travel around an electrical circuit.
fuse	An electrical safety device having a metal wire or strip that melts and interrupts the circuit when the current becomes too strong .
resistance	The difficulty that the electric current has when flowing around the circuit.
series circuit	A circuit in which the electric current passes through each of the connected part in turn.
voltage	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow.

Know how to / Activity

Watch this clip.

<https://www.youtube.com/watch?v=Wt9TOhUtLlo>

- ◆ Can you explain the function of each part of the motor?
- ◆ Can you think of other ways motors are used?

