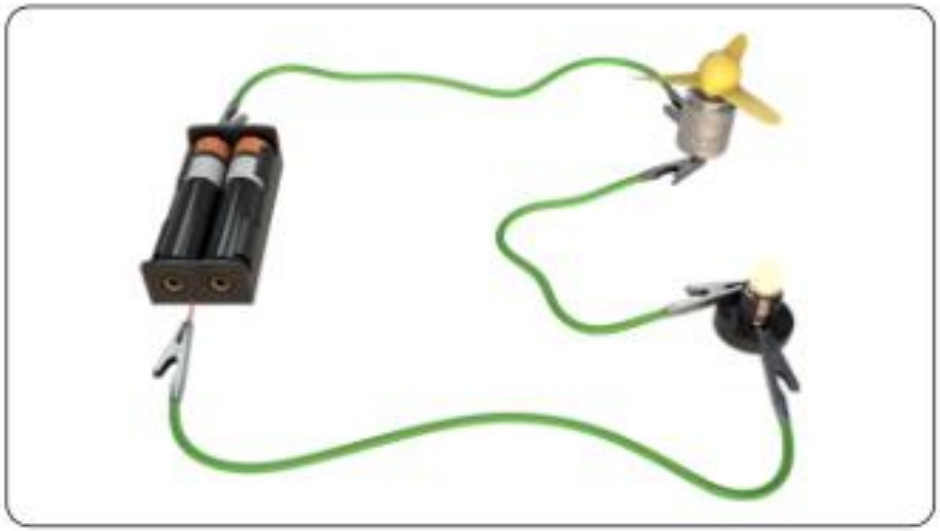
Electricity - Science
Pentecost 2

Circuits

A circuit is a collection of components connected by wires through which an electric current can flow. If a circuit forms a complete loop with a single path for electric current to flow, it is called a series circuit. When an electric current flows through all the components of a circuit, it is called a complete circuit. A complete circuit has no gaps and can make a lamp light up, a buzzer sound or a motor move.

When an electric current cannot flow through all the components of a circuit, it is called an incomplete circuit. Missing wires, open switches, loose wire connections or broken components create gaps, which stop the electric current from flowing around the circuit.



complete series circuit

incomplete series circuit

Components

Components have different jobs. A cell and battery provide electrical power. A wire connects different components and conducts electric current. A lamp emits light. A switch makes or breaks a circuit. A buzzer makes a sound. A motor creates movement.

Electrical Safety

Electricity can be dangerous when people overload plug sockets, touch electrical items with wet hands or touch damaged wires. It is important to use electrical appliances safely.

Glossary

Circuit:
A closed path or loop which electric current flows through.

Components:
Individual parts or elements that make up a larger system or device.

Conductor:
A material or substance that allows the flow of electric current.

Electric current:
The flow of electric charge in a circuit.

Insulator:
A material or substance that prevents the flow of electric current.

Loop:
A closed pathway formed by interconnected components and conductors.