



Lightning and static electricity are examples of **electricity** occurring naturally but for us to use electricity to power **appliances**, we need to **generate** it. Many every-day appliances rely on electricity for them to work. Some appliances use mains electricity (by being plugged into a socket) and others have a **battery** that makes the work.

Mains powered appliances:



Battery powered appliances:



Garrett Morgan was an innovative inventor, engineer and entrepreneur. He called himself the 'Black Edison'.

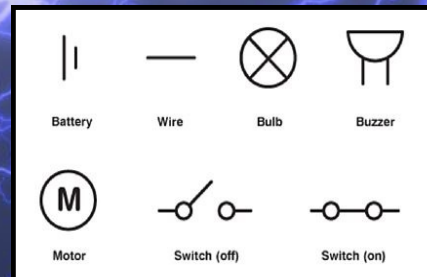
His design for a breathing hood formed the prototype for the gas masks which saved countless lives in the First World War. He

also invented an early form of hair straighteners and created the first design of a three-light traffic light system that we still use

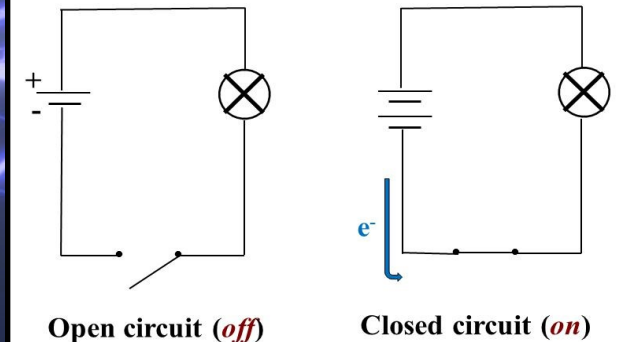


Key Vocabulary

Word	Definition
electricity	the flow of an electric current through a material, e.g. from a power source through wires to an appliance
generate	to make or produce
renewable	a source of electricity that will not run out (these include solar, geothermal, hydro and wind)
non-renewable	this source of energy will eventually run out and so will no longer be able to be used to make electricity (these include fossil fuels—coal, oil and natural gas)
appliance	a piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone
battery	a device that stores electrical energy as a chemical
circuit	a pathway that electricity can flow around. It includes wires and a power supply. It may also include bulbs, switches or buzzers



Circuits can be opened or closed by a **switch**:



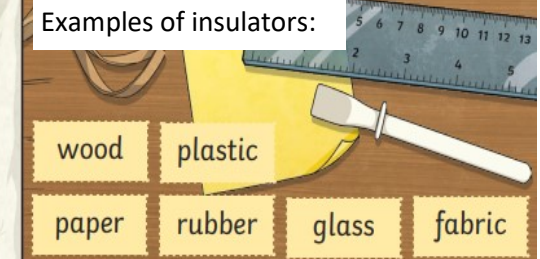
A conductor of electricity is a material that will allow electricity to flow through it. Materials that are electrical insulators do not allow electricity to flow through them.

Examples of conductors:



copper steel

Examples of insulators:



wood plastic paper rubber glass fabric