



Vocabulary

appliance	a device that runs on electricity
electrical circuit	a path for electricity to flow
cell	source of electrical energy
wire	conducts electricity from one part of a circuit to another
bulb	produces light when electricity flows through it
switch	opens or closes a circuit
buzzer	produces sound when electricity flows
conductor	a material that allows electricity to flow
insulator	a material that stops electricity from flowing
series circuit	a circuit where components are connected one after another

Conductors vs Insulators

- Metals are **good conductors** (e.g., copper, aluminium, silver).
- Non-metals are usually **insulators** (e.g., plastic, rubber, wood).
- Testing materials can determine what the best conductor and insulators are.
- Conductors allow electricity to pass through them.
- Insulators do not allow electricity to pass through them.

Electricity

Switch Function

- A switch **opens** a circuit, stopping electricity.
- A switch **closes** a circuit, allowing electricity to flow.

Lamp Lighting in a Series Circuit

- A lamp **will light** if it is part of a complete loop with the battery and the switch is closed.
- A lamp **will not light** if the circuit is broken or the switch is open.



Garrett Morgan invented the first patented, three-position traffic light in 1923, adding a crucial "caution" or "all-stop" signal (the precursor to today's yellow light) after witnessing accidents caused by simple "stop/go" signals, making roads safer for drivers and pedestrians.

