



SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

23ECB101-CIRCUIT ANALYSIS AND DEVICES

I YEAR/ II SEMESTER

UNIT 1 – MESH AND NODE ANALYSIS OF ELECTRIC CIRCUITS

TOPIC – BASIC COMPONENTS OF ELECTRIC CIRCUITS



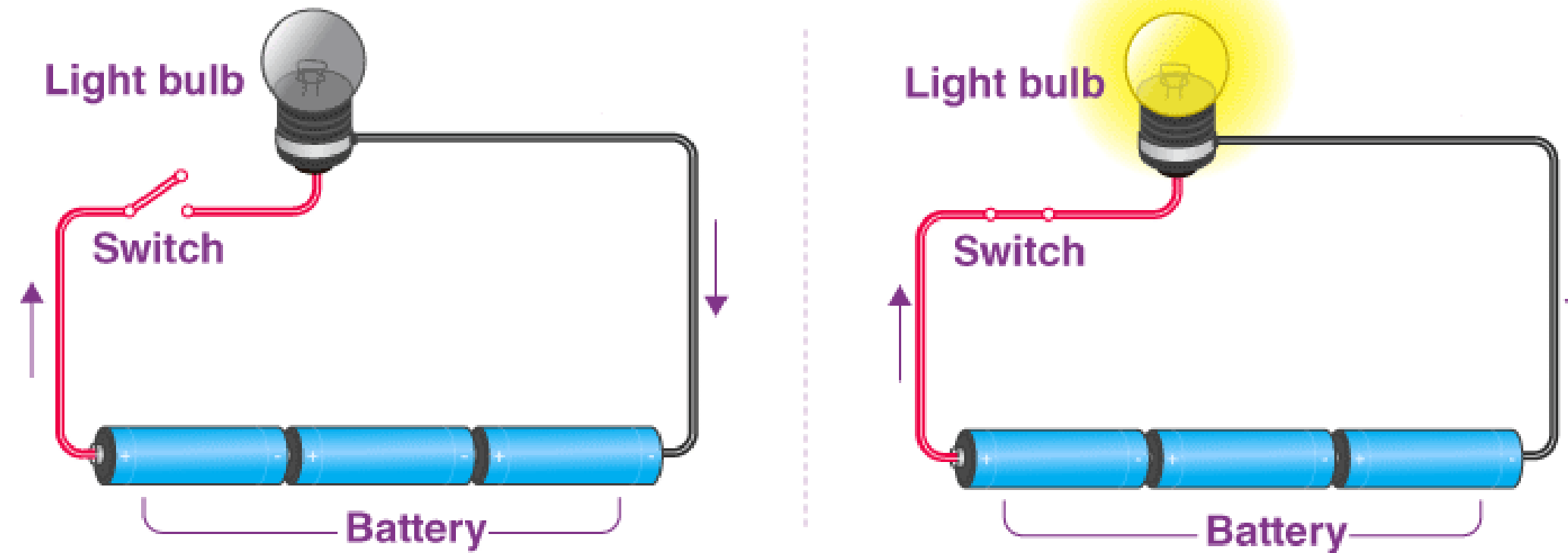
Basic Components of **Electric Circuits**



- The electric circuits are closed-loop or paths, forming a network of electrical components where electrons can flow.
- This path is made using electrical wires and is powered by a source, like a battery.
- The start of the point from where the electrons start flowing is called the source, whereas the point where electrons leave the electrical circuit is called the return.



Basic Components of **Electric Circuits**



Connect the wires to the bulb and connect one end of the wire to the battery. Notice what happens, there won't be any change in the bulb, but when you connect the free wire to the battery and complete the circuit, you will notice that the bulb starts glowing.

Therefore the circuit must be completed for the current to flow.



Basic Components of **Electric Circuits**



- **Simple Circuit**

A simple circuit comprises the power source, conductors, switch, and load.

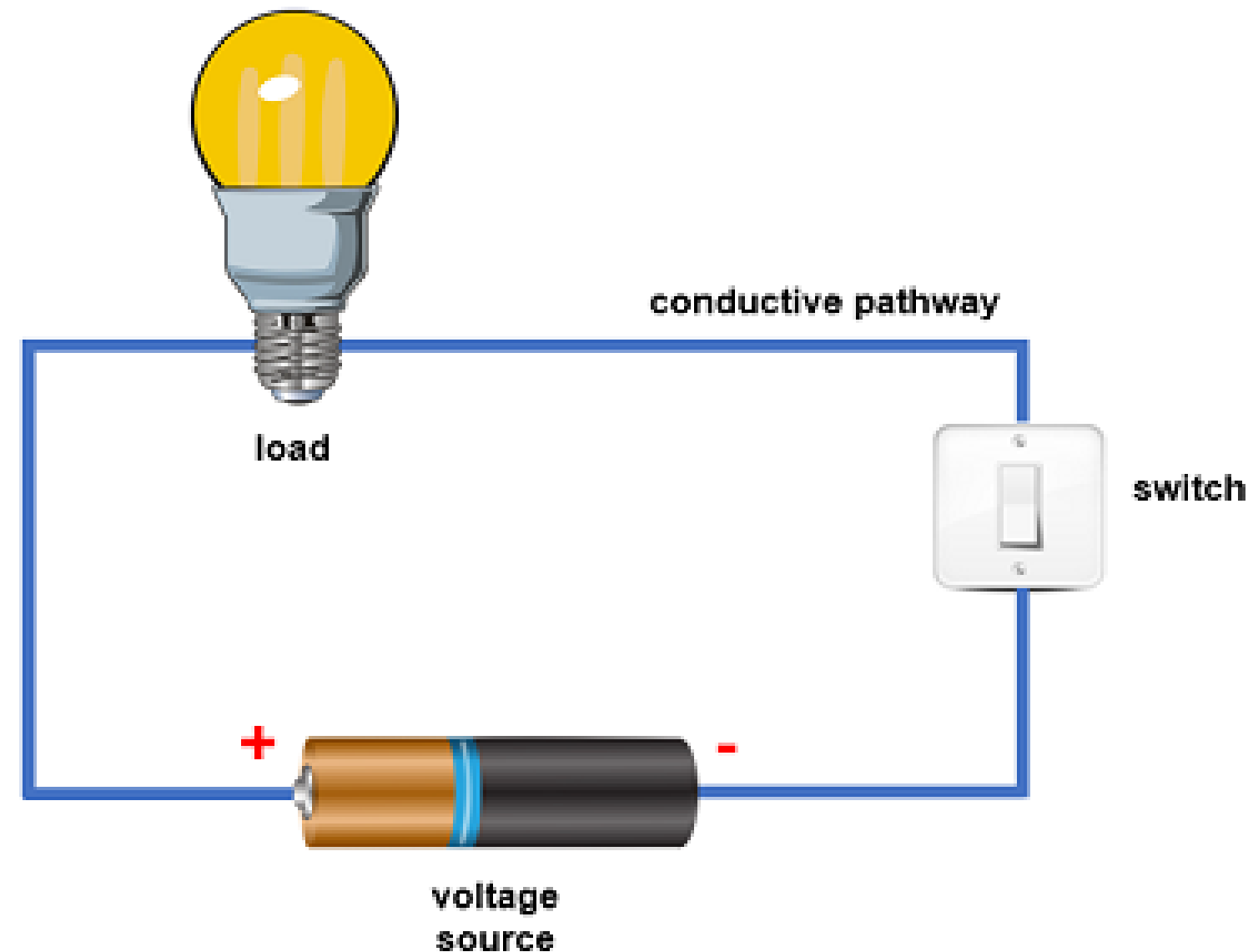
- **Cell:** It is the power source.
- **Load:** It is also termed as the resistor. It is a light bulb that lights when the circuit is turned on.
- **Conductors:** They are made of copper wires with no insulation. One end of the wire is connected to the load to the power source, and the other end of the wire connects the power source back to the load.



Basic Components of **Electric Circuits**



- **Switch:** It is a small gap in the circuit. There are various types of switches. A switch can be used to open or close a circuit.

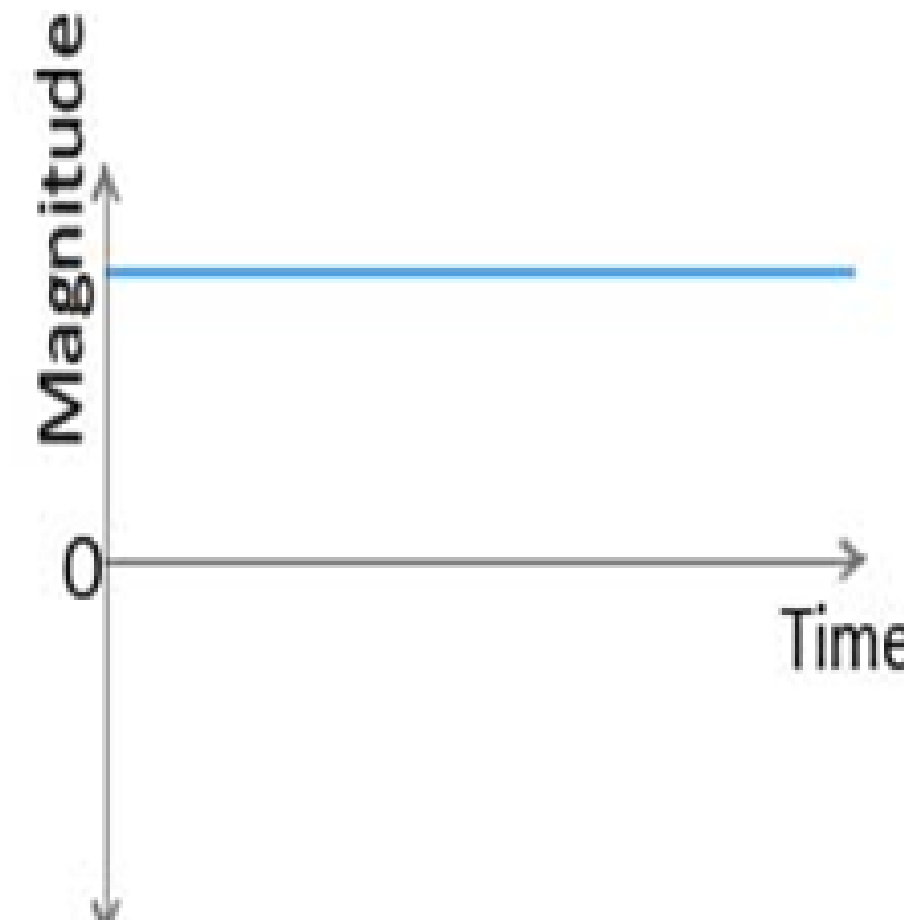
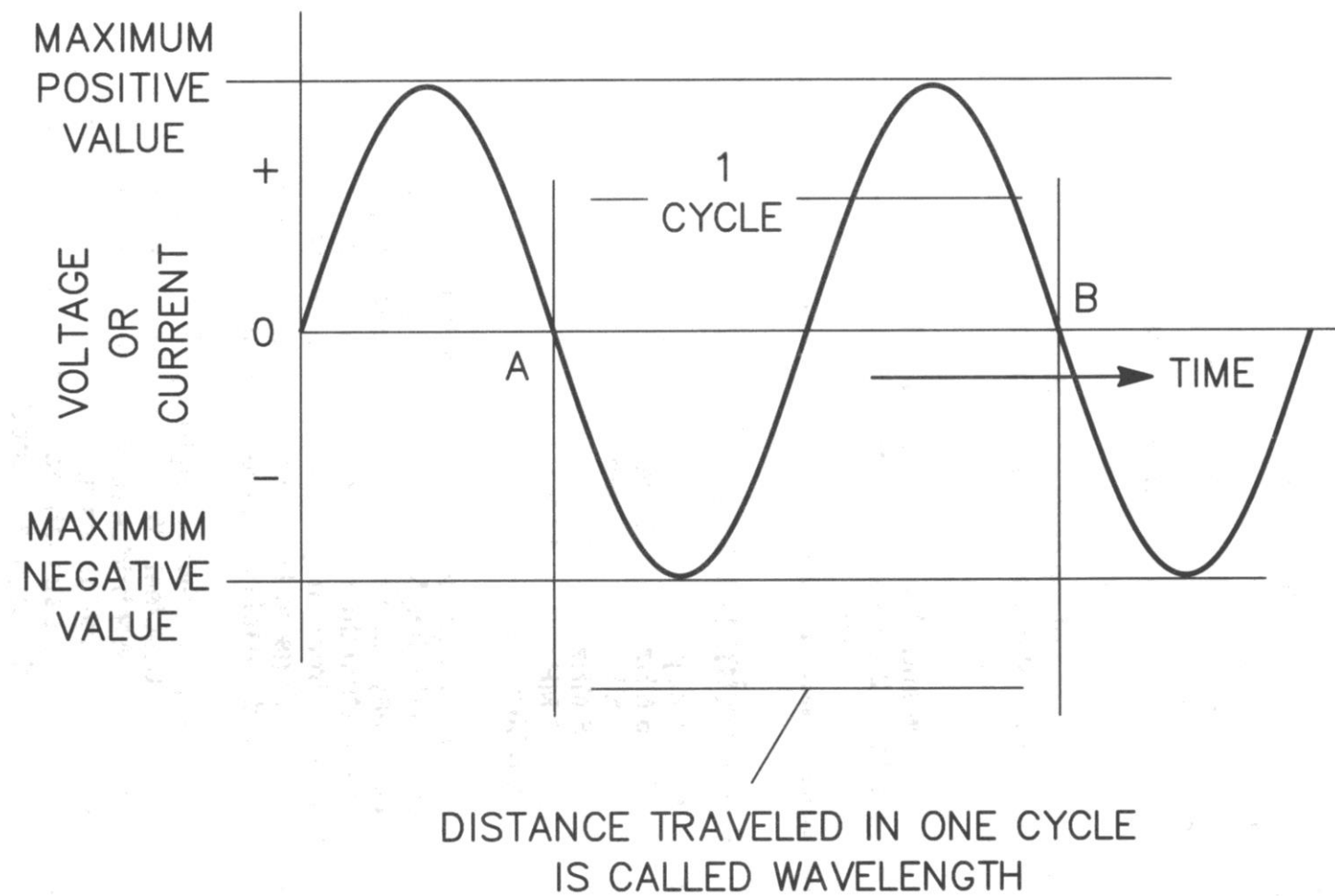




Basic Components of Electric Circuits



AC & DC

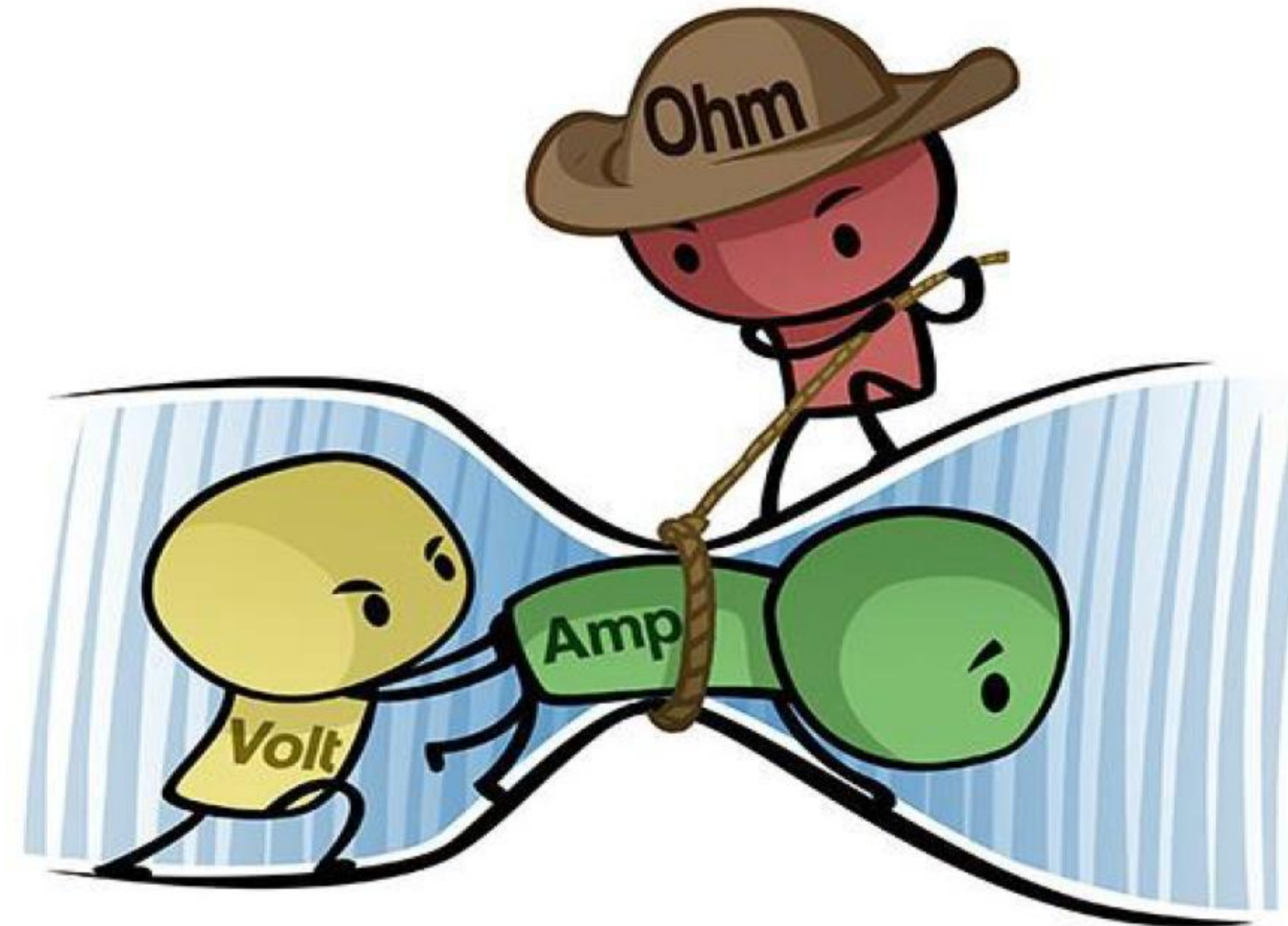




Basic Components of **Electric Circuits**



Resistor

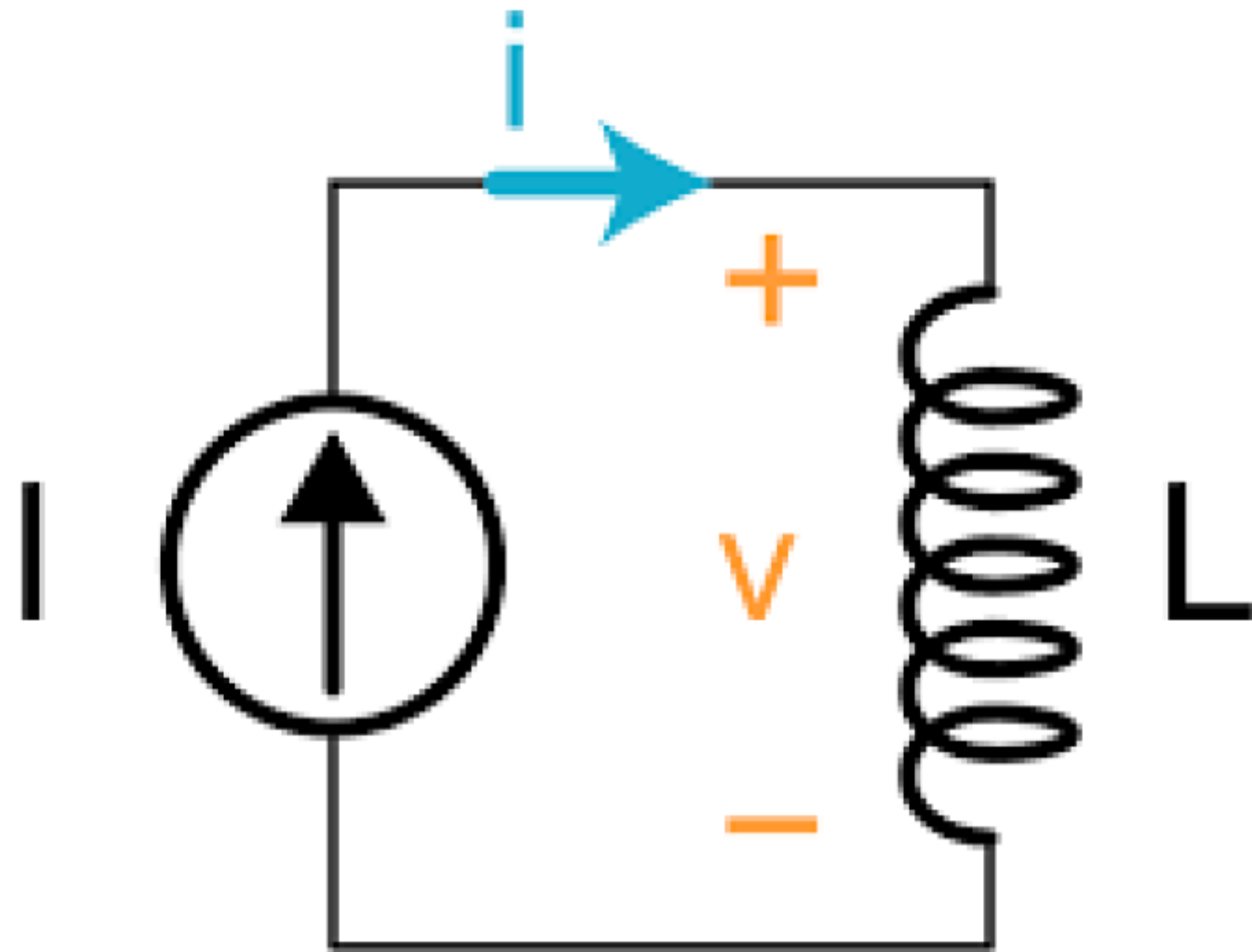




Basic Components of **Electric Circuits**



Inductor



- Inductor stores Energy in a Magnetic field when electric current flowing through it

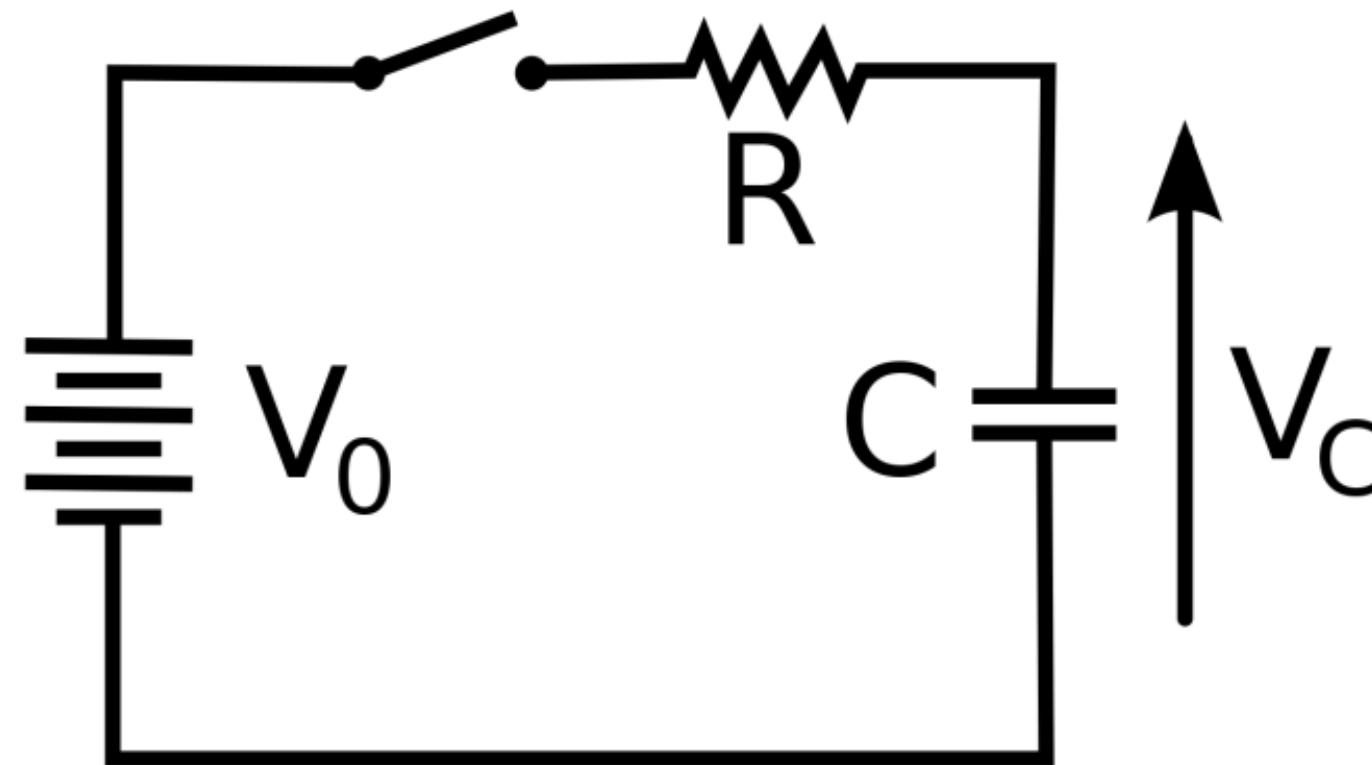


Basic Components of **Electric Circuits**



Capacitor

CAPACITOR STORES ENERGY IN A ELECTRIC FIELD WHEN VOLTAGE APPLIED ACROSS IT





THANK YOU