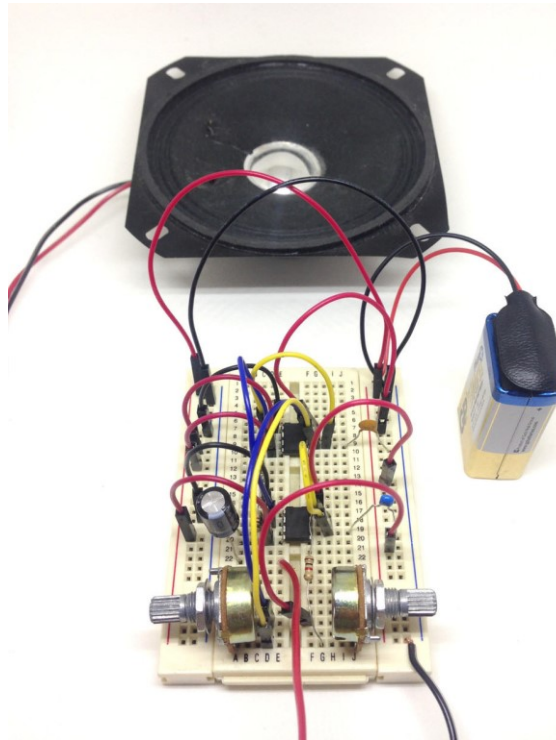
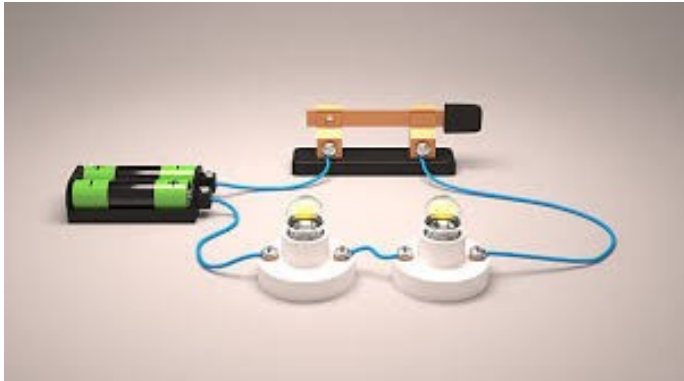
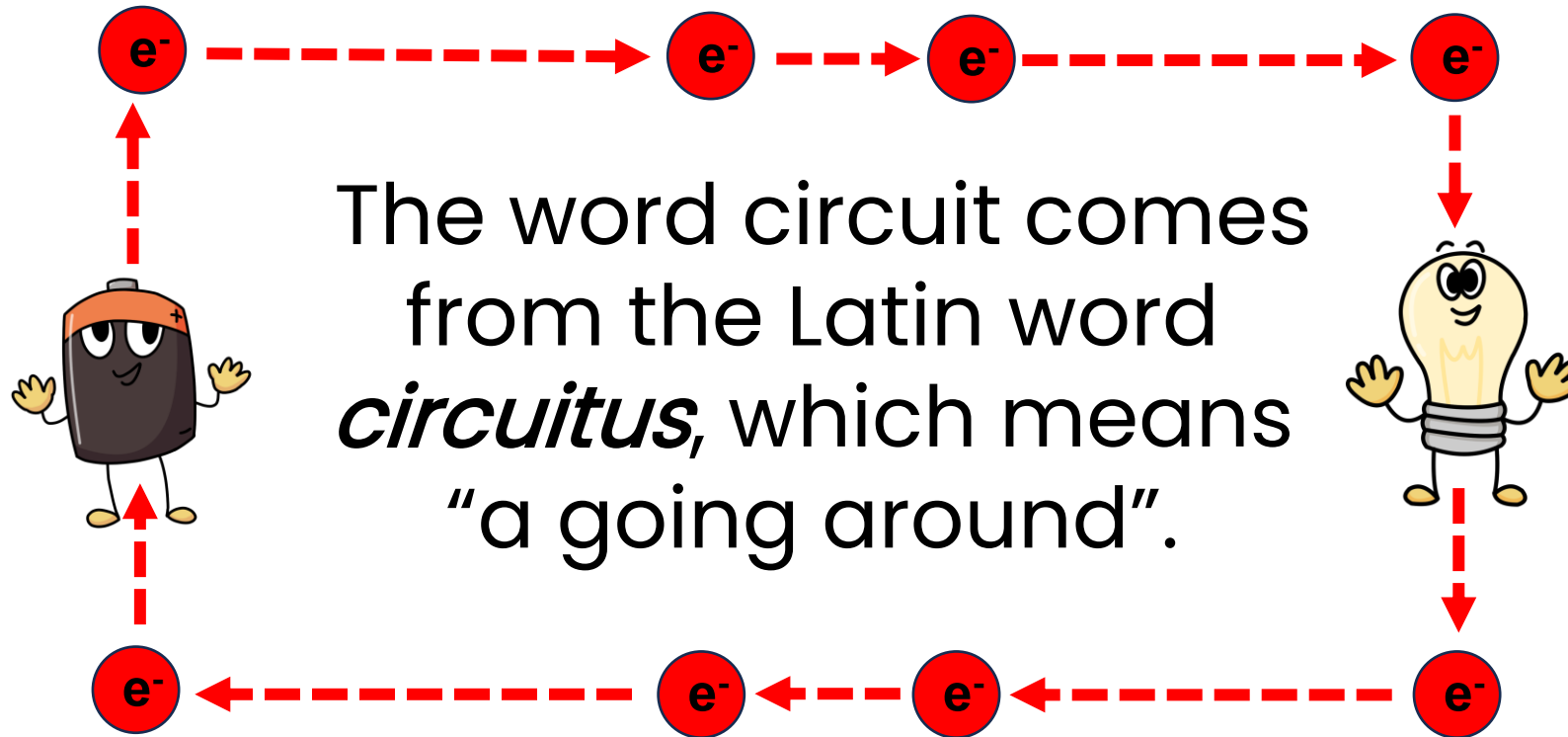


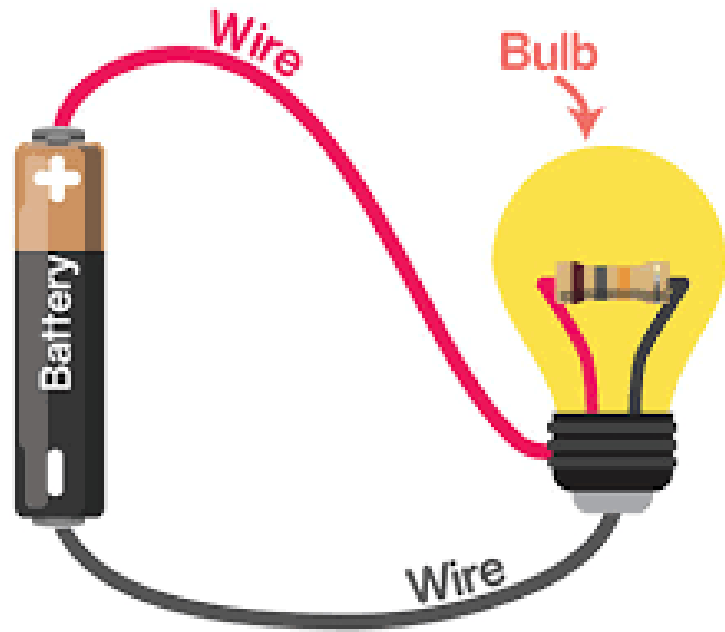
# Circuits



# Origin of the Word Circuit?



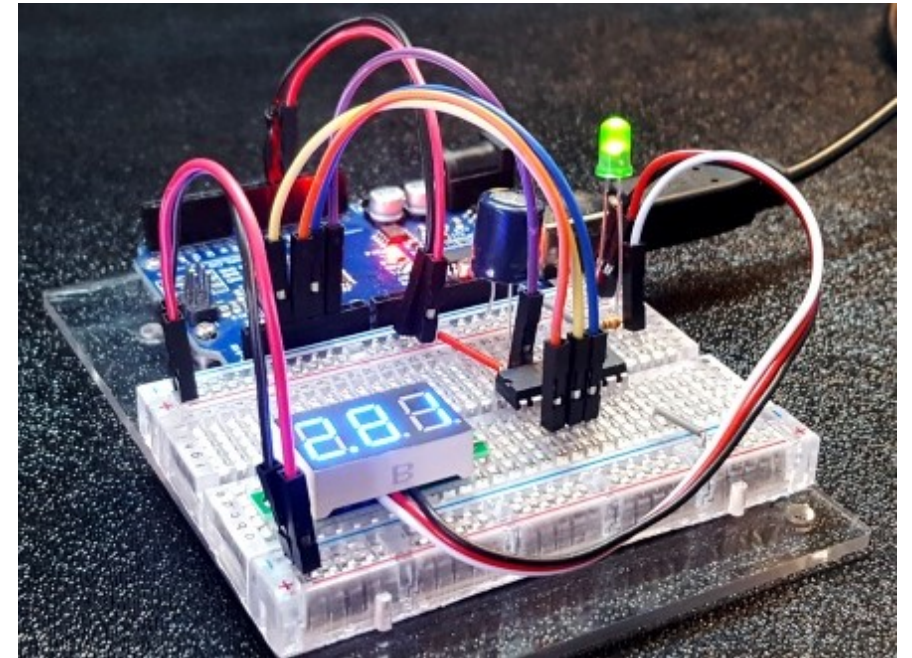
# Circuits Control Electrical Flow



For current electricity to flow, it requires a circuit: a closed, never-ending loop of conductive material

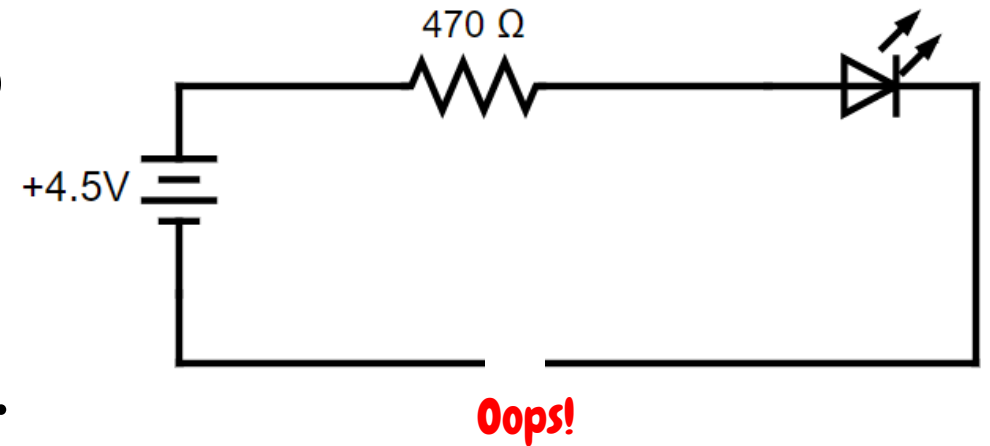
# Circuits Control Electrical Flow

However, circuits usually contain a mix of wire and other components which control the flow of electricity.



# Circuits Control Electrical Flow

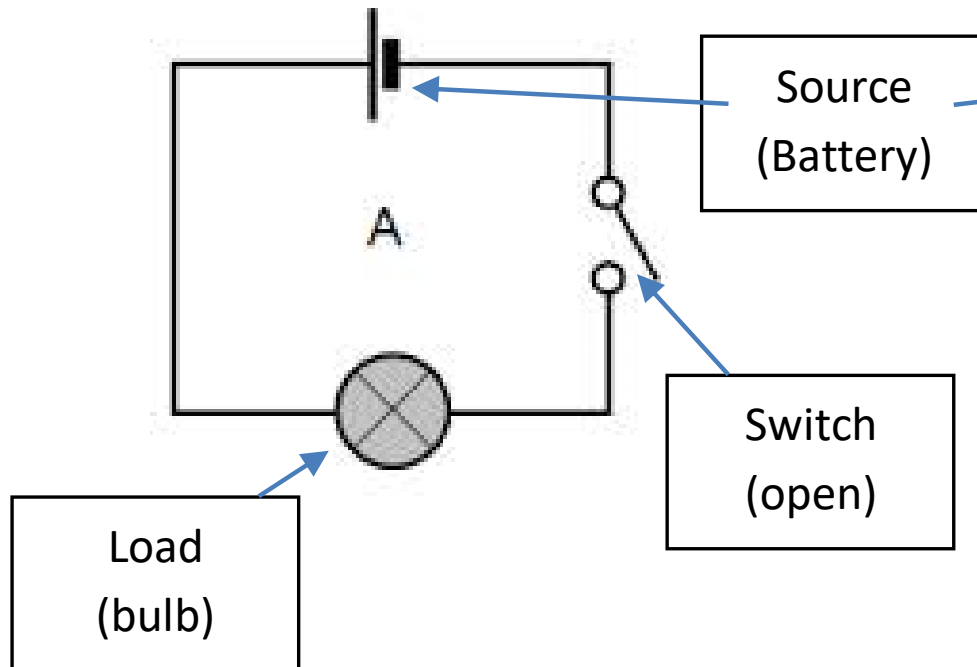
The only rule when it comes to making complete circuits is they can't have any insulating gaps (where the loop is open).



# Open Circuit vs Closed Circuit

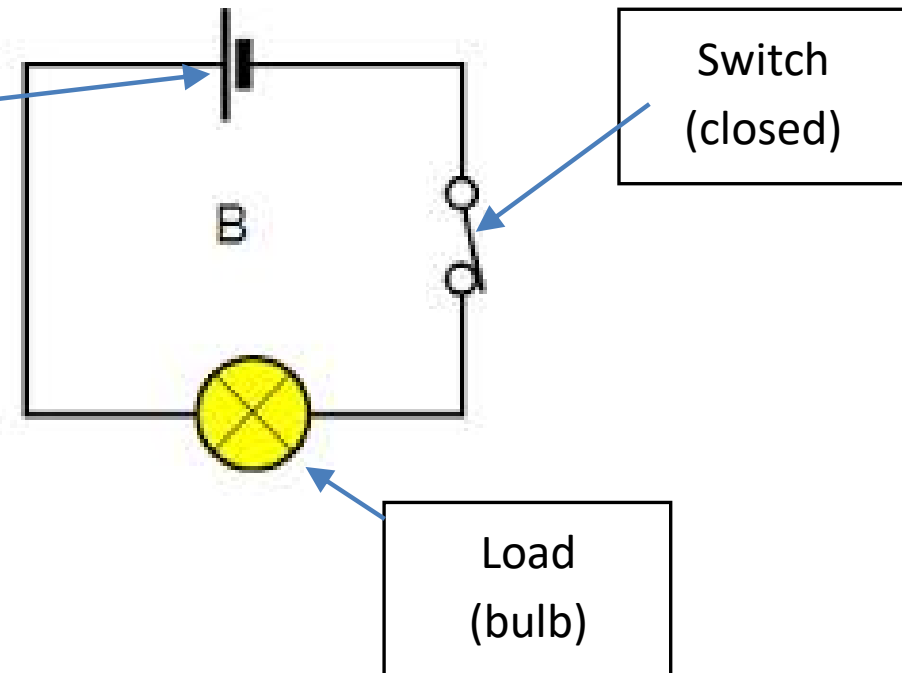
## Open Circuit (A)

There is a gap in the circuit. So, there is no flow of electricity, and the lightbulb is off.



## Closed Circuit (B)

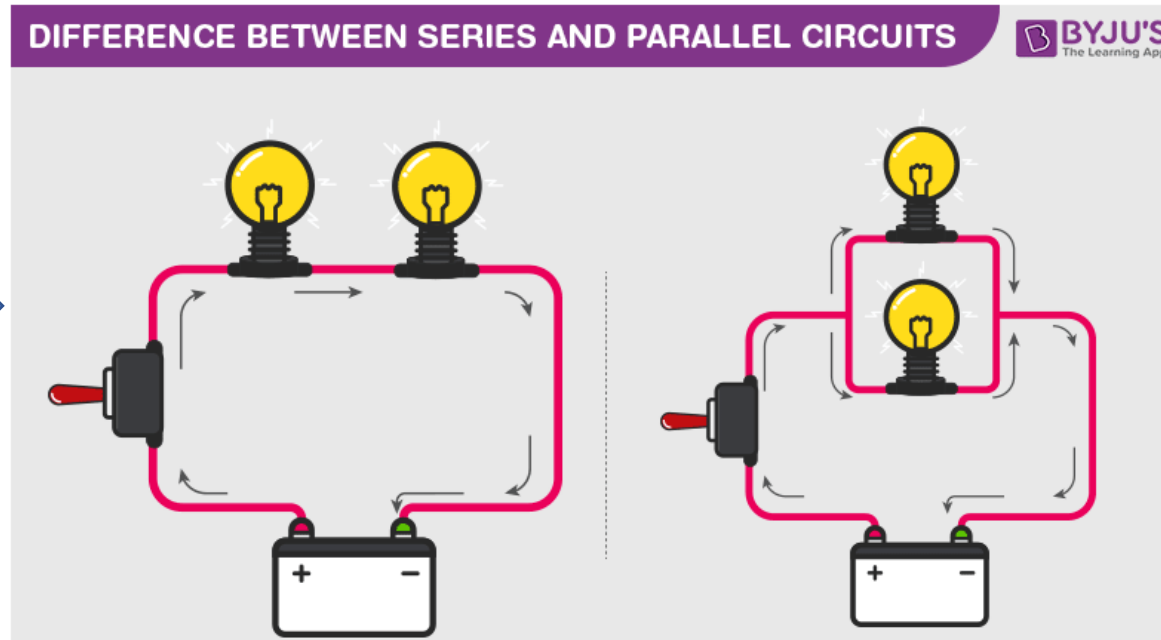
There is no gap in the circuit. So, there is a flow of electricity, and the lightbulb is on.



# Types of Circuits

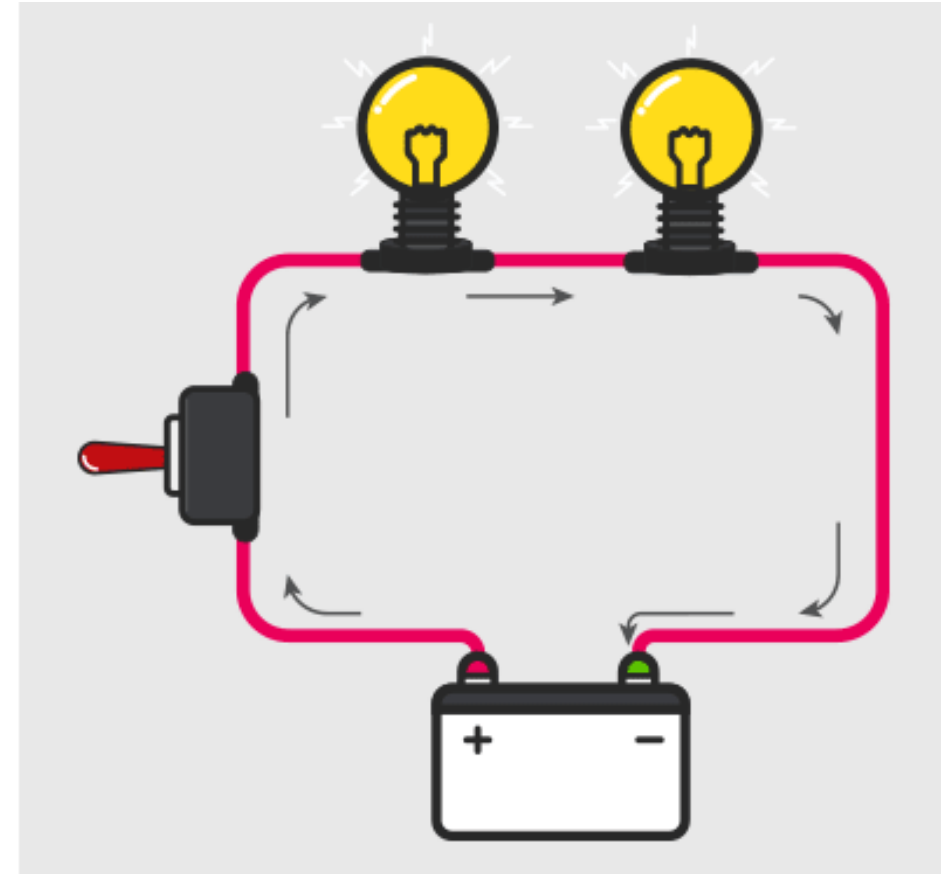
## Series Circuits

## Parallel Circuits



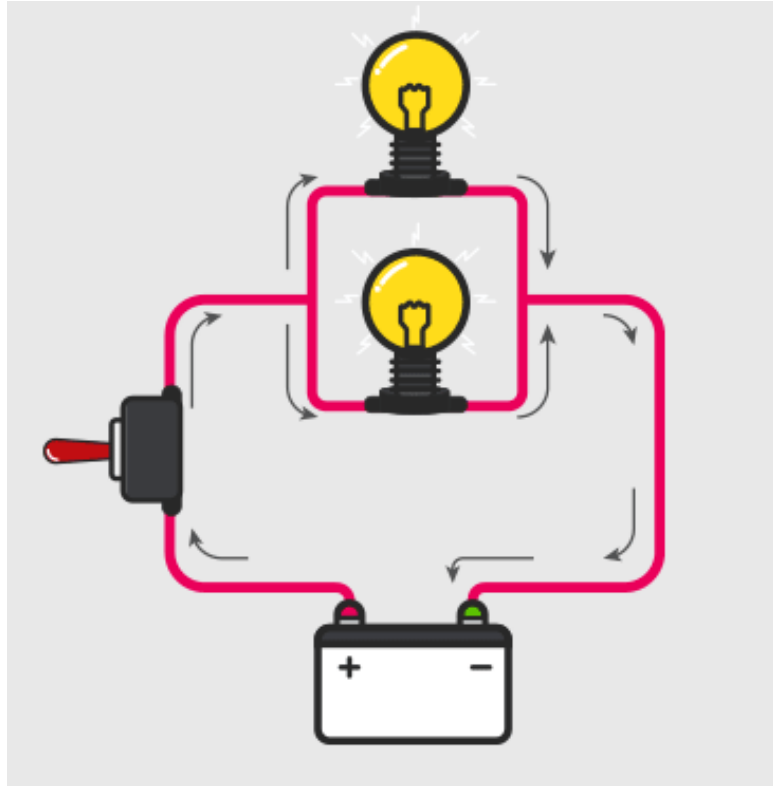
# Series Circuits

*Series circuits* have two or more components connected end to end so that *all the current* flowing through one component must flow through each of the other components. However, if one of the components in the series is removed, current to all the other components in the series will be interrupted.



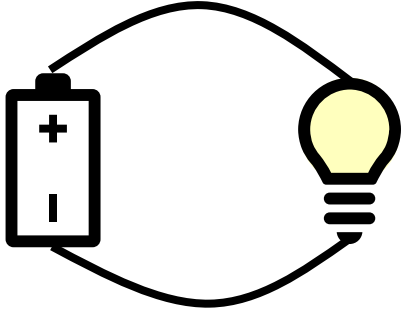


# Parallel Circuits

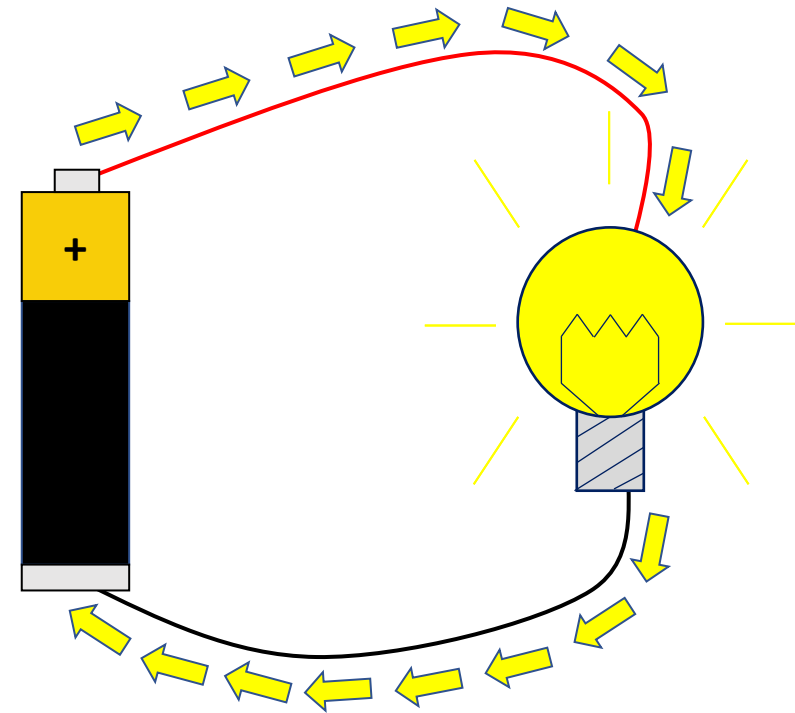


Parallel circuits have two or more components connected in such a way that each component is connected *directly to the source*. If one component is removed current will continue to flow to the other components in the circuit and will continue to work.

# What is Direct Current?



*Direct Current (DC Current)* is where electrons flow only one way from the positive battery terminal through the wires connected to it and back towards the negative battery terminal.



# SQUARE BRAIN

## Circuits

