

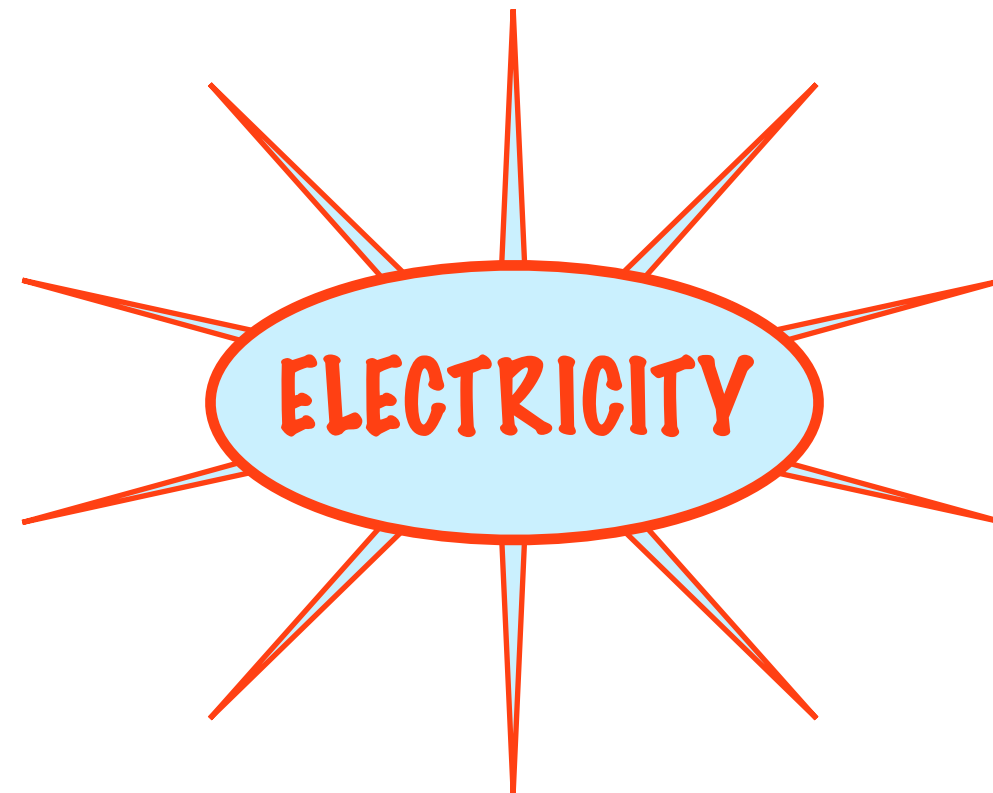
Changing Circuits

Learning Objective:

To recap knowledge of electricity and circuits.

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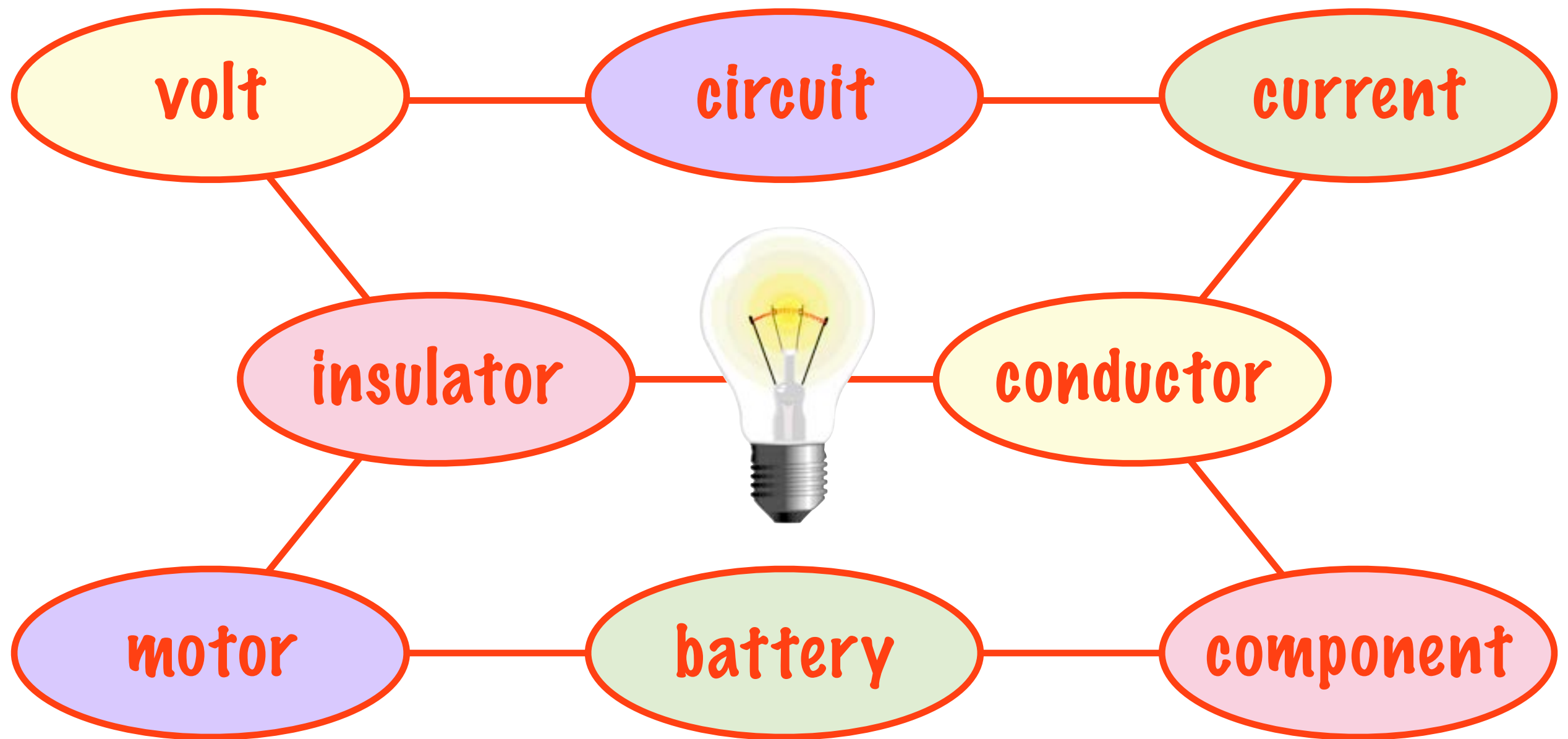
What do you already know about electricity?



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Can you think of a definition for each of these electricity-related words?



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Volt

A volt is a unit of measurement that shows the rate at which energy is drawn from a source that produces the flow of electricity in a circuit.

Circuit

A closed path along which electrical current can flow.

Current

The flow of electrical charge around a circuit. Current is usually measured in amperes.

Insulator

A material that does not allow electricity to flow through it.

Conductor

A material that does allow electricity to flow through it.

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Component

A component is a part of the whole electrical circuit. Wires, bulbs, motors and batteries are all components.

Battery

A container containing cells in which chemical energy is converted into electricity and used as a power source.

Motor

A machine charged by electricity that causes movement.

How close were your definitions?



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What components do these torches need in order to light up?



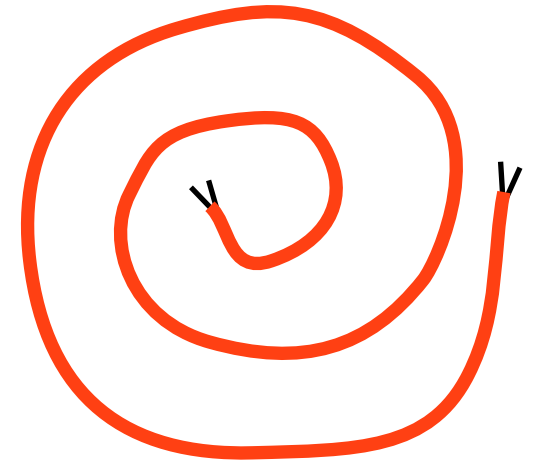
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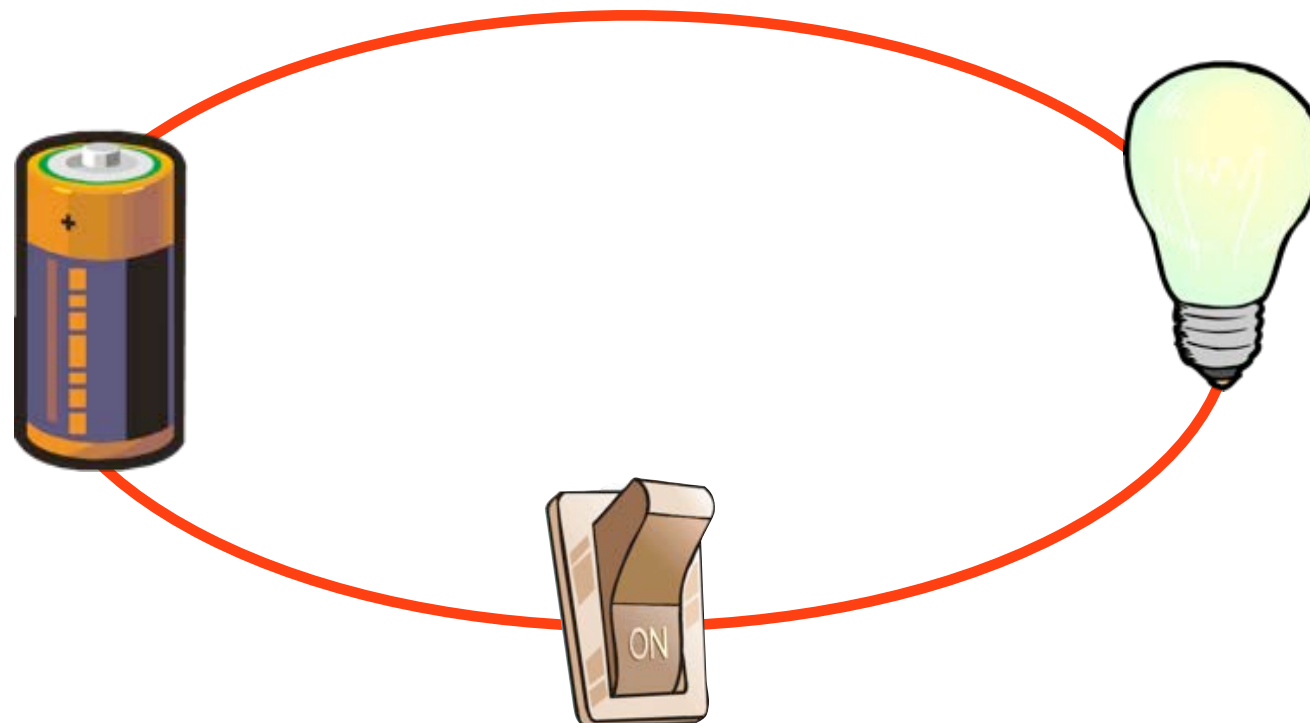
The components a torch needs to work are:



Wires
Battery
Bulb
Switch

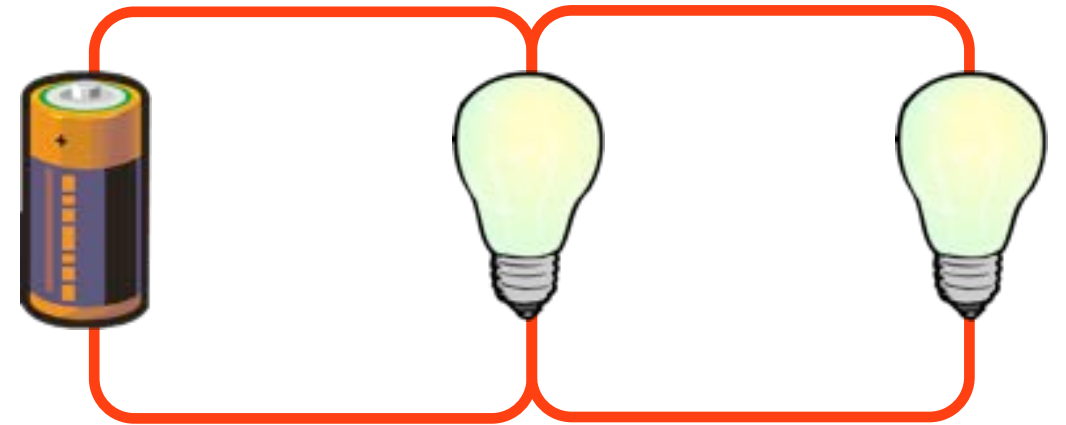
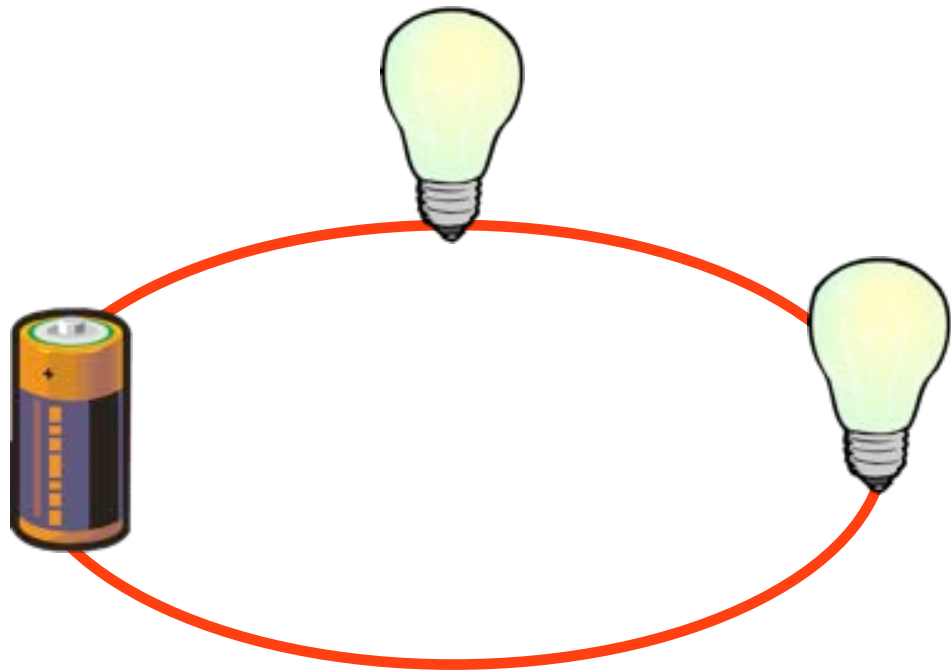


These components all need to be connected in a circuit so that the electricity powered by the battery can flow around the circuit.



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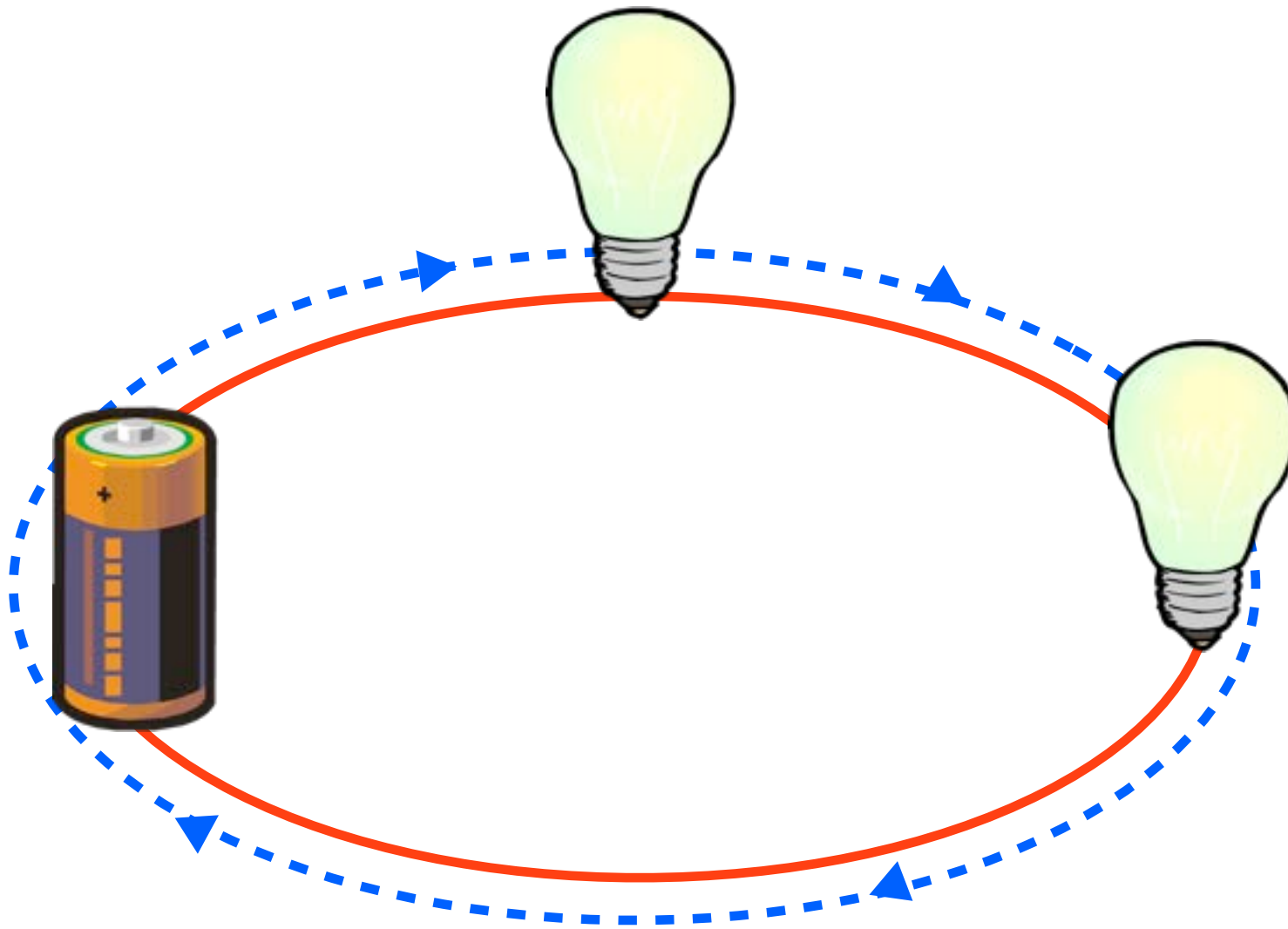


What is the difference between these two circuits?



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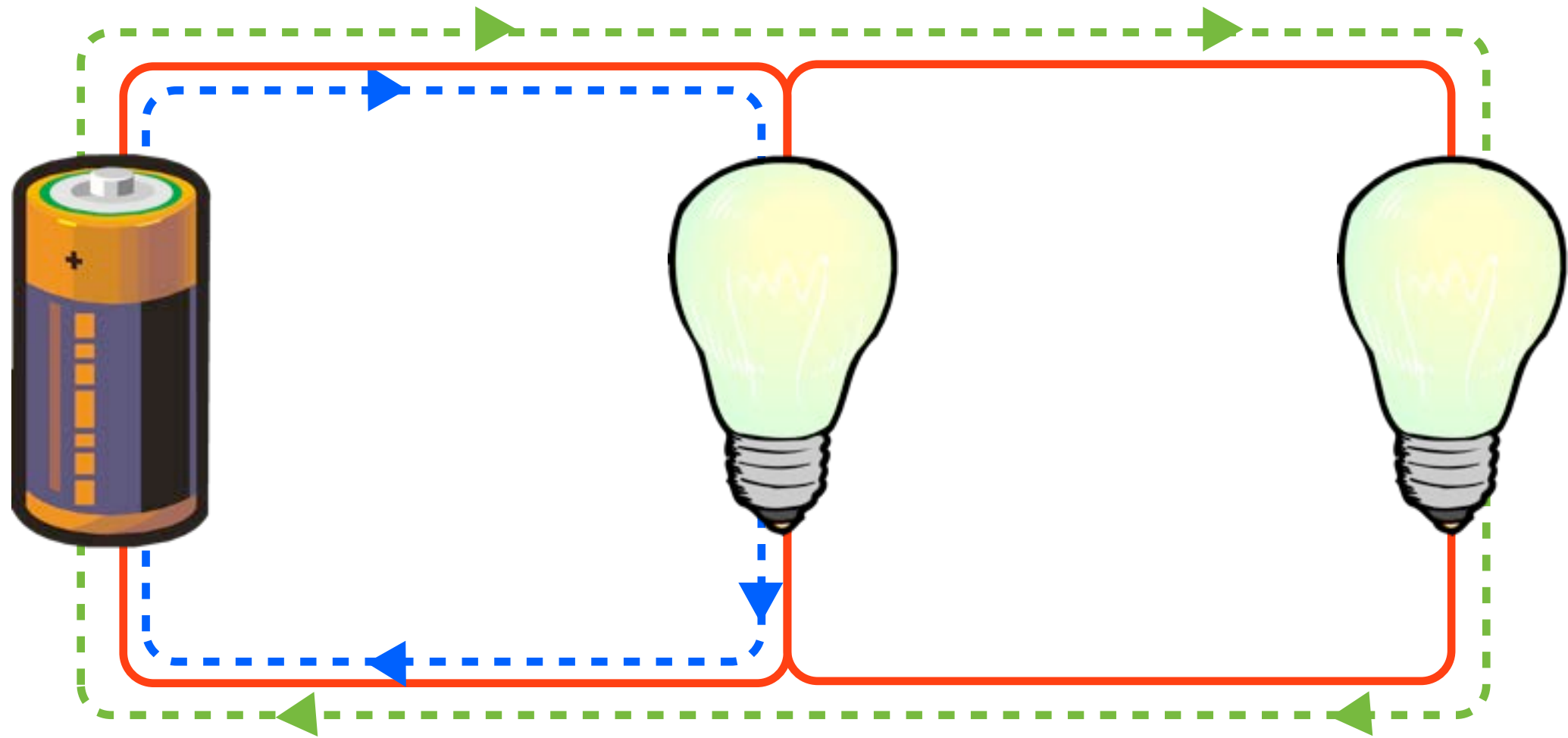
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This is a SERIES CIRCUIT. A series circuit has just one path for the electricity to flow around. If one of the bulbs in this circuit was to blow, the circuit would break and the other bulb would turn off too. Series circuits are generally only used when there is one component, such as one lightbulb or one buzzer. A torch would use a series circuit.

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This is a **PARALLEL CIRCUIT**. Parallel circuits provide more than one path for the electricity to flow around. If one of the bulbs in this circuit were to blow, the other would still work because there is another complete circuit for the electricity to flow around. Christmas tree lights use parallel circuits so that if one lightbulb blows out, the others will stay lit.

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