

Grade 7 Science
Week of February 1 – February 5

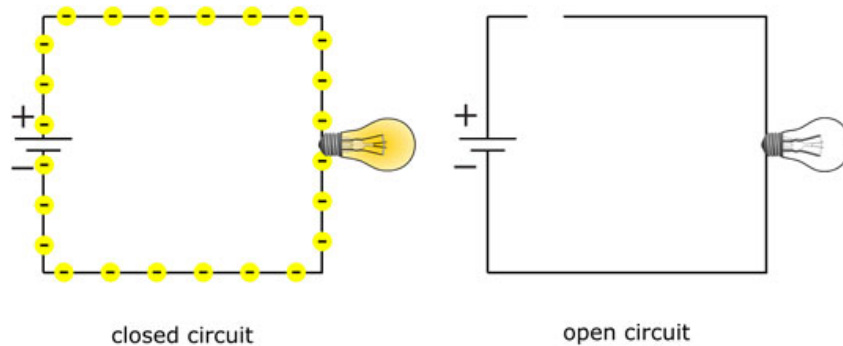
Circuits

Open and Closed Circuits

An **open electrical circuit** is a circuit where the path has been interrupted or "**opened**" at some point so **that current will not flow**. An **open circuit** is also called an **incomplete circuit**.

A **closed electrical circuit** is a circuit where the path is **completely connected** so that the electrical current can flow (or circulate). A closed circuit is also called a **complete circuit**.

A circuit must be closed in order to generate power.

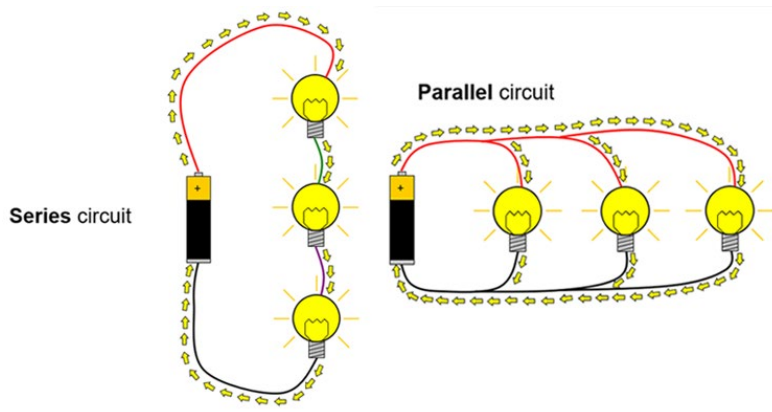


Series and Parallel Electrical Circuits

Electric circuits can be set up in two ways: In a Series Circuit or a Parallel Circuit.

In a **Series Circuit**, all of the electrical current flows through **each part of the circuit**.

In a **Parallel Circuit**, the current is **divided into separate paths**.



Watch the following video on **Series** and **Parallel circuits**. Why are parallel circuits 'better' than series circuits? Make sure you follow along in your Learning Guide!



Types of Electrical Circuits: https://youtu.be/RQ3dj0s_LY8

Circuit Parts

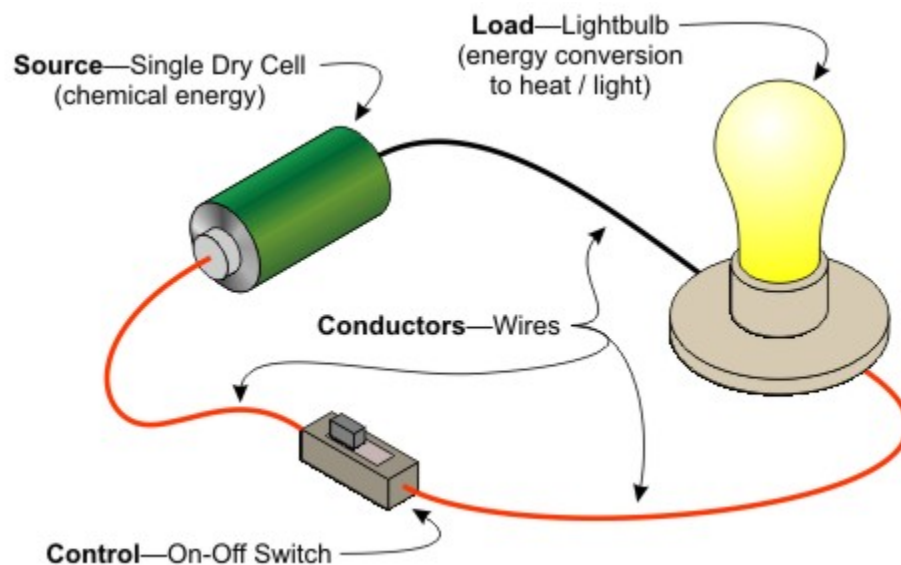
Basic Components of a Circuit

Power Source (voltage): Pushes the electricity through the circuit

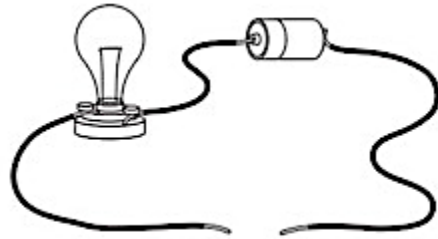
Connectors: Connect all parts to create the path for electricity to travel through

Load: The thing that is being powered by the electricity in a circuit

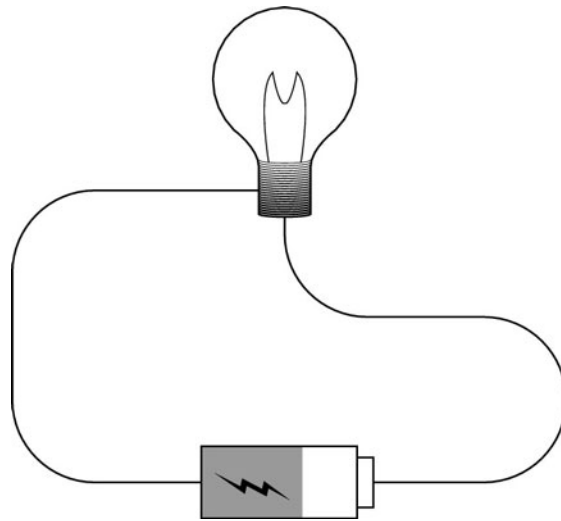
Control: Turns the power on or off (Creates a closed, or open circuit).



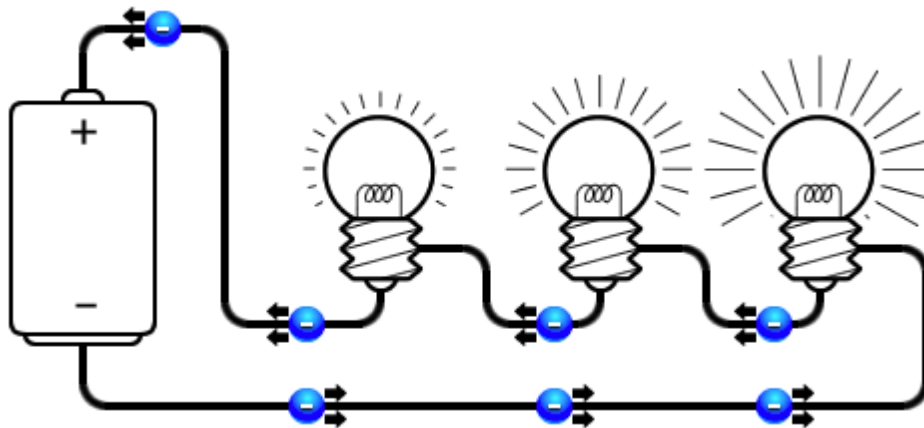
1. Is the following circuit open or closed? _____



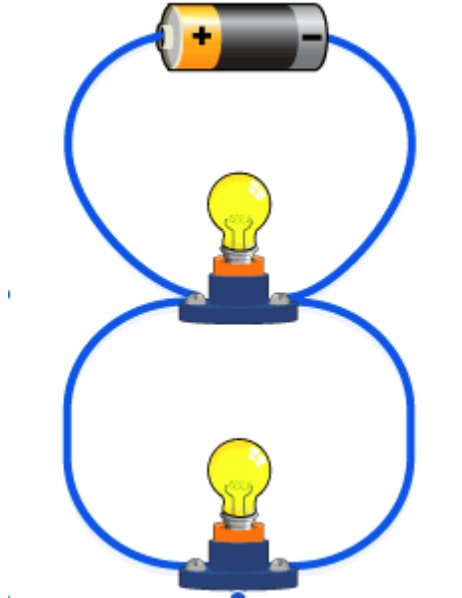
2. Is the following circuit open or closed? _____



3. Is the following circuit series or parallel? _____



4. Is the following circuit series or parallel? _____



5. Fill in the definitions:

Power Source (Voltage):

Connectors:

Load:

Control:

6. Label the following diagram with the vocabulary above:

