

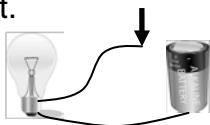


Teacher Notes:

Circuits are *closed*, *complete*, and *working* if everything is connected and the circuit has an energy source such as a battery. An *electric current* will flow uninterrupted through the circuit, causing light bulbs to light, buzzers to buzz, or motors to turn.



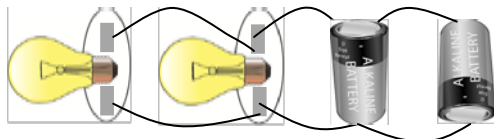
Circuits are *open*, *incomplete*, and *broken* if the energy source is missing or if a gap exists in the wiring. This stops the electric current from flowing through the circuit.



A *series circuit* is often shaped like a circle or square and only has one path for electrical energy to follow. The parts of the circuit follow each other in a series. If one component of the circuit is disconnected or removed, the circuit becomes open, incomplete, and broken because the current has been stopped.



A *parallel circuit* is a combination of series circuits with multiple paths for electrical energy to follow. A part of a parallel circuit can be disconnected or removed without affecting the entire circuit. Our homes and schools are wired with parallel circuits. We can turn out the lights in one room without turning off the lights in the room next door.



Switches often control whether a circuit is closed or open.

