



Basic

ELECTRICITY_{AF}

4Th grade level

Electrical Circuits

- **Conductors** are things that allow heat and electricity to easily pass through them.



- **Insulators** are things that *do not* allow heat and electricity to easily pass through them.

Electricity



- Electricity is the presence or movement of electrons, which are tiny, negatively charged particles that orbit an atom's nucleus.
- Electricity is what we get when electrons move from one place to another.

Where Is Electricity

- Electricity is present in lightning and in power grids.



- When you plug an appliance into the wall, electricity moves from a reserve in the wall to the appliance, which makes it run.

Static Electricity



- When you get an electric shock, that is static electricity.
- During static electricity electrons are moving from you to, say, a metal doorknob when you touch it. It can also happen when you quickly take off a sweater.

Electricity Cannot Flow Without

1. A power supply (like the mains or a battery)
2. A closed circuit to travel around

Note: If you remove the battery from a circuit, there is no source of electricity and the circuit is broken. You MUST have these two things for a circuit to work.



Helping Bulbs

- The bulb allows us to see whether the circuit is correctly connected. If it is not, the bulb goes off.

Note: There must be a closed circuit for the electricity to flow.



Switch

A yellow rectangular light switch is mounted on a blue background. A finger is pressing down on the switch's lever. The switch has two screws on the left and right sides.

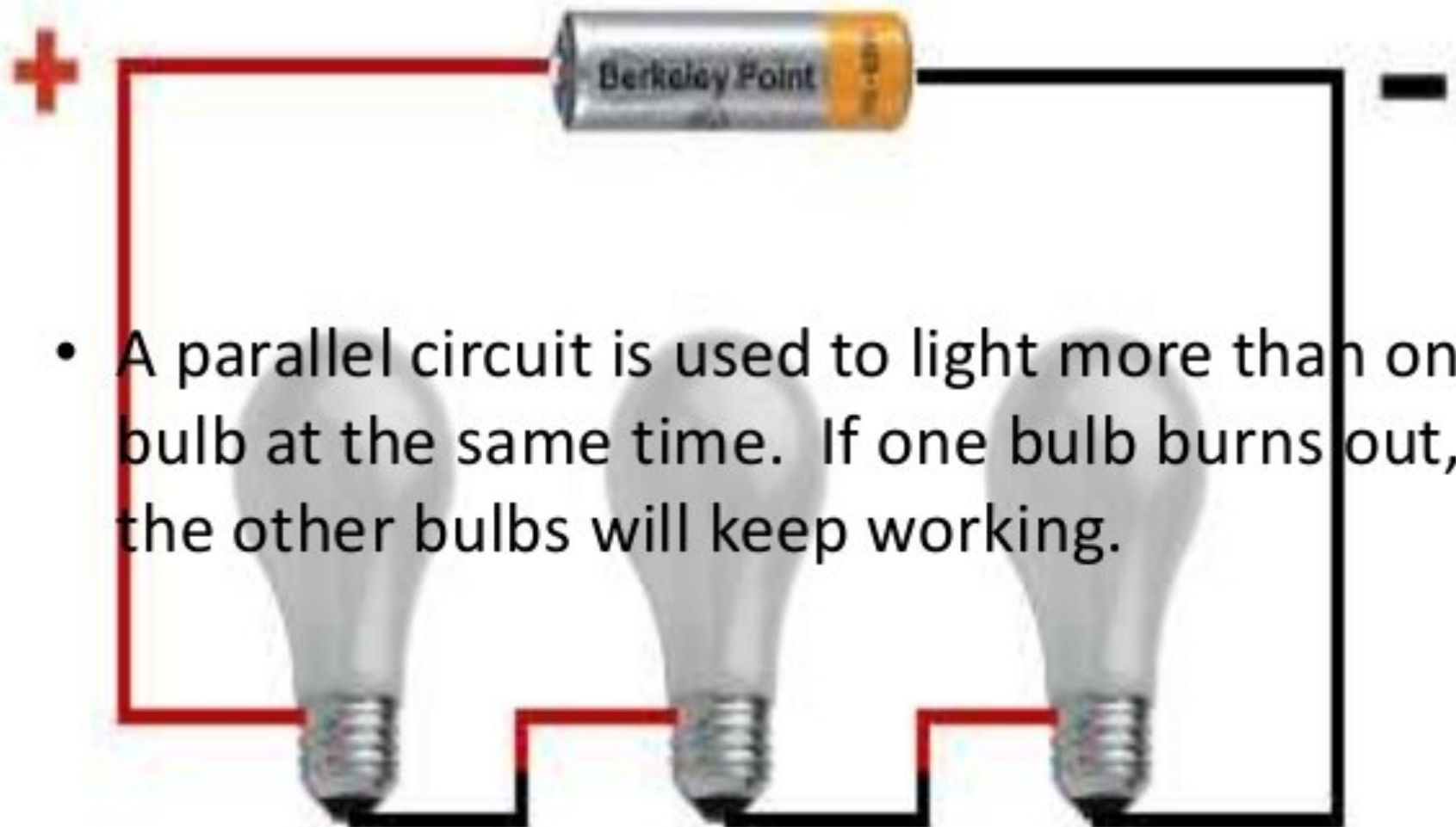
- A *switch* allows us to turn the electricity in a circuit on or off, to save energy for example.

Note: It does not matter where the switch is placed.

- Circuits can contain other electrical devices.

Ex. A fan needs a motor.

Parallel Circuit



- A parallel circuit is used to light more than one bulb at the same time. If one bulb burns out, the other bulbs will keep working.