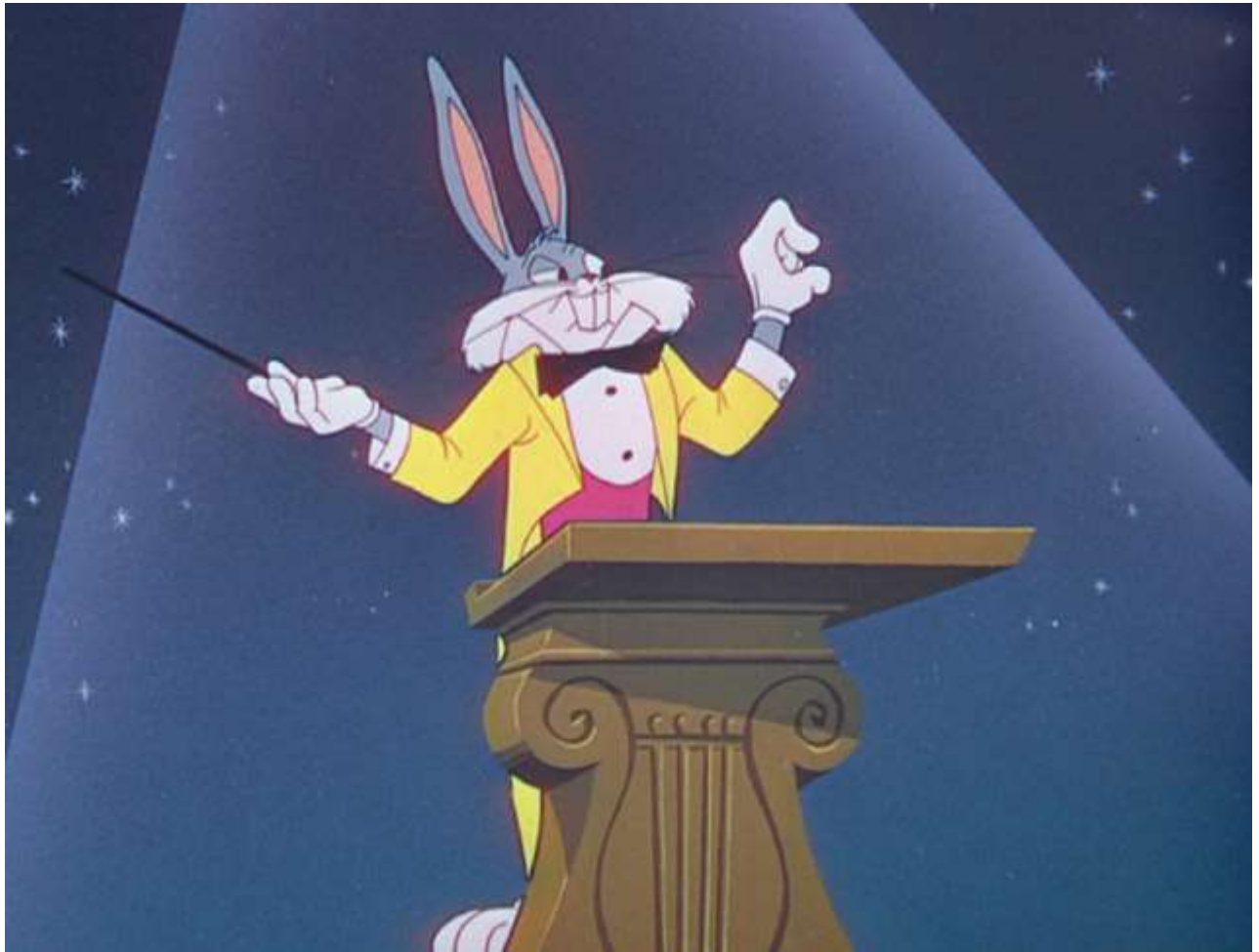
Dynamic Electricity

Conductors and Insulators

Dynamic Electricity: Electric charge in motion.

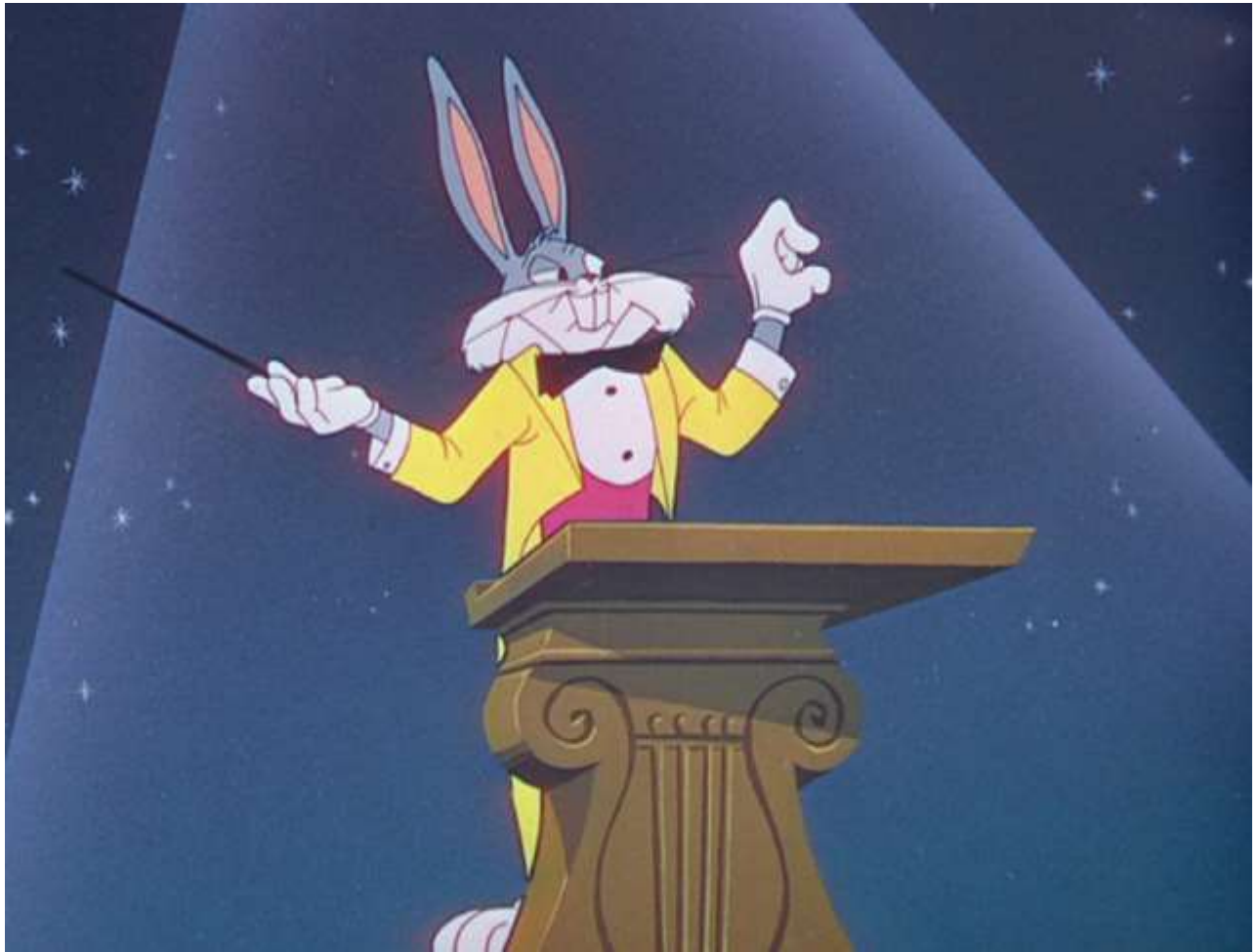
Conductor:



Conductors and Insulators

Dynamic Electricity: Electric charge in motion.

Conductor:



Conductors and Insulators

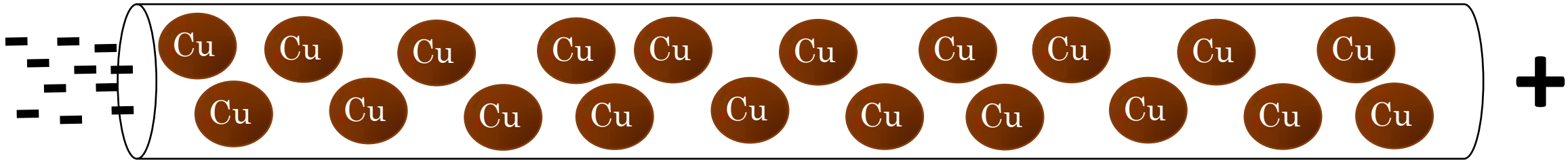
Dynamic Electricity: Electric charge in motion.

Conductor: A material or substance through which electric current can flow.

Insulator: A material or substance through which electric current does not flow.

How does electricity move through a conductor?

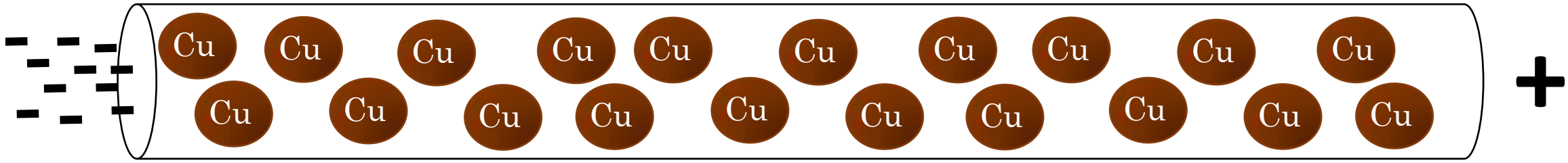
- Copper is a good conductor.
- Start with electrons at one end, and a positive charge at the other.



- Electrons are attracted to the positive side *(opposites attract)*.
- Electrons are transferred from one copper atom to another.

How does electricity move through a conductor?

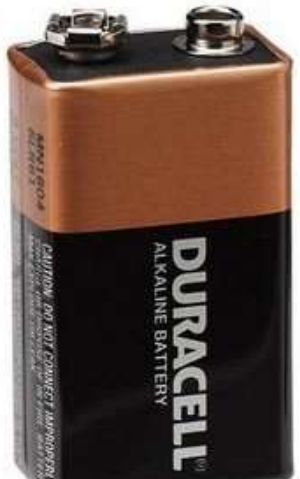
- Copper is a good conductor.
- Start with electrons at one end, and a positive charge at the other.



- Electrons are attracted to the positive side *(opposites attract)*.
- Electrons are transferred from one copper atom to another.

Where do the electrons come from?

(We need a device that can supply electrons)



Where do the electrons come from?

(We need a device that can supply electrons)

- Batteries have 2 terminals.
- One terminal has a positive charge.
  (where the electrons would like to go)
- One terminal has a negative charge.
  (the supply of electrons)

How does this work?

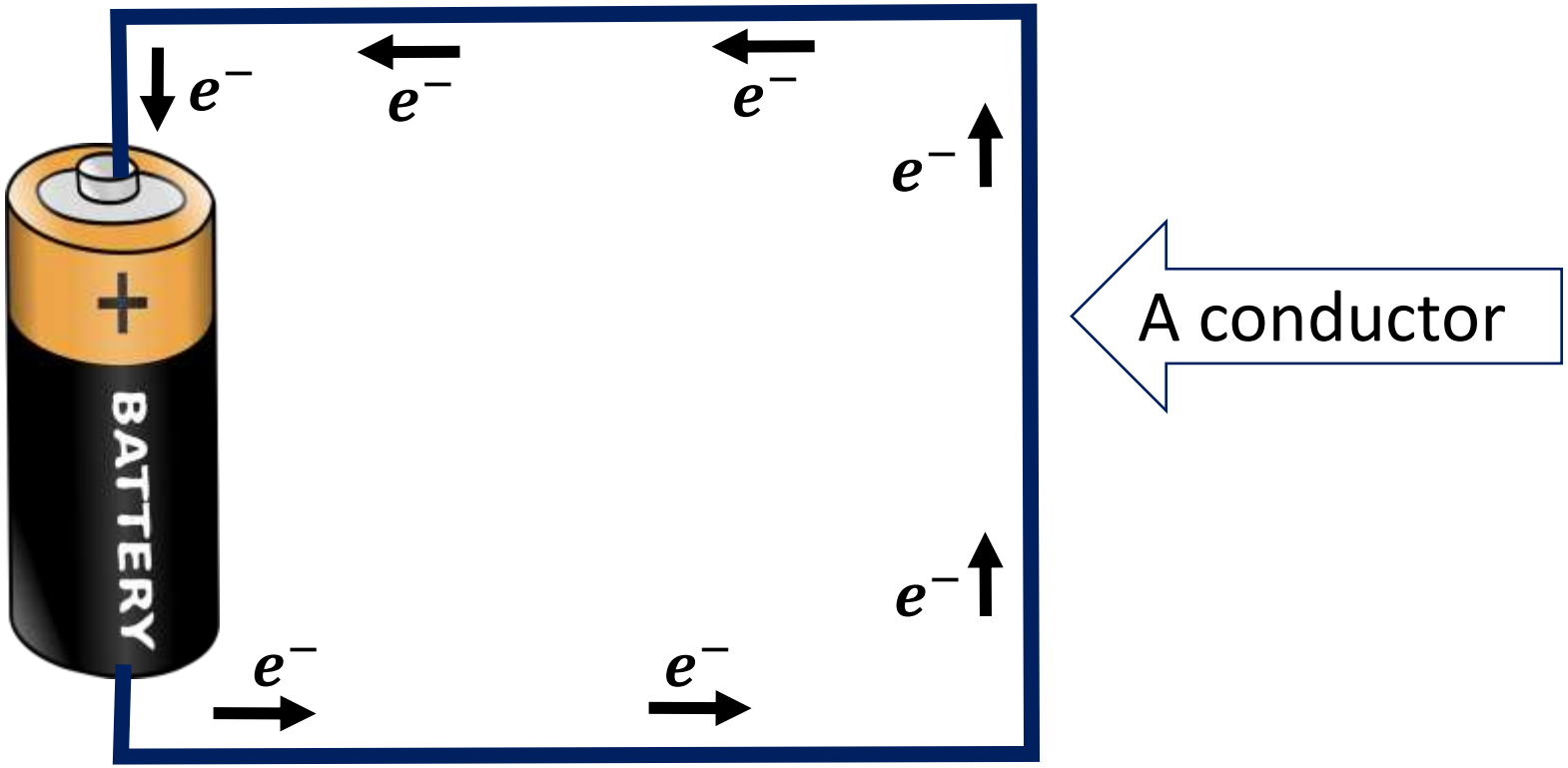
- Electrons would like to leave the negative side of the battery, and travel to the positive side.

  (they cannot travel through the battery)

  - The electrons need a material and a path through which they can travel.
  - The electrons need a <u>conductor</u> and a <u>circuit</u>.

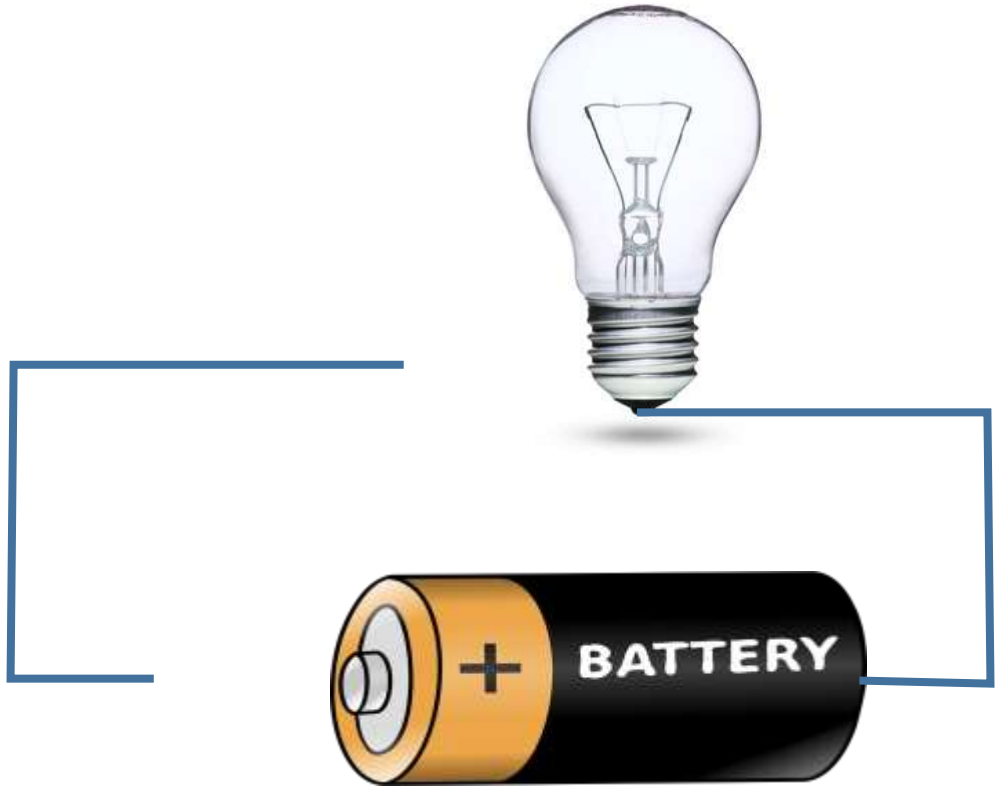
How does this work?

- A **circuit** is a closed path through which electricity can travel.



How does this work?

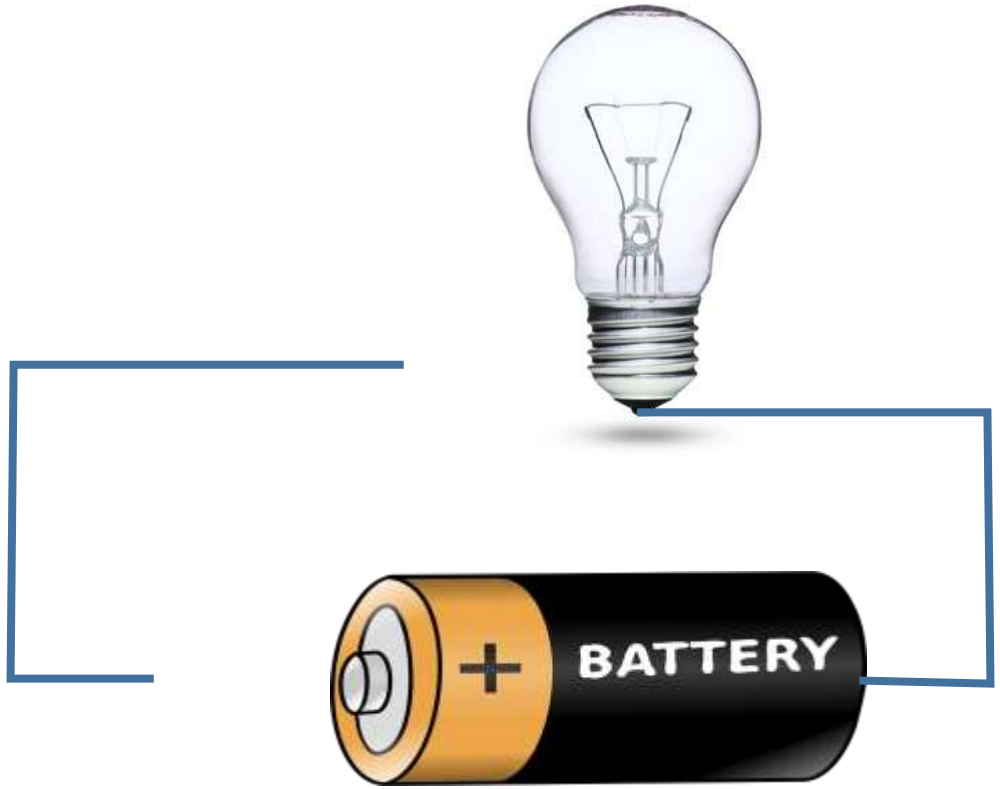
- The electrons flowing through a circuit carry energy, which can be used to do work.



How does this work?

- The electrons flowing through a circuit carry energy, which can be used to do work.

- When the circuit is complete the electrons travel through the wire, and through the light.



How does this work?

- The electrons flowing through a circuit carry energy, which can be used to do work.

- When the circuit is complete the electrons travel through the wire, and through the light.