



USING THE EARTH AS A BATTERY

What are the different  
**Types of Energy ?**



**Thermal  
Energy**



**Radiant  
Energy**



**Light  
Energy**



**Chemical  
Energy**

# Types of Energy



**Nuclear  
Energy**



**Electrical  
Energy**

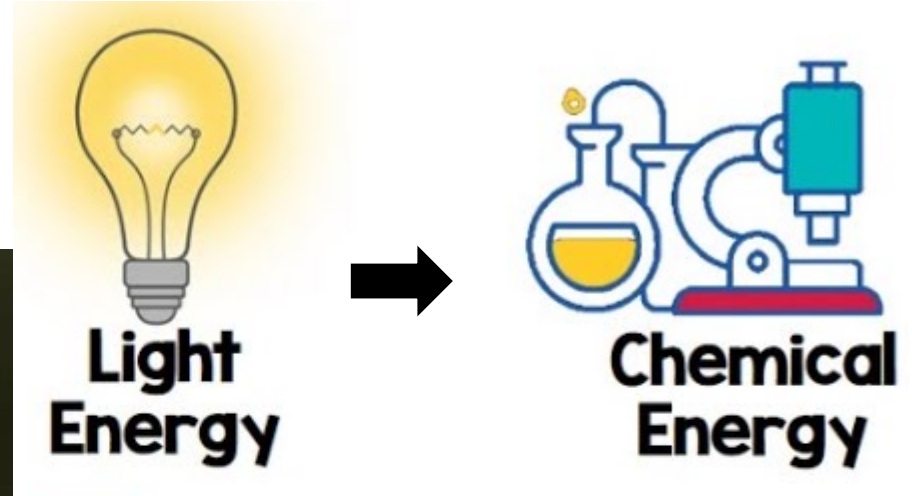


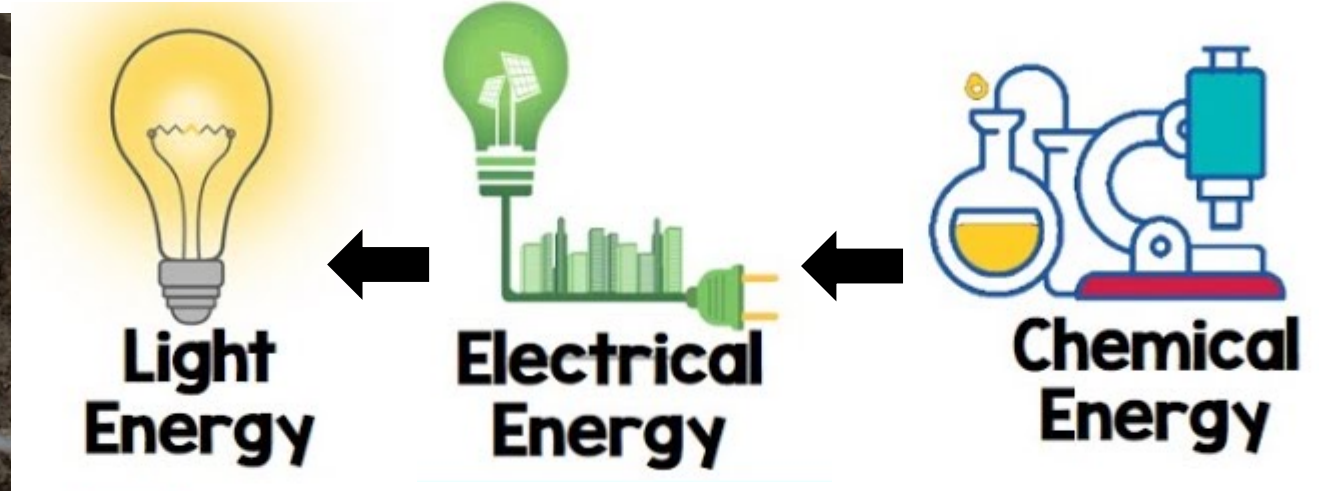
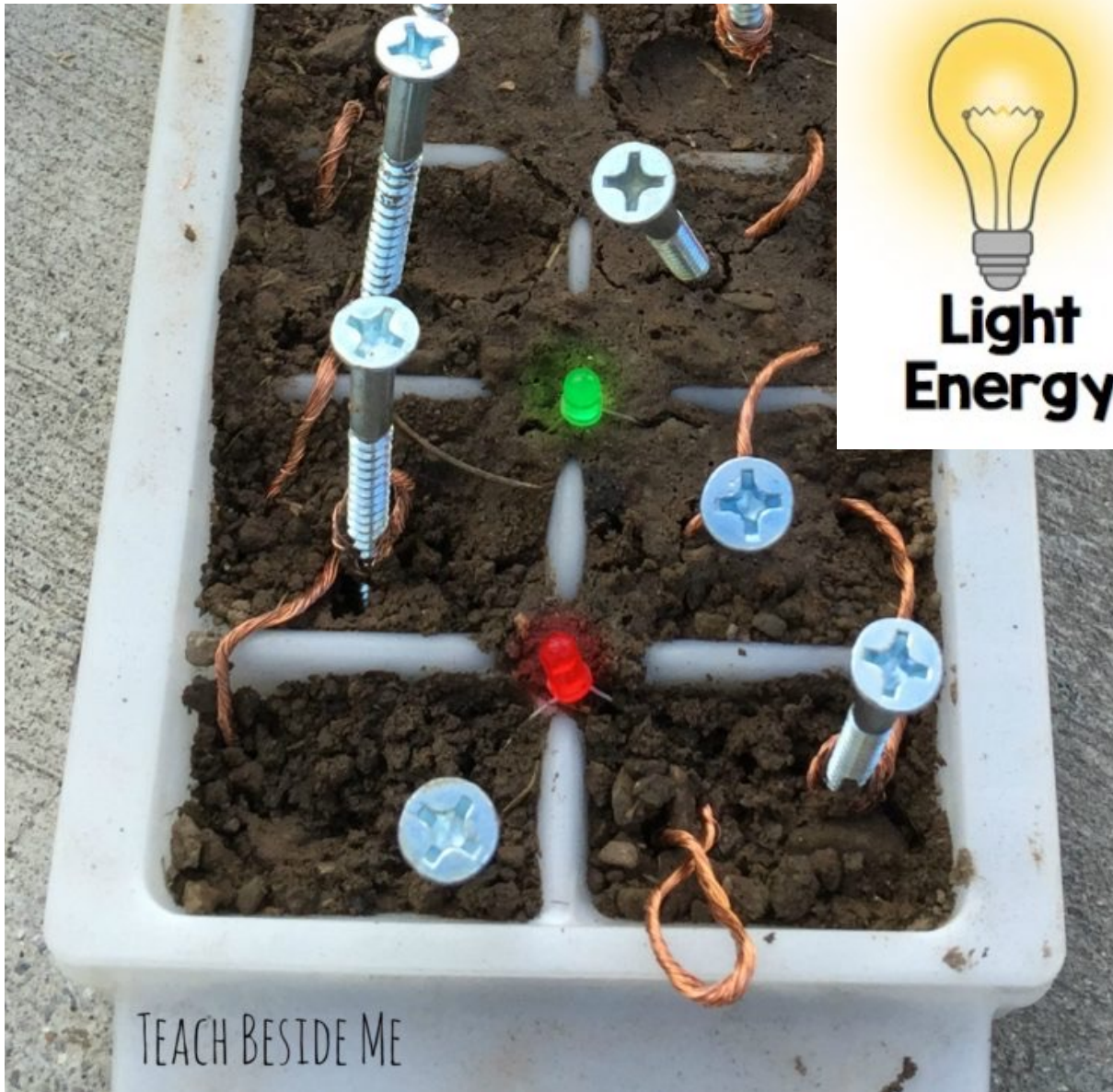
**Gravitational  
Energy**



**Mechanical  
Energy**

Plants convert **light energy**  
into **chemical energy**





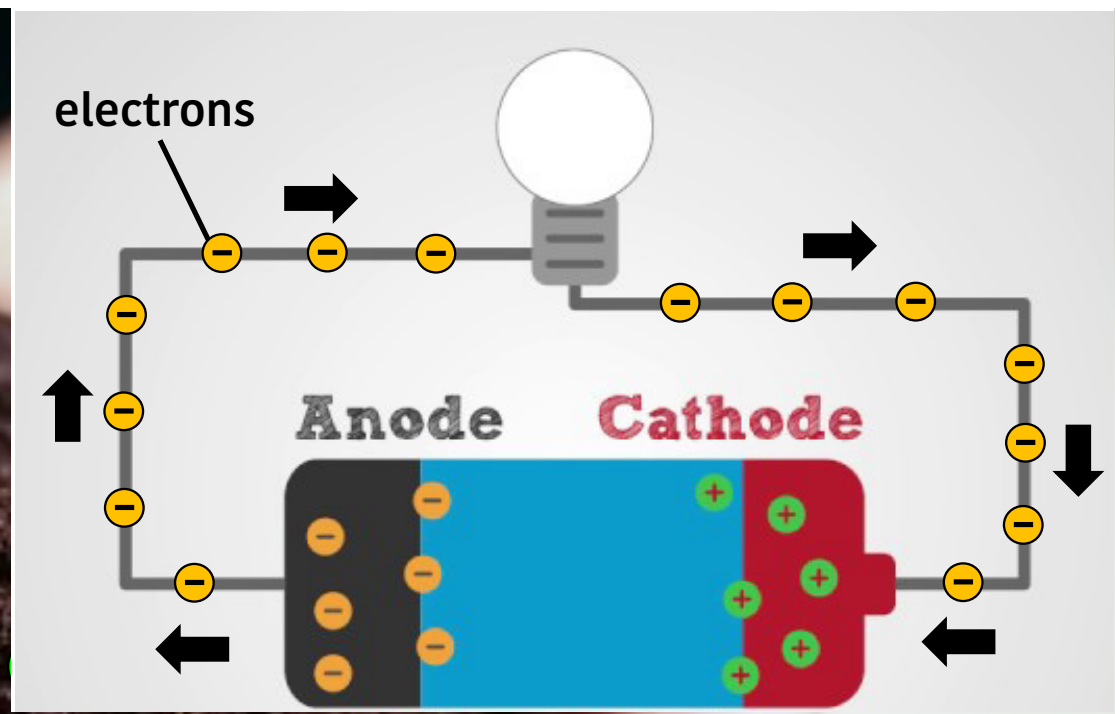
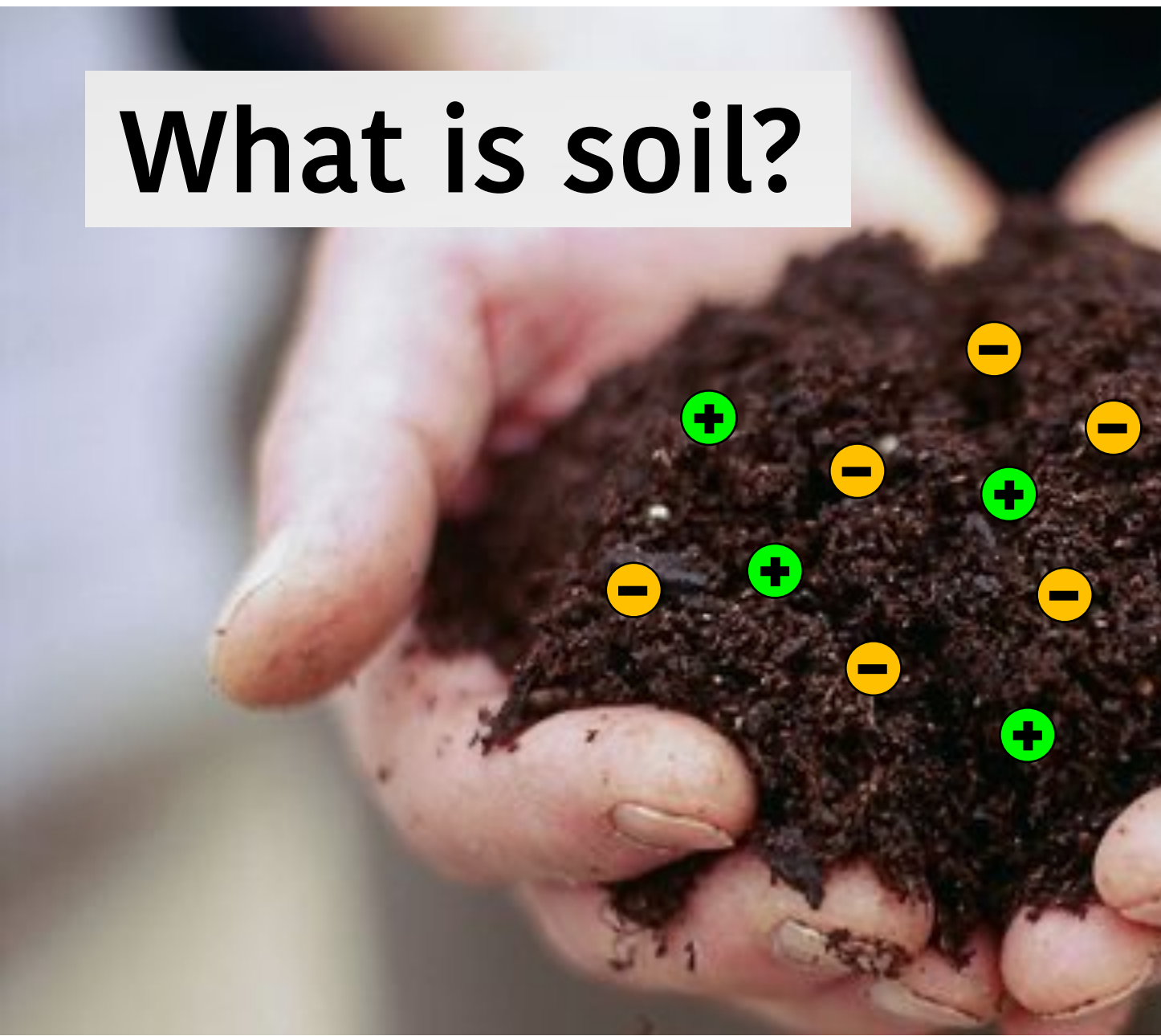
Today we will use **chemical energy** stored in soils to make **electricity** and **light energy**.

**This is a soil battery!**

**What is soil?**



# What is soil?



# Steps to make a soil battery



1. Mix soil with water + vinegar until soil is wet.



2. Wrap a piece of copper wire twice around a metal screw.



3. Insert the screw in one cup and the copper wire in the next cup.



5. Insert light into starting and ending cup, watch it light up!



4. Repeat until you've gone all the way around, but don't connect your end to your starting cup.





**Where do we find batteries?**



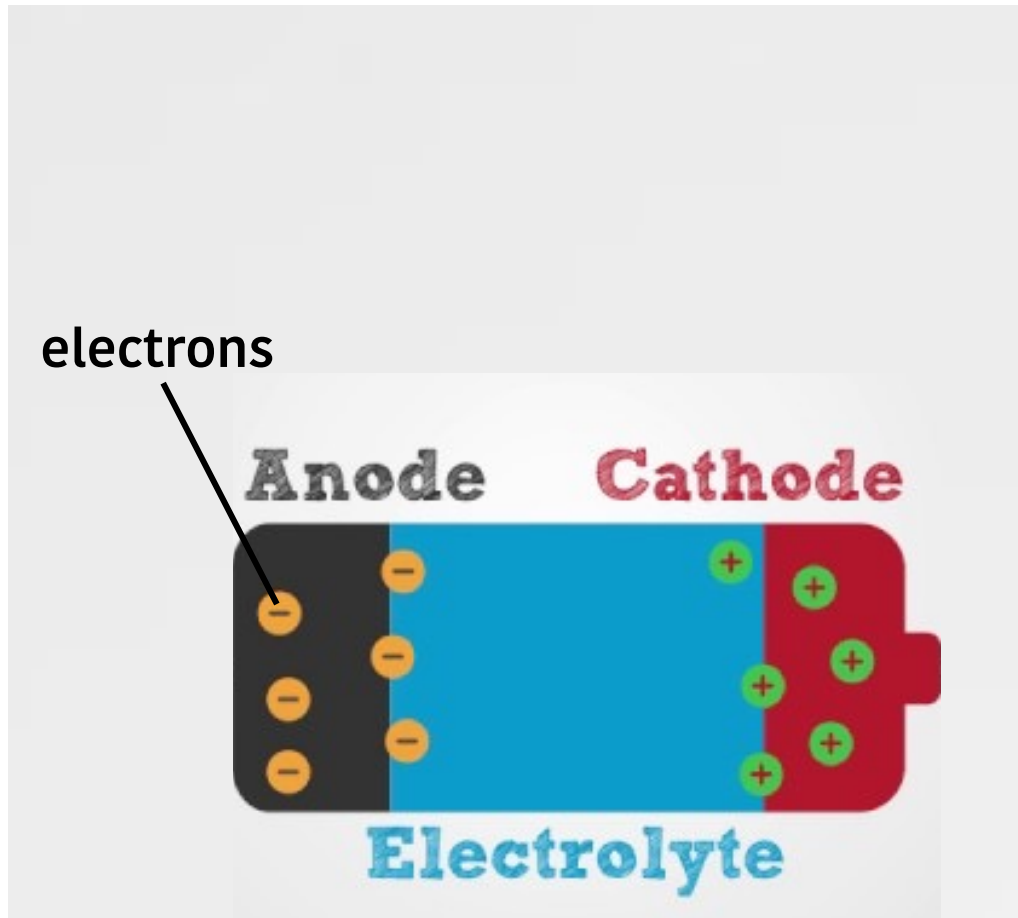
# Where do we find batteries?

## Everywhere!

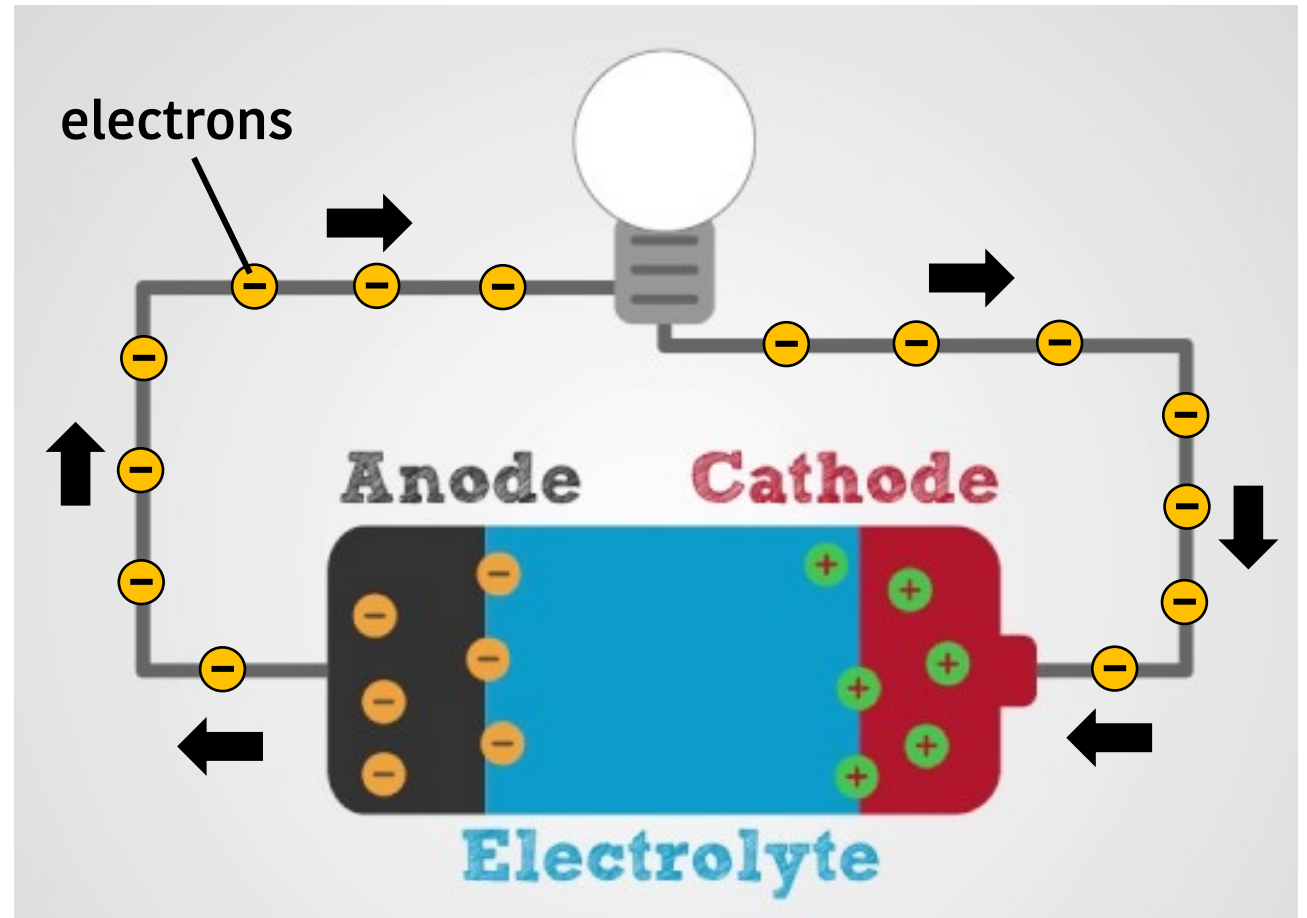


# How does a battery work?

**Chemical energy** stored through chemical reactions when battery not in use.

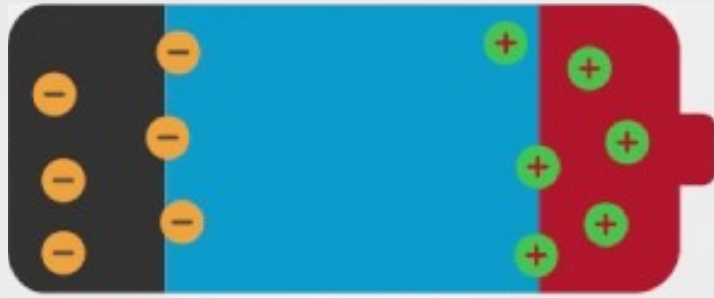


**Electricity** generated by movement of electrons when battery is connected to a device.



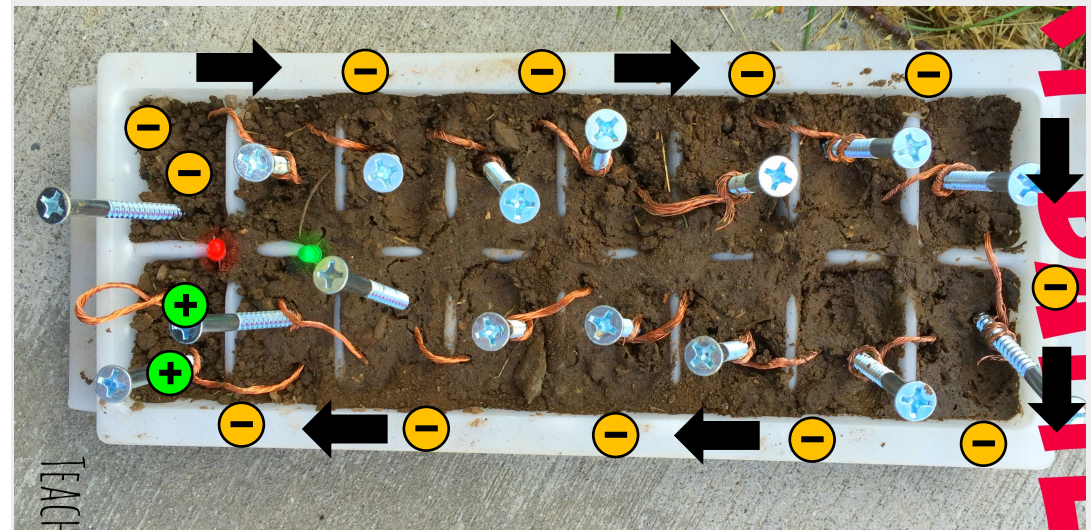
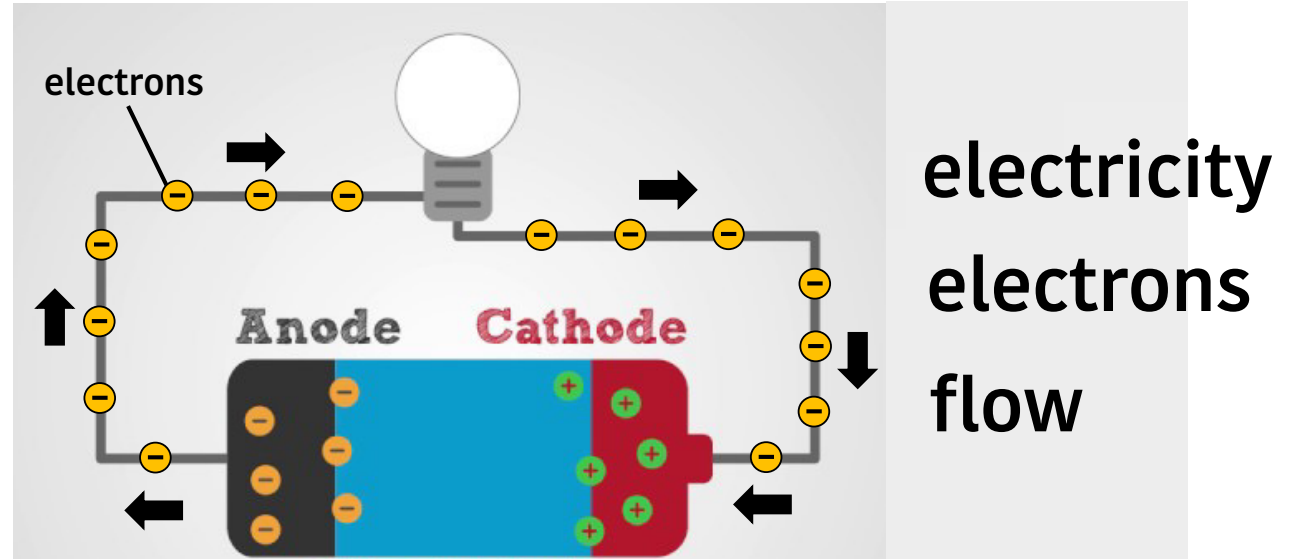
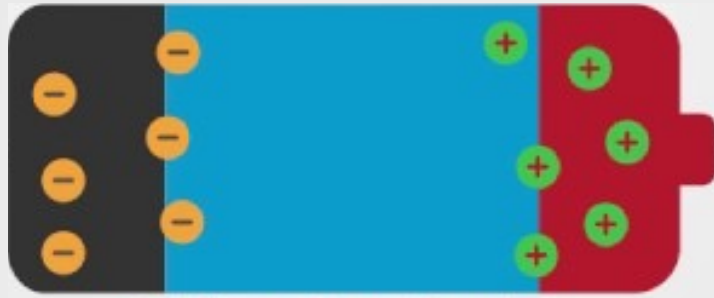
# How does a soil battery work?

chemical  
energy  
storage  
soil  
electrons



# How does a soil battery work?

chemical  
energy  
storage  
soil  
electrons



# How does a **soil** battery work?

Our soil battery converts stored **chemical energy** into **electricity** when we build a path for electrons to flow.

