

Compost battery

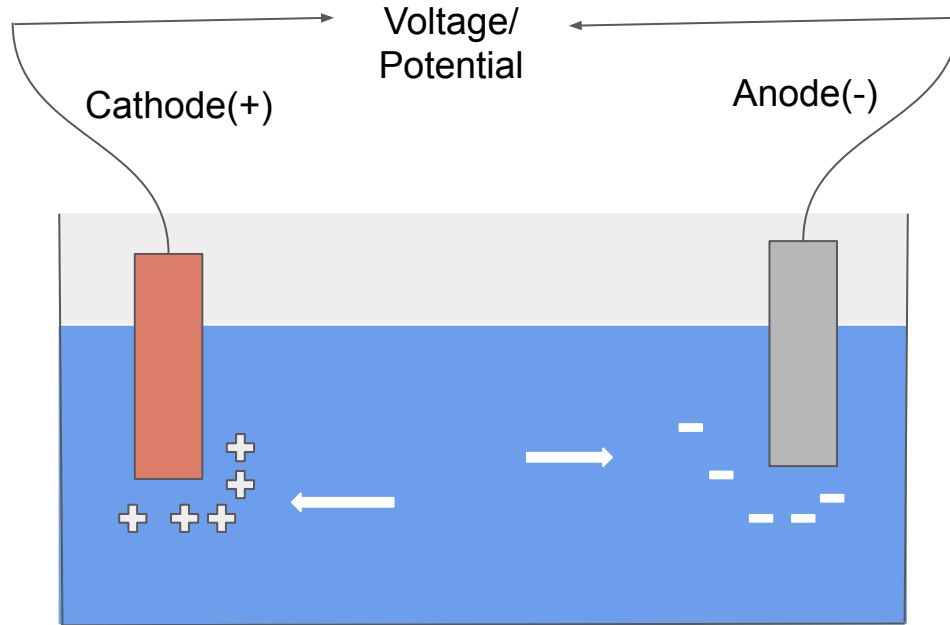
Testable Question

Can we create a battery using compost from household waste material?

Prediction:

Yes we should be able to. The voltage may decrease over time.

Procedure: Battery Structure



Procedure: Electrodes (Anode and Cathode)

Electrode is an electrical conductor that allows electrons to move

Anode is the electrode through which electrons leave the battery (Zinc, Aluminium)

Cathode is the electrode through which electrons enter the battery (Copper)

Procedure: Compost Battery Materials

- 1. Copper wire, 4**
- 2. Zinc plate, 1**
- 3. Aluminium plate, 1**
- 4. Copper tube, 1**
- 5. Pail, 2**
- 6. Volt meter, 1**
- 7. Compost around where you are**
- 8. Bag of compost soil, 1**

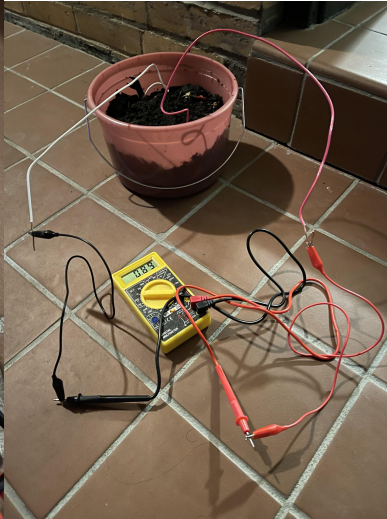
What is exactly **compost**

Some people might not know what compost is. Compost is a waste material. Waste material can be banana split, vegetable waste, eggshells, fruit skin, parts of vegetables we don't eat. Also 1 question you might be asking is... What is **compost soil**? You might not know but, **Compost soil is made from compost**. You might be like "It's not true" but, if it wasn't made of **compost** why is it called **Compost Soil** but, it wasn't made from the compost instantly it takes a couple of weeks to decompose eventually it becomes soil.

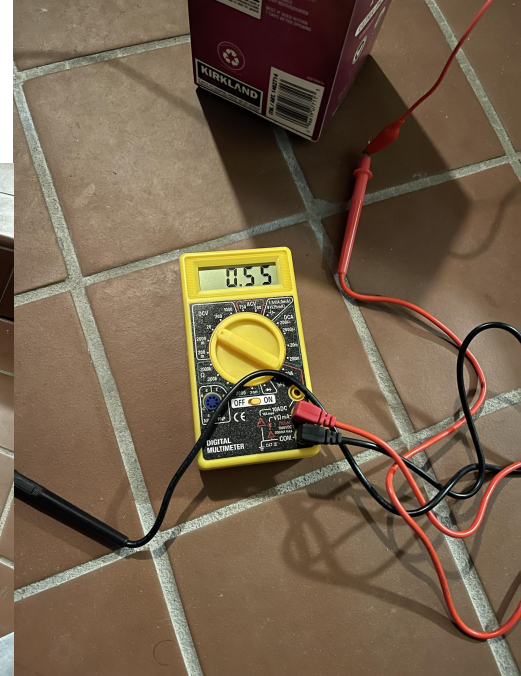
Compost Battery Construction



Anode: Zinc
Cathode: Copper



Anode: Aluminium
Cathode: Copper



Background

- Compost is renewable
- Compost has lot of nutrients for plants
- Compost battery can generate electricity without the sun at night or on cloudy days
- Compost battery can be made from daily use materials

Constant Conditions

Independent Variable: Type of Anode, Compost Material, Temperature

Dependant Variable: Voltage

Constant Conditions: Air

Observations

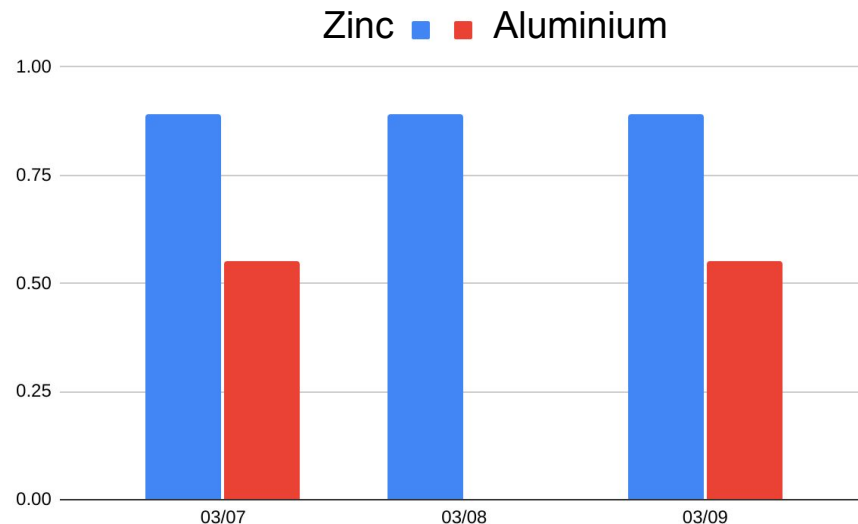
Voltage Measured(Zinc/Copper):

Monday(03/07/22)	Tuesday(03/08/22)	Wednesday(03/09/22)
0.89V	0.89V	0.89V

Voltage Measured(Aluminium/Copper):

Monday(03/07/22) - 0.55V

Wednesday(03/09/22) - 0.55V



Conclusions and Reflection

I learned that you can make battery out of compost and different kind of metals. I also learned that two different metals one anode and another cathode can form a battery. Different kinds of metals for the anode can give you different voltage results. Also, I learned that zinc is better than aluminium in terms of voltage. I also learned how to use a voltmeter to measure the voltage.