

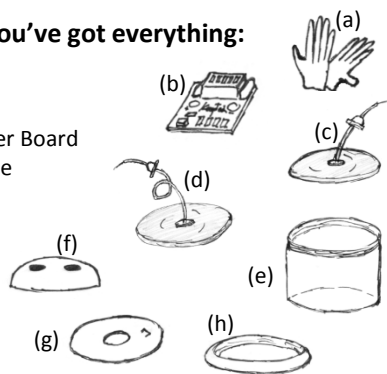
Congratulations! You're the proud owner of a MudWatt™ Microbial Fuel Cell. Let's get started:

Note: Wear your gloves (included) while constructing the MudWatt™. Please read the disclaimer at the end of this booklet to see why.

Prepare Your MudWatt™

1 Make sure you've got everything:

- a) Nitrile gloves
- b) MudWatt™ Explorer Board
- c) MudWatt™ Cathode
- d) MudWatt™ Anode
- e) MudWatt™ Vessel
- f) Dome Lid
- g) Donut Disk
- h) Sealing Ring



2 Connect the Cathode

- Place Cathode (red) wire through donut disk (with tab facing away from Cathode)
- Plug rubber bumper into Dome Lid



3 Connect the Anode

- Place Anode (green) wire through donut disk (with tab facing away from Anode)
- Plug rubber bumper into Dome Lid



4 Twist wires together one full turn



5 Put on Ruler Sticker



Line up the top of the sticker with the edge of the Vessel.

Prepare Your Mud

6 Find some soil

You can either dig it up from your backyard (or someone else's backyard), or you can purchase it at a store. However, avoid soils with little white balls in it because those will aerate the soil, which is bad for the anode.



7 Mix in water until it feels like cookie dough

This consistency is very important. If it is too crumbly, add more water. If it is too drippy, add more soil.



Want to add a mystery ingredient? Check out our Community page for further instructions at: www.keegotech.com/community/education

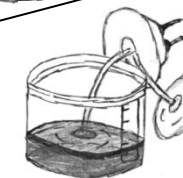
Feed Your MudWatt™

8 Fill Vessel with Mud up to 1cm line



Pat down smooth.

9 Place the anode on top of the Mud



Make sure there are no air bubbles under the Anode.

10 Fill Vessel with Mud up to 4cm line



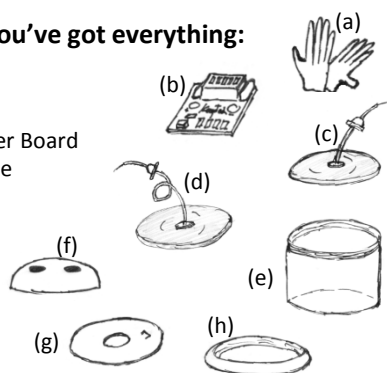
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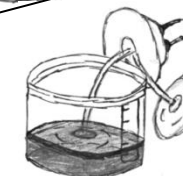
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9 Place the anode on top of the Mud



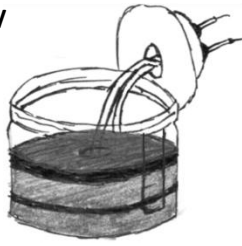
Make sure there are no air bubbles under the Anode.

10 Fill Vessel with Mud up to 4cm line



11 Place the Cathode gently on top of the mud

Hint: Be sure not to cover the cathode with any soil or liquid. Let the soil rest for a few minutes and drain any excess liquid.



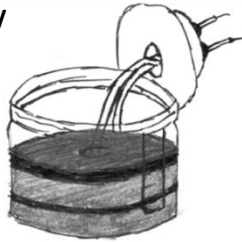
12 Wipe off any mud on the rim

13 Put on the Donut Disk+Dome Lid and screw on the Sealing Ring



11 Place the Cathode gently on top of the mud

Hint: Be sure not to cover the cathode with any soil or liquid. Let the soil rest for a few minutes and drain any excess liquid.



12 Wipe off any mud on the rim

13 Put on the Donut Disk+Dome Lid and screw on the Sealing Ring



14 Attach Explorer Board

Use the included hook and loop disks to attach it to the top or the side.

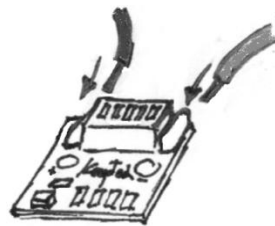


15 Plug electrodes into the Explorer Board

Hint: Anode (green) plugs into the "-" port and Cathode (red) plugs into the "+" port .

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Hint: Anode (green) plugs into the "-" port and Cathode (red) plugs into the "+" port .

That's it!

Your MudWatt™ Microbial Fuel Cell is complete. Watch it grow more powerful in the coming days as electrogenic microbes develop! Turn on Nob#1 on the Explorer Board to see your microbes in action.

What to expect:

Depending on the temperature and the soil conditions, it should take 3-10 days for the MudWatt™ to develop enough voltage and current to blink the blinker. You can expect your MudWatt™ to produce approximately 100uW with just topsoil and water (however, all soils are different). As long as the MudWatt™ is tightly sealed, and it remains moist, this power will last for **years!**

****Disclaimer:** The MudWatt™ electrodes are made of graphite fiber, which is a conductive material and will cause shortages when in contact with electronics. Do not to place the electrodes near electronics or power plugs and use care not to disperse fibers into the air.

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Build Your Mudwatt™



This paper is Green Seal and Green-E Certified



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