



ECHO Asia Auxiliary Document

Building a Homemade Biohood

Designed by
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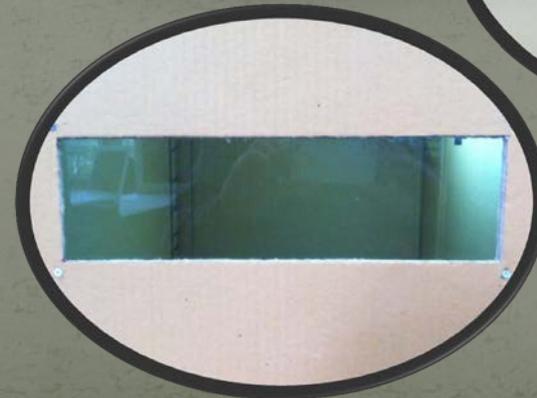


About

- This homemade biohood was designed and built in about 3 hours
- It is used to create a sterile environment in which to inoculate collections of *Beauvaria* and *Trichoderma* fungi
- Preventing contamination (from breathing, invisible floating fungi spores, etc) while inoculating helps us maintain and guarantee healthy and productive fungi
- *Beauvaria* is used as a natural biological insecticide
- *Trichoderma* is used as a natural biological fungicide
- At ECHO Asia, we are currently researching the effectiveness of these fungi in our seed production plots

Supplies

- Large box
- Duct tape and electrical tape
- Scissors
- Electrical wire tool
- Inflorescent light fixture with bulb (can use compact fluorescent)
- Electric on/off switch
- Simple two wire cable with plug
- Glass panel (from an adjustable glass shutter window)



Part One – The Box



- Fold three flaps of the box over a straight edge
- This will help create a sturdy base
- Tape the back corners together



The Box- ctd....

- Cut the fourth flap at the same height you folded the other flaps
- Use the extra cardboard and duct tape to create guides for the door
- These will help the door stay open and add a little side protection



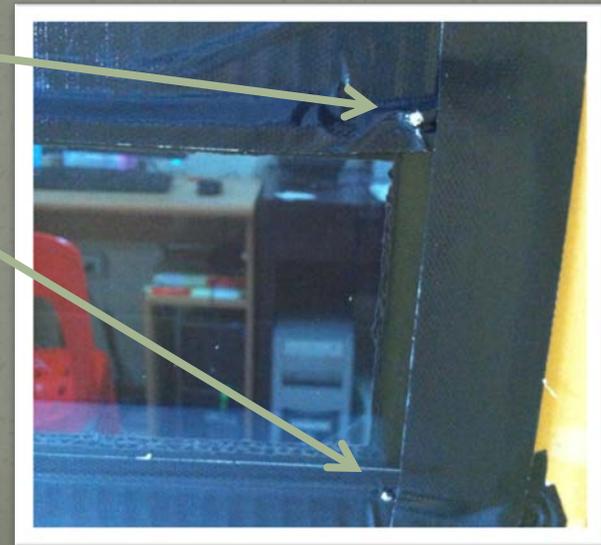
Part Two – The Window

- Cut a window a few cm smaller than your glass panel on each side
- Make sure it is at a comfortable eye level!
- Duct tape the glass panel to the inside of the box



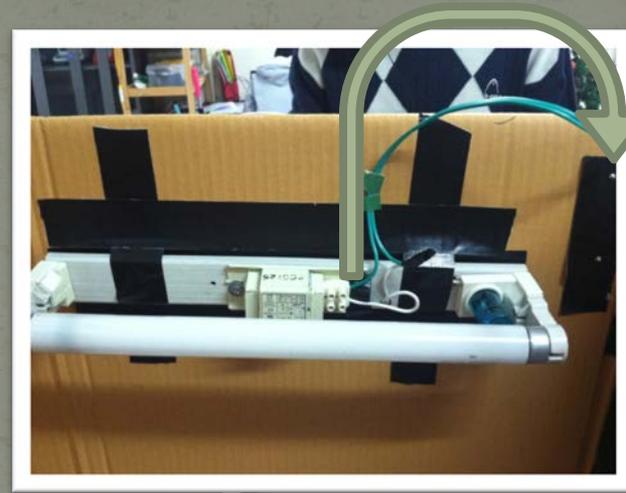
The Window- ctd...

- Adding small screws to the duct tape can help the glass' stability



Part Three – The Wires

- Measure the distance from your switch's location to where your light will be
- Cut that length from the opposite end of your cable's plug (with a little slack)



The Wires- ctd...



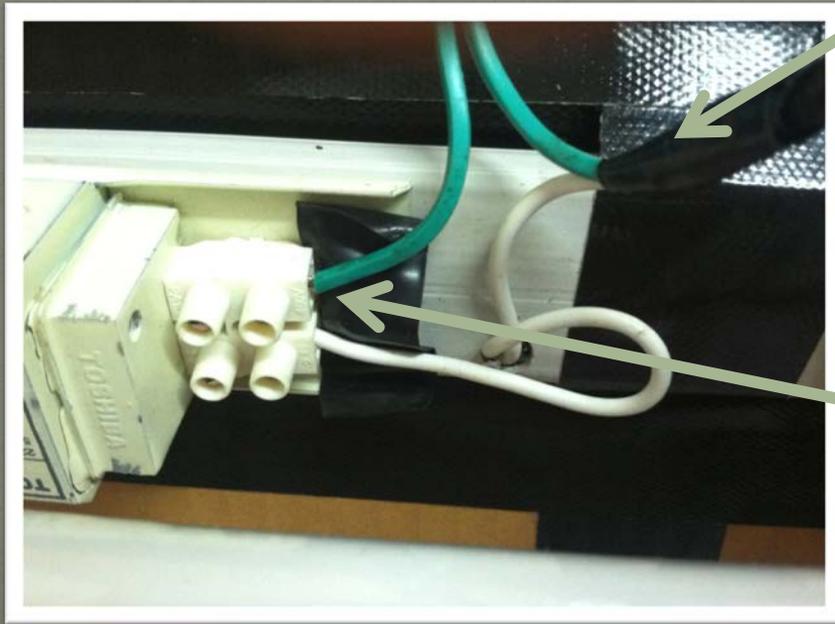
- Split the wires of your cable and remove 1 cm of the coating with scissors or wire tool
- Insert wire with plug into the bottom of the switch and screw down
- Insert cut piece into the top of the switch, screw down and lead through the box

The Wires- ctd...

- The switch is held with two screws through the box and duct tape on the inside



Part Four – The Light



- Duct tape the light fixture to the inside of the box
- Coil together the bared copper from your wire to the exposed wire of the light fixture
- Insert your other wire into the fuse box and screw down
- You can also use a simple compact fluorescent bulb and base

Usage

- Insert the light bulb, plug in the cable, flip the switch and see if your light works!



Part Five – The Work

- Burn a candle inside the box while you are working to keep oxygen low and lower the chances of contamination
- A piece of tape on top helps keep the box open just enough to allow the candle to burn



The End

