Green University of Bangladesh

Department of Computer Science and Engineering

Lab Project Report
On
Solar Powered Fan

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Intro: Solar Powered Fans

Using the Brown Dog Gadget 5W solar panels, we were able to turn battery-powered fans into solar powered fans!

Step 1: Get a cheap fan

I got this cheap, battery-powered fan from our local dollar store.

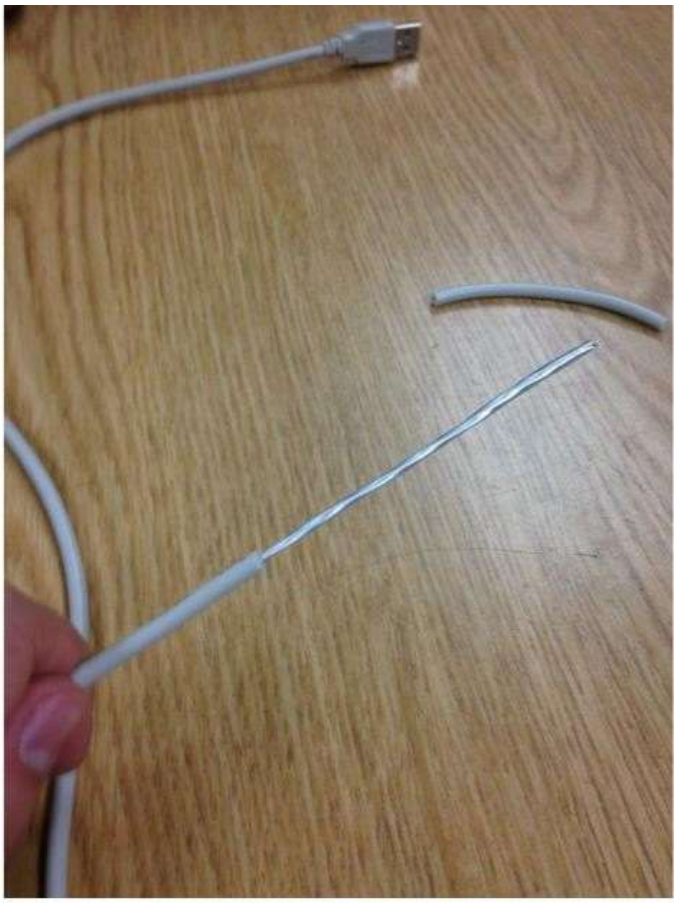
Step 2: Get a cheap USB 2.0 cord

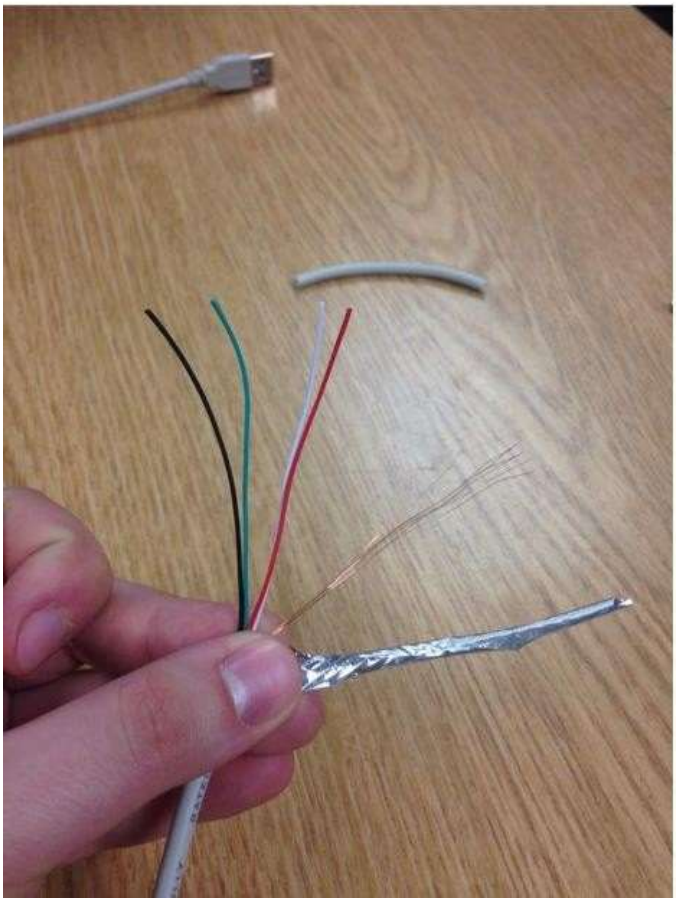
Get a discarded or cheap USB 2.0 cord, then snip off the other end of the cord.

Step 3: Strip the open end to get to the wires

Carefully strip the open end of the cord to get to the wires. Depending on the USB cord, you may have a thicker or thinner rubber coating. (A great opportunity to explain to kids why the wires are covered in rubber!) I recommend stripping off a larger amount because some of the electric wires are a bit frail and you may make a few mistakes stripping those. Leave a margin of error.

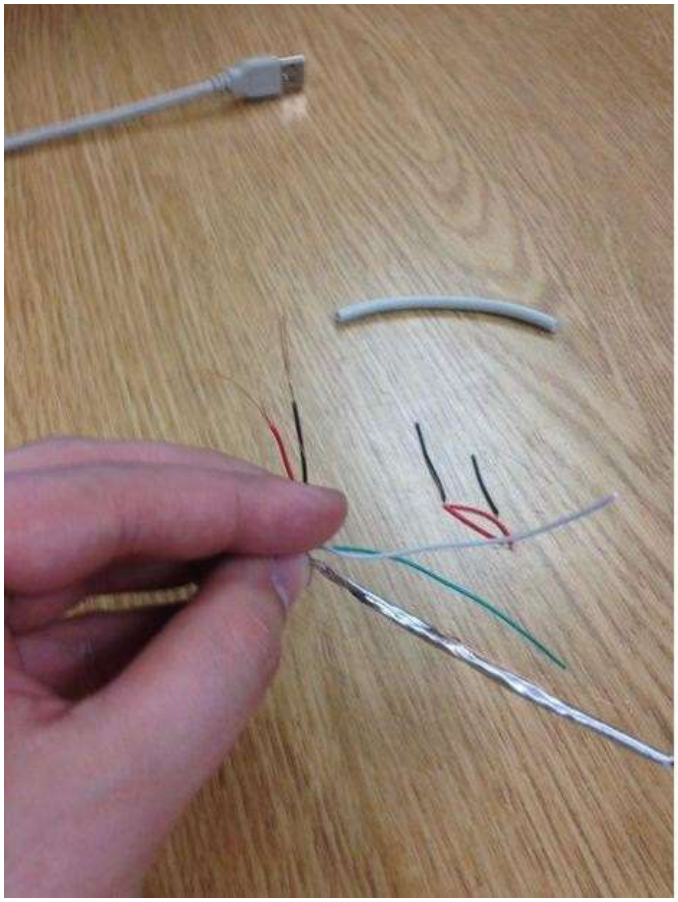
Depending on your USB cord you may have foil wrapped around your wires. Remove the foil. You will only need the black & red wires. (Red=positive; black=negative). Feel free to cut the other wires off. (Note: if you are missing a red or black wire, sometimes that one is already exposed after stripping the rubber coating.)

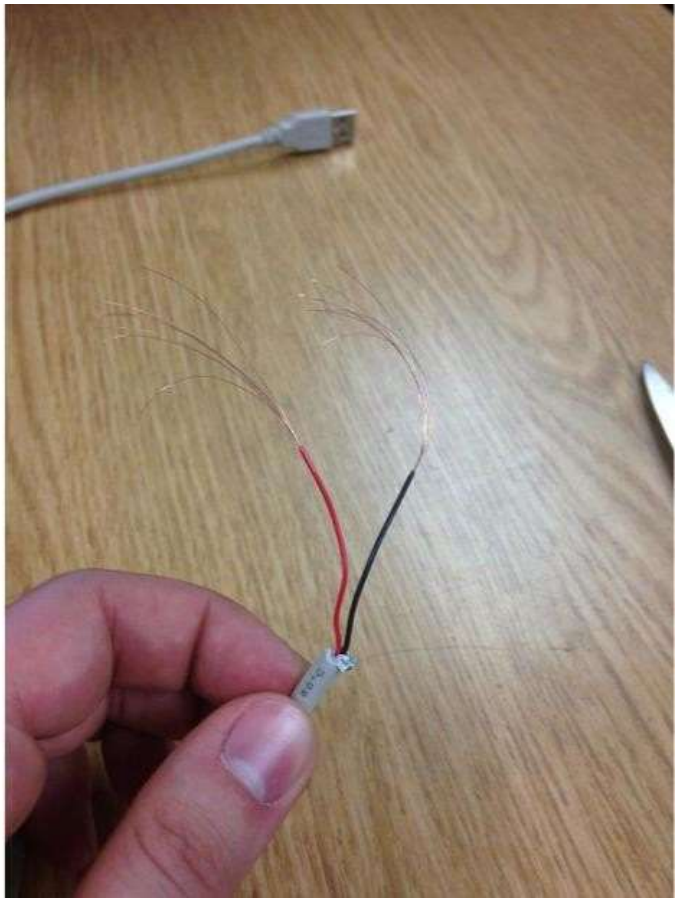




Step 4: Strip your Red (+) and Black (-) wires

Carefully strip the red (+) and black (-) wires. If these are incredibly small and frail, sometimes what works is using your own nail and applying pressure and pressing down on the small coating, and pulling it off. Again, if you have extra wires (white, green, etc.) feel free to remove them. These are for other functions depending on your cord.





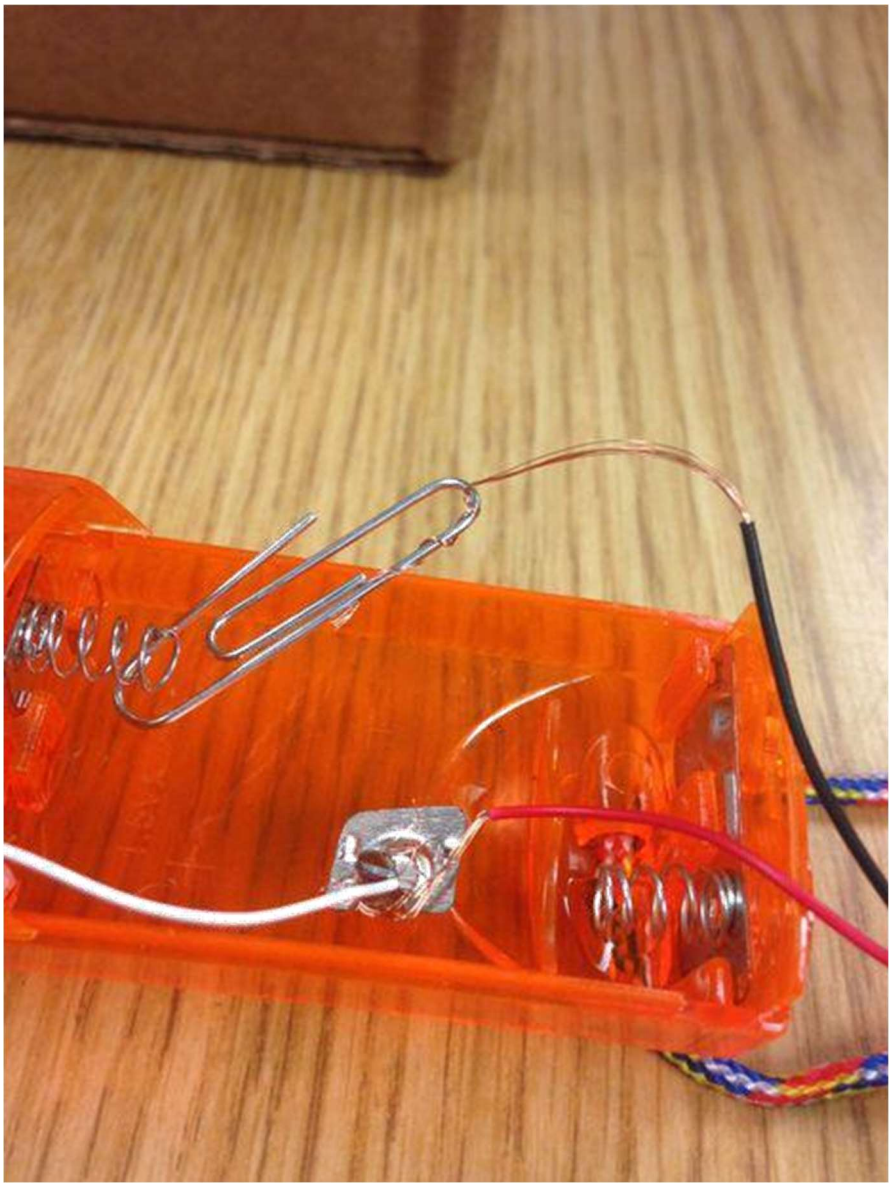
Step 5: Attach your red wire to the positive hook up

You may need to slide the positive metal part up to make it easier to attach your red wire to it. You can do this by using something small and thin to detach it from the battery spot, or you may need to unscrew the back screw to open the plastic case. Wrap the exposed red

wire to ONLY the metal part. Having it touch the white part of the wire will ground the circuit.

Step 6: Attach the black wire to the negative end/spring

Attach the black wire to the negative end/spring in the battery pack. Be sure to attach it to the negative end that will have direct contact with the motor to complete the circuit. It was difficult for most of us to wrap the wire around the spring and secure it, so we used a metal paperclip to make it a bit easier.



Step 7: Optional: reattach the battery cover

It is not necessary, and I actually recommend doing this step after testing the fan in the sun. But for some of our more advanced young electricians they wanted their fans to look this way before we took them outside. You might not be able to fully close it as the wires are sticking out of the sides. You could probably create a whole in the plastic and have the wires feed through there.

Step 8: Plug it in, and head outside!

Plug in your USB cord to the USB port on the solar panels, and head outside. Your panels need to be opened and be directly in the bright sunlight. Flip on the on-switch to complete the circuit and hopefully your fan will start to work! If not, you may need to open the cover and get to the wires and see if something is not properly attached after transporting it outside.