DIY Off-Grid Project: Air Conditioner And Dehumidifier

Even before our society arrives at a complete meltdown, summer cooling bills can easily leave you with little money for daily needs and prepping. At the same time, once society collapses, it is not going to be feasible to try and lug around portable air conditioners let alone avoid areas where some form of advanced cooling will be required.

This particular “air conditioner” requires little more than a fan, submersible water pump, and salt to deliver as much as 20 – 30 degrees in temperature reduction.

How It Works

As water evaporates, it tends to produce a cooling effect. Evaporation can be sped up by heating the water (which happens in an air conditioner), or a fan can be used to push air over water. Using a fan to speed up evaporation will only work as long as the surrounding air has less water in it than what is being pushed out of the unit.

In this case, pushing the cooler air through salt (or some other desiccant) absorbs excess water. This makes it possible to achieve lower temperatures without increasing humidity.

Materials

- 2 small baskets with holes in them (I found 2 perfect ones for 1.00 each at Dollar Tree)
- 1 basin large enough to fit small baskets in completely (I used a round bowl for 1.00 from Dollar Tree).
- Plastic canvas (costs approximately $3.00 in craft section at Wal Mart)
- empty square water bottle (I used the 1 gallon clear container from Dollar Tree)
- Solar submersible water pump (about 10.00 on eBay)
- Disposable wash cloths or any other material that air blows through easily (also just 1.00 at Dollar Tree; or cheapest fabric you can find in Wal-Mart).
- Coffee filters
- Table salt (or some other desiccant)
- Duct tape
- Twist ties
- Small fan (a desktop computer fan, or just about anything else will do)
- Aquarium airline tubing (1.88 in Wal-Mart)
- Water

Tools

- Small saw
- Scissors

Steps to Build

1. Cut a hole in the bottom of one basket so that fan fits through without falling in.

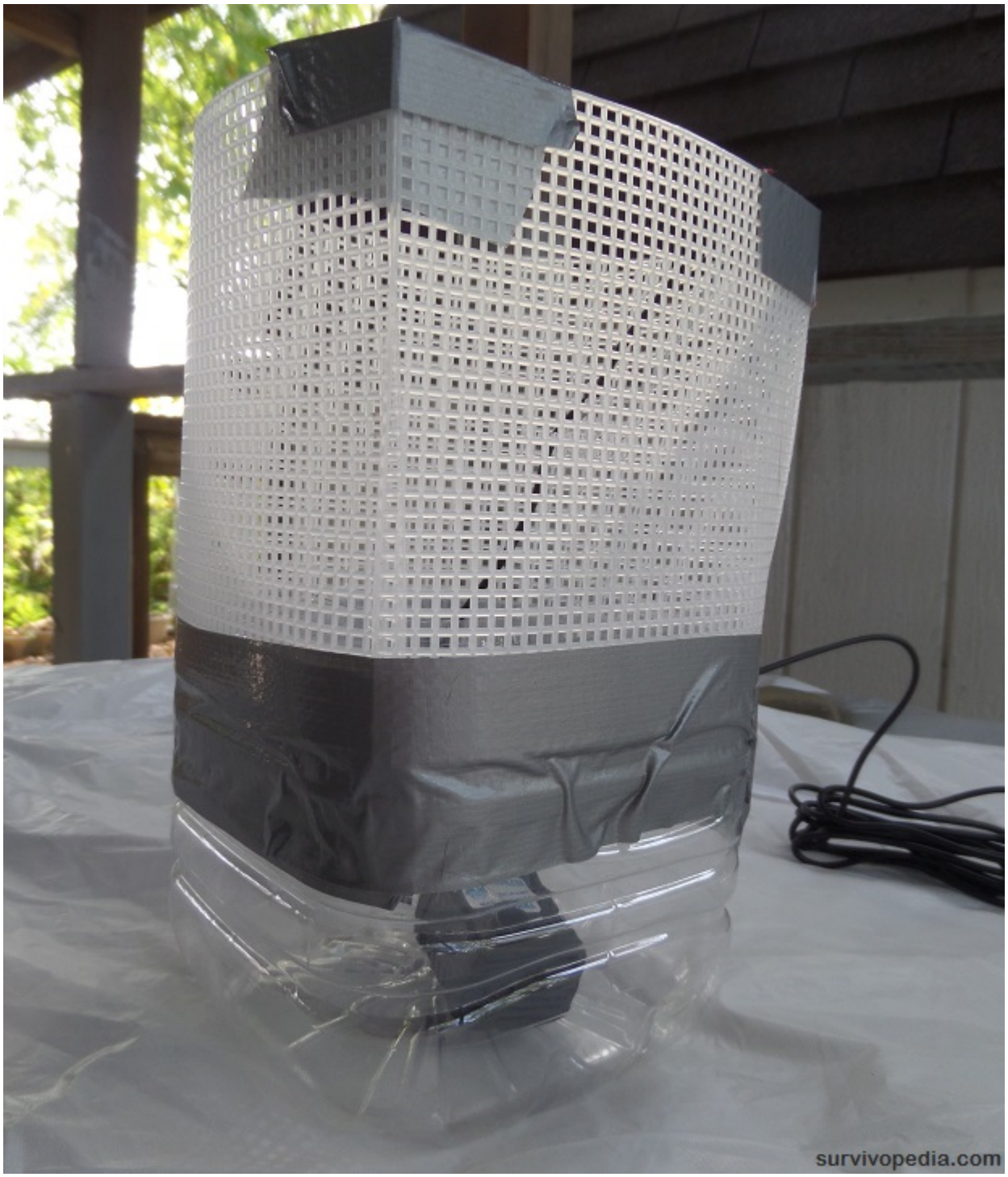
2. Cut water bottle down so that it is no higher than the rim

of one basket. This forms a water reservoir.

3. Punch holes in airline tubing (this creates a soaker hose). Do not put holes in the end of the airline tubing where it will attach to the pump. Soaker holes should only be in areas that touch the cloth.

4. Cut plastic canvas so that it is tall enough to reach about 3/4 way out of lower bucket. You should be able to place top bucket over the lower one without problem. It should also sit low enough so that the fan does not touch the canvas.

5. Tape canvas to reservoir.



6. Cut fabric to fit over the canvas and reach about half way into the reservoir.

7. Cut slits in the fabric so that you can weave airline tubing through the fabric. This will make soaking easier and more efficient. You may need to add additional rows or poke more holes in the airline tubing to get adequate soaking

throughout the entire fabric.

This article has been written by ***Carmela Tyrell*** *for* *Survivopedia*.