

BUILDING A WATER FILTER



SUPERNOVA
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CREATE A WATER FILTER USING SOME NATURAL MATERIALS!

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MATERIALS

- 1 Plastic Bottle
- 1 Small bag of sand
- 1 Small bag of soil
- 1 Small bag of activated carbon
- 1 Nail and hammer
- 2 Jars
- 1 Coffee filter
- 2 handfuls cotton balls
- 1 Pair of scissors

45 MINS

PROCEDURE

Step 1

Using that hammer and nail. Poke a hole in the center of the bottle cap. Following this, use scissors to cut the bottom of the bottle off, leaving the top end with the cap intact.

Step 2

Flip the bottle so the end with the cap becomes the bottom, with the open end facing upwards, and place on your jar to create a stand.

Step 3

Take the coffee filter and place it in the neck of the bottle, making sure that it creates a seal on the walls around it. It may help to wet it. Following this, put your cotton balls in.

Step 4

Using your soil, sand, and carbon, begin creating layers on top of the cotton balls. Make sure to create even layers. You can create a few layers, or many layers.

Step 5

Mix some water with your soil, sand, or carbon (or all of them!) in your second jar. Dump this mixture in the newly created filter and wait for it to filter into the base of your filter, where the first jar is. You may need to add a few jars of the mixture for it to start dripping. Watch to see if the filtered water is clear or not!

PURPOSE & SCIENCE OUTCOMES

- Prototyping is an important part of science. If the water filter does not work on the first try, rebuild it a different way!
- Water filtration on a large scale is complicated and energy intensive!
- There are natural water filters in our environment, such as wetlands, that provide naturally clean water! This is why it is important to conserve these ecosystems!

ANY QUESTIONS? REACH OUT @SUPERNOVAATDAL