

Is tap water better than natural water filters?

-we're about to find out-

Sept 2 2024

Main question:

Will there be a difference with the taste of water?

Sept 2 2024

Extra questions:

How will the water be processed?

How long will it take to make a natural water filter?

Will the water filters both have similar looks?

How much liters of water can homemade filters hold?

Will the looks of the water from the homemade filter and the tap water look the same?

Sept 3 2024

Hypothesis:

My hypothesis is that the home made filter will be less efficient as the tap water we have today. I say this because tap water actually goes through a variety of processes and can hold a bunch of water. In a homemade filter, it's dirtier (because of first impressions) and doesn't look clean.

However, in tap water, it holds clean water and looks drinkable unlike homemade filters. There is also a side catch, Since the homemade filtered water is more natural it might not have to go through more processes unlike the mechanical ones. Tap water is fast so we can have easy access to water but the natural filter might be a bit slower.

Nov 8 2024

Research #1 How will the natural water be processed?

Activated carbon removes bacteria, chemicals and viruses. This lets the process go through adsorption. This is a procedure that has the carbon bond with unwanted chemicals and the carbon pulls the unwanted chemicals out of the water. This is the most common natural water filter process.

Nov 8 2024

Research #2 How long will it take to make a natural water filter?

To make a natural water filter, this would probably take about 1-2 minutes because all of the products are measured properly. The water getting filtered would probably take a long time, approximately 1-2 hours because it filters by small drops.

Nov 15

Research #3 Will the water filters look the same?

After researching about the filtration process, they both look completely different. Natural filters tend to have more products used and have more steps to it while mechanical filters have a process of filtering the water. You can make the natural filter and see all the processes but for a mechanical filter you cannot really see what happens inside the tank.

Dec 1 2024

Research #4 How much liters of water can homemade filters hold?

It depends on how you're getting the water (bowl, cup, and more). If you have two 1 liter water bottles, this can hold 4 liters. 4 liters can last you about 3-4 days considering the fact that the water you consumed goes in our blood stream. Our kidneys hold about 20-28 liters a day. But they cannot remove more than 0.8- 1.0 every hour.

Dec 1

Will the looks of the water from the homemade filter and the mechanical filter look the same?

From what I have researched, I have come to realize that the tap water may have cleaner water than the homemade water filter. This is because the sand and the gravel takes out all the larger particles in the dirty water while the charcoal takes out the smaller particles and some chemicals in the water.

Will there be a difference with the taste of water?

Unfortunately this part was not allowed to be done because natural water filters do not meet the requirements of “perfectly filtered water” so from what I have seen and researched, I would say that the water filters do have a difference and here is why. From what I have researched, some people that have tried this experiment, said that the diy water filter tastes odd than regular tap water.

Materials:

Activated Charcoal

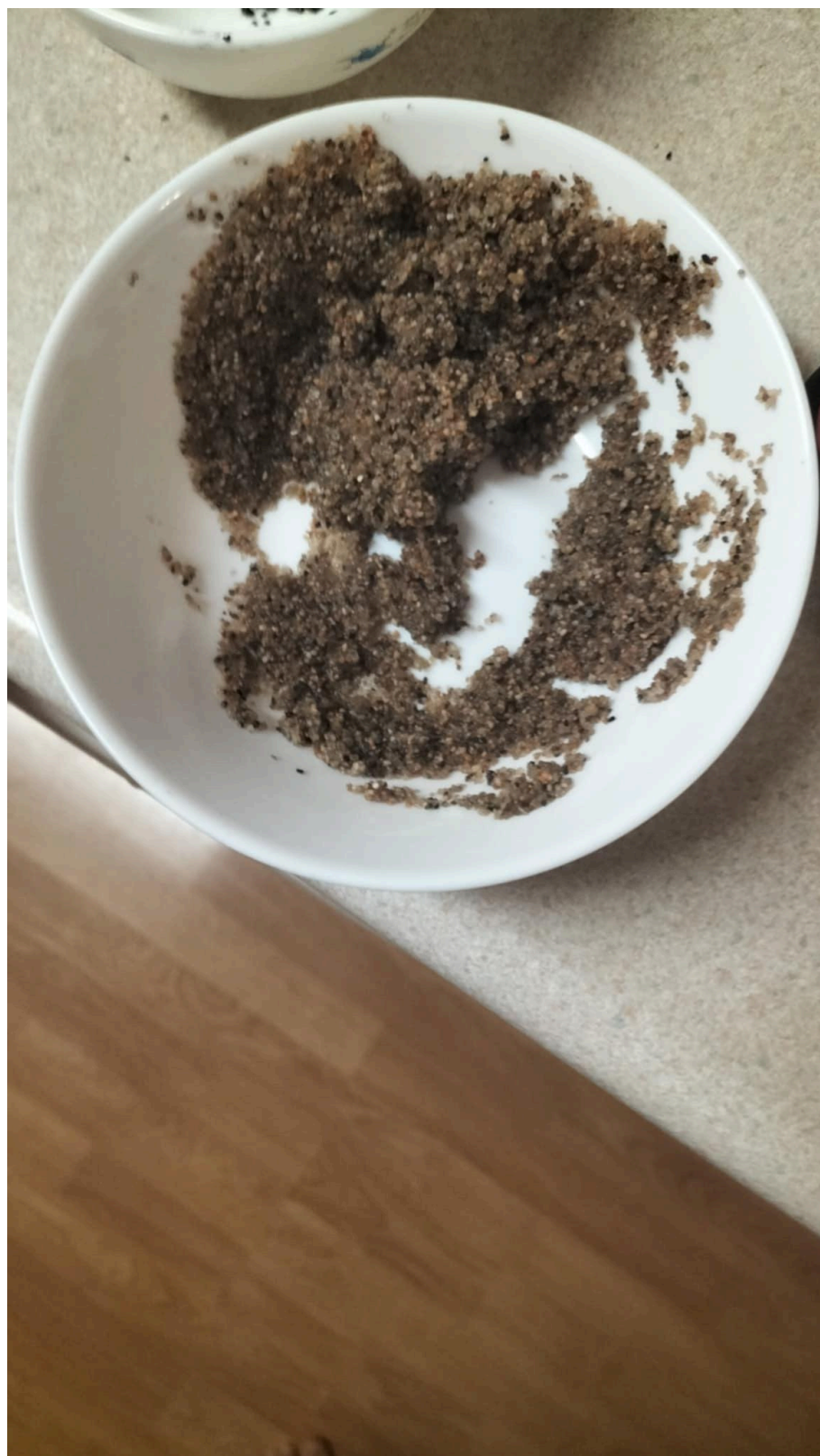
Tapwater

Disposable water bottle

Sand

gravel





Jan 8

Observations:

(day 1) **January 9:** When I left the tap water and filtered water for 1 day, I noticed that the filtered water was cleaner because there was absolutely nothing in the water. Then the tap water. The tap water had so many air bubbles but the filtered water did not.



(day 2) **January 10:**

I left the tap water for 1 more day and I noticed that the tap water got more air bubbles and looked like it had little particles in it. The filtered water looked the exact same and did not change.



Jan 11

Analysis:

My hypothesis was incorrect because the water purifier that I made was actually filtering the water really quick. It took less than 5 minutes and turned out to be purified properly. My hypothesis was also correct because I stated that it would not go through many processes like the mechanical ones and it did not.

Conclusion:

In conclusion, I think it was really good to do this experiment because I learned that water can be purified in different ways. This experiment was to test out to see the cleanest water type and it did not disappoint! I found some differences that are different from what I have researched. Like the water moved fast or it would have to take more than 2 rounds to cleanse the water.

Citations:

[HOW NATURAL AREAS FILTER WATER](#)

[Natural Water Filters: How do they work? | Wisewell](#)

Wisewell,2025

[Natural water purification and water management by artificial ...](#)

Publish date:March 9 2008

[Make your own gravity-fed water filtration system - C.C. Hikes](#)

Publish date:September 6 2016

My mom and my dad