PATH TO PURIFICATION

HYPOTHESIS

Hypothesis

If ions in a water filtration system are affecting the quality of the fluids then materials or filtrators with less mass should be the most effective.

KEY WORDS and RESEARCH

Key Words

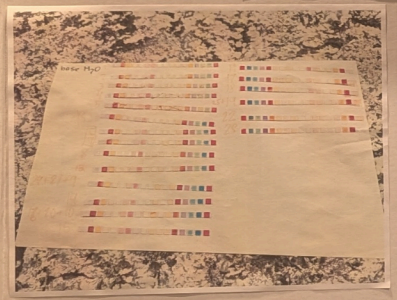
ATP - Adenosine Triphosphate
Material - Something in the filtration system
Filtrator - What the filtration system is made out of
ATP Measuring - A way of seeing how clean something is. Lower number means cleaner.

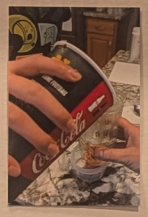
PROCEDURE and MATERIALS

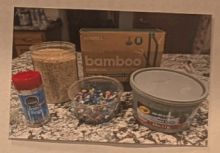
Experiment

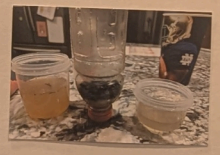
In order to filtrate, I tried 25 different combinations of filtration. For all of them except for the ones where there is no filtrator, I put a material into a bottle, with a cotton ball where the lid is. The bottom was cut open, and the cap had holes in it. There was a cup below the bottle so that the water poured into it. Then, I took an ATP strip and dipped it into the water for 2 seconds. ATP stands for Adenosine Triphosphate, and is a way of measuring how safe or clean an organism or thing from nature is. On the bottle, there should be shades of colors. Depending on the shade of the color on the strip, I measured how much of a contaminator every cup of water had. The color should correspond to a number that I put into an algorithm. I summed up all the numbers to get the ATP for each filtrated water. The lower the number, the cleaner.

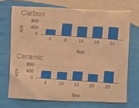
What filtration material makes the cleanest water?

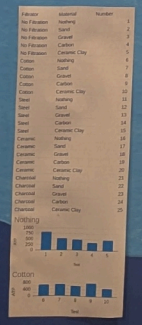


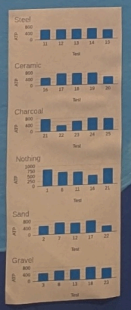












DATA

RESULTS

Results

Overall, my project found that the most clean water comes from carbon being a material, and not using a filtrator process at all. The reason for this is because of how easy it is for the dirt and grass to dissolve in the water, which is slightly more polluted. Overall, there was not anything tested that I would suggest to use for water filtration.

CONCLUSION

Conclusion

My hypothesis overall predicted that the less complicated combinations for filtration would make the dirtiest water. While that was partially true, I did not expect that nothing I used would be the ideal material or filtrator. Throughout the experiment, I got orange clay on my hands, so holding the ATP strip could have distorted some colors, since the colors are how you find out how clean something is. This could have tainted some results. Also, multiple shades on the testing strip color legend were very similar, so it was hard to classify how much of each contaminator there was.