

## Question

Does water purity affect surface tension?

## Hypothesis

I hypothesize the purity of the water will affect surface tension. The dirt particles will have more area for the water to gather up on and provide support.

## Results

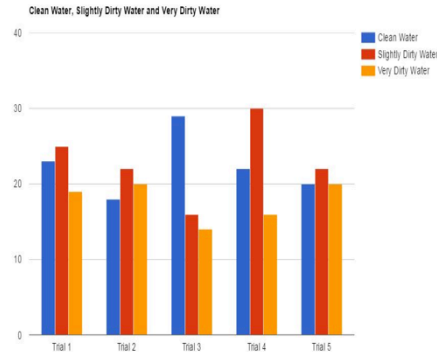
The result of this experiments are that the pure water was actually the second best at keeping itself from overflowing. The best was the slightly dirtier water, either because my hand was to shaky, or my hypothesis was correct. The dirties water was the worst at holding itself up. I think this happened because the dirt molecules might have gotten in the way of the water molecules, preventing them from holding each other up.

# Break the Tension

## Abstract

I have learned a lot about surface tension as I explored this project. I learned that cleaner water can hold itself up better than dirty water. I think this happens because the dirt gets in the way of the water molecules bonding. Surface tension is like a protective skin around bodies of water. It occurs because the water molecules are more attracted to each other than the air. I did 15 trials with 3 different types of water. I used a dropper to drop water droplets on a penny to see how many drops of each it takes to break the tension. It took an average of 22.4 drops for the pure water, 23 drops for the slightly dirty water, and 17.8 drops for the very dirty water. As you can see, the pure and slightly dirty waters had about the same surface tension, but the very dirty water was slightly less effective when it comes to surface tension.

## Data



## Materials

1. Water (24 oz.)
2. Dirt
3. Bowls
4. Clean pennies

## Conclusion

I investigated if water purity effects surface tension. My hypothesis was that the dirtier water would have stronger surface tension because the dirt would add surface area for the water droplets to gather on. The results did not support my hypothesis because the cleaner mixtures of water had stronger surface tension.

## Future Research

If I could change anything to my experiment I would add carbonated water to the test to see if the carbon dioxide has any effect on the water's surface tension.

By: Geoffrey Gaites II  
This board was compiled by Tu Trinh