

What's the difference?

By: Kyra Lee

Introduction

Have you ever wondered if there's a big difference in water from place to place? Well, I took the time to find out! I collected water samples from 4 different places! One of the water samples is filtered and that water is from Farmington as well. I also got some bottled water to compare as well.

Materials and Experimental Procedure

The things you'll need are testing water strips and water samples. The testing strips I used were Tetra 5 in 1 easy strips. Here are the steps on how I did my testing.

1. Get your testing strips (can be found in the aquarium section of most stores)
2. Collect your water samples and label them (When you collect your water samples make sure, it's enough to dunk your testing strips in)
3. Create a table to put your results in (Each water sample should have 3 tests done for it to be accurate)
4. Test your water samples and record the results

Question and Hypothesis

My question that I wanted to answer is, is all that water is the same?

My hypothesis was that there will be variations in the test results depending on where the water is from.

Variables

- Independent Variable: The
- water samples
- Dependent Variable: The levels of Nitrate, Nitrite, Hardness, Alkalinity, and the pH balance

Collected Data

These are the results I collected from my testing. Its in ppm which stands for parts per million.

| | Nitrate | Nitrite | Hardness | Alkalinity | pH |
|-----------------------|---------|---------|----------|------------|-----|
| Phoenix | | | | | |
| Test 1 | 0 | 0 | 300 | 300 | 7.8 |
| Test 2 | 0 | 0 | 300 | 300 | 7.8 |
| Test 3 | 0 | 0 | 300 | 300 | 7.8 |
| | | | | | |
| Flagstaff | | | | | |
| Test 1 | 0 | 0 | 300 | 180 | 7.2 |
| Test 2 | 0 | 0 | 300 | 180 | 7.2 |
| Test 3 | 0 | 0 | 300 | 180 | 7.2 |
| | | | | | |
| Tuba City | | | | | |
| Test 1 | 20 | 0 | 75 | 40 | 6.8 |
| Test 2 | 20 | 0 | 75 | 40 | 6.8 |
| Test 3 | 20 | 0 | 75 | 40 | 6.8 |
| | | | | | |
| Farmington | | | | | |
| Test 1 | 0 | 0 | 180 | 80 | 7.2 |
| Test 2 | 0 | 0 | 180 | 80 | 7.2 |
| Test 3 | 0 | 0 | 180 | 80 | 7.2 |
| | | | | | |
| Drinking water | | | | | |
| Test 1 | 0 | 0 | 25 | 0 | 6.8 |
| Test 2 | 0 | 0 | 25 | 0 | 6.8 |
| Test 3 | 0 | 0 | 25 | 0 | 6.8 |
| | | | | | |
| Filtered Water | | | | | |
| Test 1 | 0 | 0 | 180 | 80 | 7.2 |
| Test 2 | 0 | 0 | 180 | 80 | 7.2 |
| Test 3 | 0 | 0 | 180 | 80 | 7.2 |
| | | | | | |

Conclusions

From my testing I was able to find out that my hypothesis was right and there were many differences that were evident through the test results. I also noticed that none of the water samples had any significant amounts of Nitrite in it. In the water sample for Tuba City, I did find a tiny bit of Nitrate, but not enough to cause any harm to anyone over the age of 6 months and isn't pregnant. I noticed that the water samples from Farmington and the filtered water from Farmington had no differences.

Future Directions

If I were to continue this experiment, I would want to do further testing. I would like to do more tests specifically on the water quality and I would also like to try and figure out what causes these differences.