Name(s)

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Project Number

J1103

Project Title

Eww. What's in My Water?

Abstract

Objectives/Goals

This project measures how much bacteria, both living and non-living (the dependent variable), is present in the water sources tested (the independent variable). The purpose of this is not only to reduce the amount of bacteria in our drinking water, but also to detect bacterial contaminated in various types of water. An ATP (Adenosine Triphosphate) test was used to measure the amount of living and non-living bacteria. The tests create reactions that produce RLU#s (Relative Light Units), which are detected in a Luminometer.

Methods/Materials

Procedures:

1. Retrieve a fair amount of each water source so that there it is about 3 inches deep and put it in a plastic drinking cup. 2. Dip the Aquasnap Free (tests the amount of nonliving bacteria) into the plastic cup to gather a 100 ml sample of each water source. 3. Snap and squeeze the top of the ATP test to release the firefly juice into the sample. 4. Put the test with the new solution into a luminometer. 5. Write down the amount of RLU#s (relative light unit) in each water source. 6. Repeat steps 2-5 using the Aquasnap Total (measures the nonliving and the living bacteria)

Materials:

Red Solo/plastic cup; Sharpie; Multiple Water Sources; Aquasnap Free ATP tests; Aquasnap ; Total ATP tests; Luminometer; Something to record Data (notebook, pencil, paper, pen, etc.)

Results

Using the Aquasnap free (tests nonliving bacteria), the creek had the most bacteria, then the puddle water. Following was the pool water then tap water. Finally filtered and bottled water were relatively the same, but had the smallest amount of non-living bacteria.

Using the Aquasnap Total (tests for nonliving and living bacteria), again the creek had the most bacteria. Following was the pool water then the puddle. Next in order was the tap water, and finally the filtered and the bottled water comes last.

Conclusions/Discussion

Knowing these results, it proves that my hypothesis was correct, where creek water has the most bacteria. Precision, when handling the ATP test, was helpful in gathering exactly one hundred micro-liters, and thus helped form an accurate and controlled experiment. This precision also helped in forming

Summary Statement

Understanding bacterial contamination of various water sources to determine the water usability

Help Received

Parent provided supplies