Name(s)	**Project Number**
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Project Title

Got Pollutants? An Investigation Examining Indicators of Water Pollution in a Local Stream

Abstract

Objectives/Goals

It's hypothesized that the two downstream locations will have the highest results in all the variable tests. This is because sediment, fertilizer, and wastes are expected to join the stream as it flows downstream. Each location was tested with different probes, each probe according to the variable it tested. The control location was the location most upstream. The variable was the site of the testing location. There were a total of five locations (including the control) and for each factor there were five trials. Data was taken and recorded. Data was recorded in meters/second (for flow rate), NTUs (turbidity), degrees Celsius (temperature), pH, and mg/L (for dissolved oxygen).

The goal of this experiment is to examine and compare the results of different water pollution indicators from location to location of the Arroyo Seco stream.

Methods/Materials

The materials used were specialized probes for each test, a graphing calculator, water sampling bottles, foil for covering biological oxygen demand bottles, and a bucket for collecting water. The method used for testing was to first collect water, and then sample the water with a probe, with the calculator collecting data every second for thirty seconds. The average was then recorded, and the tests were repeated five times.

Results

The results supported part of the hypothesis. Location five's results were the highest, but location one also had high results. This only partially proved the hypothesis.

Conclusions/Discussion

The testing location #Control# had higher results in some test then the fifth location, which disproves the hypothesis. But the fifth location had some of the highest results, so part of the hypothesis was also supported. The data is slightly inconclusive due to the amount of different pollutant tests conducted. A discrepant event occurred while testing turbidity. The turbidity ranged from 226.545 to -9.931. This is varied and inconclusive, and could have occurred due to biased sample collecting and particles settling during the thirty-second testing period.

A significant finding was discovering that the stream water is a base. The water probably came into contact with calcite from the large amount of boulders around the stream. The pH for the entire stream was 9.88, while water should have a neutral pH. Also observed was trash and urban run-off.

Summary Statement

This project examined the results of different water pollution indicator tests and compared the test results of the upstream and downstream locations.

Help Received

My dad taught me how to use lab equipment, Village Christian School lent me the equipment, my sister photographed the project in action.