West Michigan Science Challenge Abstract Form for Grades 5-12

Title of Project- Why are the Waves So Green?
A study of Storm Water Runoff

Problem and Hypothesis

I am investigating how storm water run off affects the quality of the water.

If the same liquid is poured over different ground surfaces, then the amount and quality of the water that runs off the ground surfaces will vary because each ground surface effects the water run off differently. This will show which ground surfaces contribute to the contamination of the lake water and what surfaces help in improving the quality of the Spring Lake water.

Basic Procedures

Fill three planters with different materials representing three different ground surfaces. Pour the same liquid over the ground surfaces and collect the runoff to observe how the different ground surfaces affect the amount and water quality of the runoff.

Basic Results

My hypothesis was correct. The runoff samples all varied in amount of runoff and water quality. The results showed how the different ground surfaces affect the water quality and provided insight on how the community can help to improve the quality of the storm water runoff that reaches the lake.

Acknowledgements

My parents, XXXXXXXXXXXXX, thank you for all your help. My Grand Parents, XXXXXXXXXXXXXX, Thank you for the Jars! My teacher, XXXXXXXXX, thank you for your coaching!

West Michigan Science Challenge Abstract Form for Grades 5 -12

Title of Project: Bacteria Busters

Problem and Hypothesis: There are a lot of bacteria in our environment, but they can not be seen with the naked eye. The purpose of our project is to determine if a public place contains greater amounts and varieties of bacteria than a private home. Our hypothesis is that the public places will contain greater amounts and varieties of bacteria.

Basic Procedures: Using a sterile swab, we collected samples of bacteria from five similar locations in a home and public places. Next, we transferred the bacteria from the sterile swabs onto a Petri dish containing sheep blood agar. To allow growth we incubated the Petri dishes at body temperature (98.6 degrees Fahrenheit or 36 degrees Celsius). Forty eight hours later we took the Petri dishes out of the incubator to count and sort the bacteria types.

Basic Results: Total bacteria counts and number of bacteria varieties were summarized for each location. Public places had a greater number of bacteria varieties, while the total bacteria counts were greater in the samples taken from the home.

Acknowledgements:

- Mrs. XXXXXX
- Mr. XXXXXXX
- Mrs. XXXXXX
- Mr. XXXXXX
- Mrs. XXXXXXXX
- Mrs. XXXXXXX
- Mrs. XXXXXXXXXX
- Dr. XXXXXXXXXX

West Michigan Science Challenge Abstract Form for Grades 5-12

Title of project- Lucky Two

Problem and Hypothesis

The purpose of this experiment is to find out what my chances of rolling doubles is when I play a board game. I also want to study the laws of probability and see if and how they work.

After reading about probability, I predict my chances of rolling doubles are one out of six, but not all the time.

I also predict that the more times I roll the dice the closer I will get to one out of six.

Basic Procedures

The first thing I did was roll two dice in a cup.

The second thing I did was to record my results.

The third thing I did was analyze the results.

The fourth thing I did was to determine the cumulative percentage.

Basic Results

I thought I would get one out of six. I thought this because of the laws of probability. I did much better when I rolled the dice.

After 120 rolls I had 17.50% doubles. After I rolled 840 I had a Cumulative Percentage of 19.05.

I expect that one out of six is equal to 16.67%.

Acknowledgements- XXXXXXXXXXXX - teacher; XXXXXXXXXXX - engineer/parent.