

Hidden Worlds: School Health Science Studies

My class utilized various facilities/areas in our school to examine healthy habits and potential for hazards related to bacteria and health sciences. What are those “hidden worlds” that are all around us? My science students attend Longwood Elementary School at 50 Holly Drive, Shalimar, Florida 32579. Students ages nine to ten will be conducting health science studies (focusing on bacteria found, rate of healthy habits data collection, using scientific tools such as microscopes, Petri dishes, and graphing data). The number of students that would benefit from the project would total approximately one hundred five, as well as, future students whom could benefit from using the lab activities and equipment purchased. The source for our studies will come directly from our school water fountains, computer equipment in our computer labs, door handles and light switches in our school. We monitored the collection of specimens over a six week period. We collected samples, we sanitized the area and repeated the collection every seven days. This will give students a good idea of the median/average number of bacteria in each designated area over a specific period of time. The teacher will assist with Petri dishes and Agar for the specimens. All necessary safety precautions were followed as students swab with cotton Q-tips and students will wear disposable gloves. I worked with a local physician to incorporate a guest speaker (Dr. Skojac) from Magnolia Medical Clinic to discuss healthy habits for our school. This allowed us to make a better connection to the community partners. Students were able to analyze their data, graphs, and pictures during the science lesson. Students utilized microscopes and data was collected. The bacteria collections were done with cotton swabs and Petri dishes/agar. We measured using the dilution method for bacteria cell per milliliter (cells/mL). The results yielded are listed below in the data table. We used science tradebooks ([Hidden Worlds: A Look Through the Microscope of a Scientist](#)) to build background knowledge on using microscopes and viewing bacteria. Our health sciences project allowed students to work through the steps in the scientific method. We found that students collected more bacteria samples from the computer keyboards even more so than sinks or door handles. This grant opportunity was so appreciated as allowed us to acquire equipment and conduct real world health science studies in our school.

NDIA Grant Hidden Worlds: School Health Science Studies

Ms. Joiner's Science Class

The bacteria colonies collection results are listed below. We tested areas in our school once a week over a six week period.

Location of Collection	Group 1 -Bacteria Count	Group 2 -Bacteria Count	Group 3 -Bacteria Count
Sink Area	4 cells/mL	3 cells/mL	5 cells/mL
Water Fountain	7 cells/mL	6 cells/mL	9 cells/mL
Computer Keyboard	14 cells/mL	12 cells/mL	16 cells/mL
Door Handles	7 cells/mL	6 cells/mL	7 cells/mL