

My Internship at *Students to Science* (S2S)

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Survey Days

During Survey Days I worked with the lab instructors and assistants to conduct the various labs offered to students. Different schools from Orange came to S2S Monday-Friday. Grade levels of students ranged from middle school (6th, 7th, 8th grade) to high school (9th, 10th). In this program, students are scientists for a day and get to conduct real experiments. They rotated throughout the day, exploring four different experiments that utilize chemistry, biology, engineering and math. My job was to keep students engaged and help them conduct experiments safely.

The Different Experiments:

Tums of Phun: In this experiment, students were tasked with determining the amount of sodium bicarbonate in an antacid tablet (Tums) using titration.

Wind Turbines: In the experiment, students were tasked with building a wind turbine using different materials.

Acid-Base BOOM: In this experiment, students were tasked with identifying different acids by utilizing Infrared spectroscopy.

Feel the Burn: In this experiment, students were tasked with finding what sunscreens protect against UVA and UVB radiation.

Content Development: 6/10/24-7/8/24

There was a portion of the internship where I was put with a group of people (lab instructors, lab assistants, and high school interns). We had to recreate an old experiment so that it was more engaging for students. I had to plan out the different tests that needed to be done and how efficiently the experiment could be run. While working on this experiment, my group had to meet weekly (Thursdays) and present our progress in improving the experiment. At the end of the internship, I had to present what I worked on for content development and point out the knowledge that I've gained.

Limonene:

Bug Be-Gone wants to develop a natural insect repellent using **limonene**. Limonene is a compound found in **citrus fruits**. We have been hired to determine the best way to extract limonene from citrus fruits. Students are being tasked with determining which factors give the

best limonene yield. The factors they would be evaluating are which fruit (oranges vs. lemons) and which collection methods (zest/peel).

Corporate Site Visits

1. Quest Diagnostics | Wednesday, July 10 from 10:45 a.m. - 2:00 p.m.
2. Colgate-Palmolive | Wednesday, July 24 from 9:00 a.m. - 1:00 p.m. New Jersey
3. American Water and FirstEnergy | Wednesday, July 31 from 10:00 a.m. - 3:00 p.m.

During these three corporate site visits, I was able to explore different career options other than your typical STEM jobs. I was able to tour these different sites listed above and talk to the employees who play a major role in efficiently running these companies.

Personal Statement:

During this internship, I learned more about organic chemistry. I also learned how to help students problem solve and get them to think more in depth about different scientific processes. I gained a lot of experience with “lesson planning” because of the content development opportunities that I had during this internship. I also gained a lot of professionalism in the lab as well as outside of the lab.