Logbook

BY AROHI

Day 1: Dec 20, 2023

I started by researching different topics and finding one that was a best fit for me. I couldn't find anything so I decided to take a break. On that break, I read an article by CNN called "Growing and burying algae in the Sahara is the latest solution for climate change."(https://www.cnn.com/2023/08/18/africa/brilliant-planet-algae-carbon-removal-climate-morocco-scn-spc-intl/index.html) After reading this, I thought "Why can't I do something like that?" And that's how I came up with my topic.

Day 2: Dec 26, 2023

I started filling out basic project info and ethics due care 2a on the CYSF platform. I also started really figuring out how I wanted to achieve this project.

Day 3: Jan 2, 2023

I started writing my hypothesis "I ***hypothesize*** that both Samples will grow significantly in high CO_2 than in low CO_2 environment, but Sample A in high CO_2 would grow more than Sample B in high CO_2, because Sample A algaes have evolved in higher CO_2 environment than Sample B." based on my knowledge from that article and past knowledge about plants and co2.

Day 4: Jan 7, 2023

I started researching the four types of algae that would be available to use in my project. I landed on brown algae, black beard algae, hair algae and string algae. Black beard algae and string algae being in sample B and brown algae and hair algae being in sample A. I also figured out how I was going to set up my project and what materials I would need.

Day 5: Jan 10, 2024

I finished up all my variables and wrote my procedure on how I would conduct the experiment. My dad had also bought the algae and it was arriving in a month and a half.

Day 6- 14: Jan 16- Feb 2 2024

I did my research throughout these days. I researched about Algae in general, but I also researched about the four different types of algae I would be presenting on. I also researched micro and macroalgae.

Day 15: Feb 11

I started to collect all the other materials necessary for my project, the sodastream and the jars with valves in them. I also started working on the application and getting all my citations ready.

Day 16: Feb 19

The Algae are going to arrive in a week so I started to work and finish everything else, like the slideshow about everything I am going to put on my trifold.

Day 17: Feb 25

The algae has arrived and I have set everything up. I will start pumping the Co2 in the algae tomorrow and start taking observations everyday.

Day 18-27: Feb 26- March 12

During this time I have written my conclusion, analysis, sources of error and observations. The algae has grown significantly since the start of the week.

Day 27: March 12

Today I did all the finalizing details for the science fair. I glued everything onto the trifold and I wrote my script. I am ready for the science fair!

Measurements (in ounces)

Date of Measurement	02/26/2024				Mean(Oz)
Samp A co2	40.5	40.55	40.48	40.5	40.5075
Samp B co2	40.55	40.5	40.5	40.5	40.5125
Samp A	40.02	40.02	40.01	40.01	40.015
Samp B	40.02	39.98	39.99	40.01	40

Date of Measurement	02/29/2024				Mean(Oz)
Samp A co2	44.4	44.39	44.41	44.4	44.4
Samp B co2	44	43.98	44.01	44	43.9975
Samp A	43.15	43.14	43.16	43.16	43.1525
Samp B	42.79	42.8	42.81	42.8	42.8

Date of Measurement	03/03/2024				Mean(Oz)
Samp A co2	44.52	44.53	44.51	44.51	44.5175
Samp B co2	44.12	44.11	44.13	44.13	44.1225
Samp A	43.18	43.17	43.19	43.18	43.18
Samp B	42.81	42.82	42.83	42.82	42.82

Date of Measurement	03/05/2024				Mean(Oz)
Samp A co2	45.82	45.81	45.82	45.82	45.8175
Samp B co2	45.2	45.1	45.2	45.1	45.15
Samp A	43.21	43.2	43.21	43.22	43.21
Samp B	42.89	42.88	42.89	42.88	42.885

Date of Measurement	03/07/2024				Mean(Oz)
Samp A co2	46.01	46.01	46.02	46.01	46.0125
Samp B co2	45.39	45..4	45.4	45.41	45.4
Samp A	43.24	43.24	43.24	43.24	43.24
Samp B	42.92	42.91	42.93	42.92	42.92

Date of Measurement	03/09/2024				Mean(Oz)
Samp A co2	46.2	46.1	46.2	46.1	46.15
Samp B co2	45.82	45.82	45.82	45.82	45.82
Samp A	43.27	43.28	43.27	43.27	43.2725
Samp B	42.98	42.97	42.98	42.98	42.9775

Date of Measurement	03/11/2024				Mean(Oz)
Samp A co2	46.62	46.62	46.61	46.62	46.6175
Samp B co2	46.22	46.22	46.21	46.22	46.2175
Samp A	43.32	43.31	43.32	43.31	43.315
Samp B	43.03	43.02	43.03	43.02	43.025

Date of Measurement	03/12/2024				Mean(OZ)
Samp A co2	47.62	47.61	47.61	47.62	47.615
Samp B co2	46.5	46.5	46.49	46.49	46.495
Samp A	43.37	43.38	43.38	43.37	43.375
Samp B	43.11	43.12	43.11	43.11	43.1125