

**What were the outcomes of the prior phase?**

1. What did I plan to do?

Complete the nitrogen cycle and increase understanding of how the cycle works in terms of ammonia/nitrite levels and pH levels, while well documenting all findings. I planned to complete my sections of the technical paper and assist in any documentation or structural building. As facilitator, I planned to continue completing peer evals per phase.

2. What did I actually do?

Over a span of about 4 weeks, I was able to complete a full nitrogen cycle with ammonia, nitrite, and nitrate levels at currently 0, 0, and 160 ppm, respectively. I also fully documented all the findings. Peer evals were completed for the subsystem test plan phase. Additionally, I assisted with structural building and completed any relevant sections in the technical paper.

3. What did I learn? How were plan and reality different?

I learned that the nitrogen cycle takes about 4 weeks to complete. However, since the pH was higher than expected, the hornwort died halfway. To mitigate this problem, pH down was purchased since pH will play a key factor in plant and fish vitality. As a team, we are ahead of the schedule that we created.

**Team level goal for the next phase**

- The full architecture of the system will be complete. Plants and water will also be added to the system.
- Nitrate cycling will have progressed to the tank and the effectiveness of our planned aeration method with the buckets will be tested in relation to how well it maintains optimal water conditions.
- Sensor testing will be expanded to the tank to ensure appropriate O2 levels are being maintained.
- User interface testing will commence to confirm the NIOSH lifting equation as well as confirm our farmer interaction per day requirement of only 30 minutes.
- Deliverables will continue to be updated as progress continues. This includes: Setup/Instruction guide, Poster and Imagine Display, Technical Paper, Lightning Talk, Informational Workshop

**What do I plan on doing to ensure that my team has a successful review at the end of the next phase?**

1. Once pH down arrives, I will introduce it to the system per instructions until pH reaches engineering requirements (2 minutes, daily)
2. Add goldfish once pH is within ER, and create a feeding schedule for optimal vitality (1 hour, 2/27)

3. Create a clear schedule for full scale nitrogen cycle testing after spring break (30 minutes, 2/27)
4. Create a clear schedule for lettuce growth within net pods, including watering and measuring sprout growth for after spring break (30 minutes, 2/27)
5. Continue to complete evals prior to next phase and address any misunderstandings (classtime)

**What is standing in my way of meeting my next phase goals?**

Time management and not receiving the pH down in time will prevent me from testing the nitrate cycled water on goldfish vitality. Additionally, we are following the assumption that the timeline for completing a nitrogen cycle should be the same between the small scale and large scale tank. However, this may be problematic for next phase if it takes longer than 4-6 weeks.