

## Lab Notebook

- Friday, October 10, 2025

In science fair, we worked on our idea. The final project idea is to take attributes from Sojourner, Spirit, Curiosity, Opportunity and Perseverance, which are rovers that have traveled to outer space and to use these attributes to create our very own rover, Alira. The conditions we will simulate are heat and cold. We will test our rover by running it on a flat surface and on a hill. We will also test the battery with insulation and without insulation.

- Tuesday, October 21, 2025

In the science fair today, we worked on completing the Basic Project information on the CYSF website. We joined the platform and plan one meeting next Tuesday to finish our background research and to start gathering materials for Alira.

- Tuesday, October 28, 2025

We worked on background research to see what we could add to our rover Alira. We both think that we have 6 wheels and tracks, possibly a camera, protective covering to shield and a thermometer.

- Tuesday, November 4, 2025

Laura worked on putting our background research in a paragraph of 300 - 500 words while Alisha determined the key accomplishments on the rovers Sojourner, Curiosity and Perseverance.

- Thursday, November 6, 2025

We talked about starting the procedure and methodology. We completed the ethics form and next science fair session we will work and hopefully finish our procedure, materials, and methodology. After school on the next day two we might meet up to work on our project.

- Tuesday, November 18, 2025

Today we worked on procedure and methodology. After school we plan to get together in study hall and work on procedure and methodology.

- Wednesday, November 26, 2025

Today we worked on our materials and we completed it. We sorted out that Laura will bring all of the materials unless said otherwise. We will meet up next Tuesday to start the building process with Laura's dad.

- Thursday, December 4, 2025

Today we finished our checklist and we will meet up on Tuesday of next week to work on the building process.

- Friday, December 12, 2025

Today we discussed when we would meet up over the winter break.

- Saturday, December 27, 2025

Today we talked and finalized our project and we worked on our materials and procedure. We will purchase the materials. Most of the materials are already owned by Laura's dad. We plan to meet before school starts to start building.

- January 28, 2026

Today we started to work on our robot design. We measured exactly how big it has to be and where we plan to put the materials. We also updated the Materials list to the exact brand that they are. We now have all the materials. We also made notes of things we should research.

- January 30, 2026

Today Laura and her dad built the frame of Alira. Alisha worked on the definitions that we need to use to build the rover, as she could not come today. (See Materials and Procedure for the updated list.)

- February 3, 2026

Today we continued to build the rover. We updated the Materials and Procedure list to what we worked on. Our next build will be soon.

- February 6, 2026

Today is day 2 and we are at the science fair at school. We are working on our background research, procedures and materials. Today after school we will work on building the rover.

- February 8, 2026

Today we laid out the materials and connected wires from the Terminal Blocks to the Remote Relays. We also made the wooden blocks for the devices to get screwed into. We have to adjust them because it is too high for the motors to connect to the shafts. We also changed the wheels because the previous ones were too big.

- February 13, 2026

We finished everything for Alira except for the wheels. The motors work and it is running properly. We only have to attach the wheels and then we are done.

- February 15, 2026

We had to make changes to the rover because we tested how it moved and it had trouble turning. If we drove it straight then it would veer off to the side because the wheels were loose. We now are screwing the bearings in with a bolt instead of a nail to hopefully improve the direction of the rover.

- February 16, 2026

We tested the rover today in -1 degrees celsius weather. We did 4 trials on flat and only 2 on vertical because the couplers became loose and the wheels had no traction so we have to fix that. Everything went smoothly except for that. We used a dolly to move Alira.

- February 22, 2026

We tested the rover today in -21 degrees celsius weather. We performed 2 trials on flat and paved, 2 on snow and paved and the vertical test did not work because the tires kept sliding and it would not move up the hill. It all went smoothly and the battery could last for 1 hour.

- February 24, 2026

Today we finished my slide show presentation and we are going to print it out today. Tomorrow we are going to start on our poster board.

- February 25, 2026

Today Alisha came over to Laura's house and we worked on the poster board and we pasted the background on. We also sorted out the format of our information that will go onto the poster board.

- February 28, 2026

Today we finished our Q cards and finished making our logbook.

That completes our logbook.