

Name: Alexander Li
Grade: Sophomore

Hobbies:

Cello, Swimming, Running, Monkey Type, Problem Writing, Exploding Kittens Card Game, Mathcounts Problems

Clubs:

Florida Student Association of Mathematics, Mu Alpha Theta, Science Competition Club (SNHS), Orchestra, Swim Team

Experience:

USAPhO (2021-2022), USAPhO+ (2021), NAC Top 16 (2022), AIME (2019-2022), USAMO (2022), HMMT February Individual 20th place (2022), HMIC Qualifier (2022), Ross Camp Invitee (2022), PUMAC (2021), CMIMC Individual Top 50 (2022), CMIMC (2020-2022), USNCO National Exam (2022)

Bio:

When I was in elementary school, I first encountered physics through the smart talk of my 1st grade peers, hearing of blue, red, white, even GREEN stars. The first time I learned about work, simple machines, and light spectra was in 5th grade with my science teacher Mr. Dolan, a school-wide-known enthusiast of all things science. For reviews before tests, the class would play a game called Whack-A-Ball, a dodgeball-like game where you can avoid sitting out by answering a review question correctly. I remember I managed to memorize and correctly identify the OBAFGKM colors of stars in one of these games.

Between 5th and 8th grade, the most physics I did was in 8th grade IPS. When I started studying lightly for the $F=ma$ in 8th grade, IPS class problem sets became pieces of cake. I ended up helping people understand problems for the majority of the first half of the second semester. At the same time, I immersed myself in math competitions and explored many problem-solving strategies. These strategies helped me ease my way into physics and, with the help of my parents and brother, I was able to learn the basics of mechanics by the time physics competitions started in 9th grade. This included solving through Morin's Introductory Problems and watching Walter Lewin's lectures. Then, there was a huge rush of physics studying in the month-and-a-half between $F=ma$ and USAPhO that year, where I learned thermodynamics (which has become one of my favorites) and electromagnetism using HRK. Compared to math, physics was more based.

In the time before the 10th competition cycle, I read through Morin's Mechanics and Purcell and Morin's Electricity and Magnetism books, as well as Schroeder's Thermal Physics. I also worked more on problems similar to those found in Puzzling Physics Problems. These were astounding as being so simple and difficult at the same time, and they reminded me a lot of nice, hard competition math problems. PhysicsWOOT was also a nice place to find similarly styled problems. I also read through a few of the first chapters of Carroll and Ostlie, which confused me as much as it interested me; sometimes, it tied in five branches of physics into one chapter. Ultimately, physics has been a nice companion to sit down with and muller to.

Thank you to my family, teachers, and friends for the support along the way.