

Rohan Bodke

Junior at Homestead High School

Hobbies

Biking, badminton, board/card games, rhythm games, listening to music

Clubs

Homestead Math Club, Homestead Shogi Club, Homestead Model United Nations, Homestead Chess Club

Contest/Competition Experience or Honors

MOP (2023 attendee, 2024 invitee); USAMO gold medal (2024), bronze medal (2023), USAJMO winner (2022), qualifier (2021); USAPhO silver medal (2023), honorable mention (2022); HMMT 2024 13th place individual (1st place Algebra and Number Theory round); AMC 12 perfect scorer (2023), 5x AIME qualifier; USACO Gold division

Autobiography

Physics is mastering the everyday. Shooting a three-pointer. Playing pool. Using a fridge or a microwave. Squeezing toothpaste out of the tube. Spinning a plate with a stick (thanks Mr. Nuñez)! Wearing sunglasses. Of course, all of these are doable without knowing physics, but just being able to do something is superficial. Understanding how it works is knowledge on the second level.

Physics is conquering the foreign, the hidden secrets of the universe. Proving geocentrism. Finding the mass and inner composition of the Earth. Using gold foil to determine the structure of the atom. Discovering relativity and accounting for it to operate satellites around the globe. Learning physics is exploring the unseeable, the gargantuan and the microscopic.

My journey with physics began with watching the documentary *The Universe* on our old DVDs. Through watching the documentary, I began to appreciate the true nature of the universe. Learning how vast outer space was made me feel insignificant as if there was little to do on our measly Earth other than to decipher the outside. In addition, the documentary described the universe as brimming with unsolved mysteries, enticing me to learn more.

So I did. Picking up *Physics* by Halliday, Resnick, and Krane along with blue Morin, I started to grapple with basic mechanical concepts. I realized that while my mathematical background was a powerful advantage, I had to understand everything intuitively to succeed. Ultimately, I managed to qualify for the USAPhO in 2022, my second attempt. Taking the USAPhO was a humbling experience; knowing only mechanics, I didn't understand most of the test and couldn't solve the only problem I did understand. It exposed me to how little I had learned.

On the very first day of 2023, I came back to physics, deciding to commit myself to learning the other branches as well. Shortly after, I found out about Kevin Zhou's handouts and his wonderful advice (thanks so much!). I realized that I wouldn't be able to learn the basics and then finish the handouts in a reasonable amount of time, so I just tried to conceptualize as much as I could. While I was unable to do too much before USAPhO 2023, spending most of the few months I had reading HRK, I still managed to get a silver medal. Since I was clearly on the right track, I stuck with my plans.

And a year later, here I am writing this autobiography! I'm tremendously excited to be a part of the team, and I can't wait to see what awaits me at camp!