6. Think about an academic subject that inspires you. Describe how you have furthered this interest inside and/or outside of the classroom. (350 words)

My interest in physical sciences was born from this television series called “A Big Bang Theory”. It was a wholesome comedy series about a group of scientists who worked in Caltech and were passionate about pursuing their goals as researchers. I recall watching this TV series religiously as a 6th grader, and seeing this dedication on screen made me become more interested in science as a subject then.

Back then, I saw science as a subject that relied almost entirely on theory. I enjoyed this aspect of science because theoretical knowledge is evidence of how creative the human mind can become. I wanted to become someone who is capable of understanding and theorizing such knowledge in order to aid in resolving global issues such as climate change and sustainable energy use. In order to achieve this goal, I had chosen to take IGCSE Extended Chemistry and Physics when I was in 9th and 10th grade. Taking these subjects made me realize that I excelled in these fields of knowledge within the classroom, but I felt as if I needed to expand my horizons beyond academics and theory to gain experience in applying the knowledge I gained. I did this by writing several independent scientific papers.

The first paper was my IB Extended Essay, which is a 4000-word self-directed research paper on a topic of your choosing, and I decided to model fluid flow using Computed-Aided Design (CAD) and investigated the correlation between the geometry of a pipe and the flow produced from said pipe. The second paper was a paper I submitted for this competition called Indonesia National Science Enterprise Challenge (INASEC) on process design to create biodegradable cups made from corn husks to resolve the issue of plastic pollution within Indonesia. Through the first paper, I was able to expand my understanding on CAD and process design, and I found myself enjoying being able to express my creativity that I decided to use CAD and my knowledge of waste treatment to help design my product. This inspired me because I was finally able to apply my knowledge and I saw this as the first step to my journey to create change.

These experiences taught me that the theory I learned in the classroom could be applied to solve real-life problems, and designing processes and applying what I learned in the classroom was more fulfilling than simply understanding theory because I felt like I was contributing to change. This was what I found very inspiring about the subject of physical sciences, it is something that is ever-evolving and flexible, adapting to the needs of the people.

7. What have you done to make your school or your community a better place? (350 words)

Authoritarianism ran deep in my previous school. Students who expressed opinions that deviated from the teachers’ were condemned and shamed. The only place where I felt that I could be open about my stances on global issues was the WSC (academic debate and decathlon) club, but even then, I felt as if the club lacked a sense of collaboration since my previous school emphasized the need for competition among club members. With such talented members, I believed that the structure of the club needed to be reformed for the betterment of everyone.

I highly emphasized collaboration as captain, and encouraged them to see fellow club members not as competition, but people that you can learn from to improve. To do this, I would often assign case studies on topics ranging from LGBTQ+ rights to reproductive rights and have class-wide discussions on each of the student’s stances. This activity was done in order to build skills in defending one’s argument and improve confidence and presentation skills. I encouraged people who have similar stances to work together in groups to present their arguments together to build interpersonal skills. This later proved to be successful.

I vividly remember the time two of my mentees, Faldo and Valery, asked persistently for advice on how to become more confident. I told them to let go of what others thought of them during their speech, and to come sufficiently prepared with counterarguments and research. After following these pieces of advice, they slowly but surely progressed as debaters. They went from stuttering and looking down at the floor to holding their heads up high, sounding assured when delivering their arguments. I rarely see them since they moved to Singapore, but they currently serve as members of the debate team in their respective schools. They have truly blossomed.

Other than Valery and Faldo, several other members within the WSC club have started to become more outspoken regarding global issues and researched further into the substance that they want to discuss. If it weren’t for this open environment in the debate club, this would not have happened. My contributions for this club made the school community more globally aware and open-minded compared to previous years, and I feel grateful that I have been able to lead that change.