**Think about an academic subject that inspires you. Describe how you have furthered this interest inside and/or outside of the classroom.**

The whir of my laptop softened as I switched it off, only the rotational inertia of its fan keeping it from coming to an abrupt halt. Although I was itching to get a quick walk after 80 minutes of Chemical Energetics, one question has kept me rooted: Why do we rarely hear of engineers winning the Nobel Prize?

The question was ignited by a comedic discussion of how scientists and engineers were different during Chemistry class. Despite the light-hearted atmosphere, I was both bugged and stunned by my abrupt realization. Instead of the obvious Google search, I went with an experimental approach. Although I was initially unsure if doing so would answer my question, my gut feeling was pushing me to pursue it. With my question serving as a catalyst, I probed around various areas I could be interested in. The following week, I submitted my proposal to my research advisor, stating I would like to determine the Activation Energy of the Decomposition of Hydrogen Peroxide using Arrhenius Law. However, he declined, stating my investigation to be too derivative of already existing research.

Nevertheless, I found it implausible that scientific procedures could only be approached from one angle. Further research led me to “Determination of the Activation Energy of the Iodide-Catalyzed Decomposition of Hydrogen Peroxide” by William Sweeney et al, where they proposed tracking the temperature instead of the concentration to monitor the extent of the decomposition. Initially, I had difficulty understanding the differential equation they proposed. It took me several weeks worth of time to connect and analyze each variable and grasp why the equation was connected to the extent of the decomposition.

Upon understanding the differential equation, I carried out an investigation utilizing the high enthalpy of the decomposition reaction to relate the rate of reaction to the rate of temperature change. The results evinced that this approach surpasses other methods in time and material efficiency. Upon this revelation, it was then I was fixated on pursuing engineering. Furthermore, it dawned upon me that we are so familiar with several scientists as they have discovered immense breakthroughs in explaining natural phenomena, whereas engineers are more obsessed with the practicality and utilization of these discoveries to push the boundaries of efficiency and technological innovations.

It surprises me how one investigation can alter the way I approach and visualize problems. Just yesterday, we were studying Nuclear Physics and the mass-energy equivalence equation was discussed. If a small mass can possess so much energy, why are our fossil fuels producing exponentially less? The old me would have not been as intrigued by this extended connection.

Hi Girvin,

What an interesting topic! It’s clear that you put a lot of thought and work into your proposal. However, US universities value a story or narrative more than they do the technical aspects.

You have the right idea for this prompt: Chemistry class inspires you to think about and investigate how problems can be approached through more than one way. That should be the main thesis, written in a way that shows your passion for Chemistry, your persistence, and your urge to problem-solve. Don’t go into the specifics of your investigation – it needs to be understandable by admissions officers who may not be chemistry graduates.

I would suggest structuring your essay as below:

* Introduction: the question that started it all
* Your proposal to your research advisor & the rejection that came after
* Your investigation, focusing on your persistence & problem solving
* Conclusion: finding the solution, & your reflection

This is a solid topic and I think it can be a strong essay after some revision. I wish you luck on the revision process!

Chiara