The Haber-Bosch Process:
Making Bread Out of Air

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The Haber-Bosch process is an easy, simple way to create fixed nitrogen by heating up and pressurizing a sheet of iron in an oven. While doing this, ammonia (a chemical compound containing mass amounts of fixed nitrogen) is created by the nitrogen and hydrogen in the air and sticks to the iron catalyst. Using this ammonia, you can easily create chemical fertilizer, which rejuvenates soil and makes plants grow better. Through the end of the 19th century, a food crisis was imminent in Europe, and the fertilizers the world had been using for so long were depleted to a state of near absence. Then, in 1909, Fritz Haber created a means to turn untouchable, atmospheric nitrogen, into life-sustaining fixed nitrogen. With Fritz Haber's discovery came a turning point which would soon spread into one of the most popular farm supplies, chemical fertilizer. I picked my topic because I thought the baseline of creating "bread out of air" and the very aspect of a topic with periodic table elements sounded interesting.

I have gone to two libraries during my time at NHD, yet only gotten books in one. That one was the Minneapolis Central Library, where I got around four books. Apart from just books, I also spent hours upon hours searching for websites. Using this I amassed a vast port of knowledge from various tomes and websites.

Starting this off, I was researching the industrialization of chemical warfare in WWI, but whilst looking into that, I found something. The reason why WWI was so devastating was because it was the beginning of mass-producing weaponry, and this was especially true for toxic gas. The man who kickstarted this was Fritz Haber, a German scientist working for the Prussian army. He is most noted for being "The Father Of Chemical Warfare", but was also the man who created the Haber-Bosch process. After researching the Haber-Bosch Process for quite a while, I was informed of the presentation categories and their word limits. Judging by how scientific the writing style of my project was, I needed the highest amount of words, so I chose the website.

Creating my website was quite a task. At first, I merely toyed with the thing, but after a while, my project was underway. After hours of work, I finished. I have learned many good skills that will help me in the future, like building a website, searching a library for helpful books, and much more.

This topic is a turning point because it was the first way to make fertilizer, instead of just mining it, and was also a simple way to make mass amounts of explosives. The Haber-Bosch Process is the reason that the rivers and lakes in the world are filled with algae, the reason that the explosives stores that most countries hold are huge, and the reason that the world's population is twice what was once thought possible. Because chemical fertilizer makes everything it touches grow faster, including algae.