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Chemistry
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**Portfolio Piece: Final Paper (Quarter One)**

**Paragraph One: What was this project about?**

The essential question for this unit was: how have discoveries in science over the past 300 years led to the development of nuclear energy and nuclear bombs? Before writing my paper, I was taught about how the nuclear bomb was constructed. We started from the very beginning, learning about John Dalton and his solid sphere model of the atom. During the quarter, we watched *Day One*, a movie about the construction and use of the world’s first uranium bomb. The question I chose to write my paper on was: Was the Manhattan Project a success? The Manhattan Project was the code name for the work on the uranium bomb. I believe that the uranium bomb was a huge scientific success. It has forever changed the world’s potency of warfare.

**Paragraph Two: Which habit of mind does this project demonstrate?**

This project demonstrates the habit of mind called “critical thinking.” Critical thinking is the ability to learn information and apply knowledge. To decide whether the Manhattan Project was a success, I first had to learn how the atomic bomb works. I learned that the uranium has to be at critical mass to create an explosion, and the uranium used in the bomb has to be 80 percent U-235. This project forced me to form an opinion based on the information I had learned in class. For example, I learned that hundreds of thousands of people were killed when the uranium bomb went off in Hiroshima, and the effects of the radiation are still present today. I also learned, though, that people had thought an atom could not be split. When scientists found that an atom could be split to release energy in the form of heat, it was a mind-blowing realization. I had to bring these and many other factors to mind while deciding whether the Manhattan Project was a success.

**Paragraph Three: Which GSE does this project meet?**

This project meets GSE Writing 9-10 2. This GSE states that I must be able to write “informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. To create this project, I first created an outline to get my ideas down on paper and organize them. The outline helped me to decide which facts to use and at which point in the paper to use them. After the outline was completed, I began the process of writing my ideas in complete sentences. When I completed the first draft, I looked it over and corrected it myself. I then brought in another draft for my peers to “give me five”. “Give me five” is an activity where peers ask five questions on a person’s paper to help the make it better. I meet this GSE because I used words to show how a chain reaction and nuclear power plant work, and I also included color diagrams for clarity. I organized my information with the outline, even before I started to write. Finally, during the correction period, I sifted out unnecessary facts and words to make my paper as direct and to the point as possible.