



It is my dream, as an eighth grade science teacher at a private school, to provide my students with assignments they want to do. In every class we certainly have students jumping for the next bit of information, some doing everything they can to jeopardize their academic standing at the school, some that try and try, yet never succeed as easily as their peers and finally those that feel their role is to just occupy space. The conglomerate of these differing outlooks on their own education provides an educator with the opportunity to make each student a part of the learning process in an effort to spark interest in the topic as well as the ability to explore and inform others on topics that interest the individual student.

It is my dream to engage each of my students with relevant and exciting material pertaining to the subject(s) discussed in class. I have yet to convince my principal that our students do not need an expensive book to learn from, as they often complain about additional material given to them beyond what the pages of the book provide. Furthermore, and probably unique to my situation, the parents become overly involved when their child is asked to research beyond the surficial knowledge provided through the text. If the text were no longer available as the rigid guideline parents and students have so easily become accustomed to following, then my class would be more free to explore the actual application of concepts as well as finding a deeper meaning in, and thus a deeper understanding of, the subject being explored.

We are beginning a unit on Chemical Interactions in January and I would like to ask each student to take a couple days perusing the unit and choosing topics of interest to them (approved by me), no more than five topics per student, or using the internet to find topics related to the unit. Then, throughout the quarter, students present their topic(s) via a PowerPoint presentation, lab, or classroom assignment. Each class, I have five, will be presenting two topics per class for two days out of the week. The remaining two classroom periods are to discuss the topics addressed and for me to provide

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higher-level labs or demonstrations relating to the topics discussed that week and maybe even giving a prelude of topics to come in the following weeks.

Assessing students throughout this quarter by using their presentations as well as our online discussion boards hosted on our Microsoft SharePoint server. Each student has their own web page, or blog/wiki, and they must host their presentation on that page. All students will be required to participate in an appropriate online-discussion (monitored by me) regarding a single topic presented by a classmate. Each student must participate in at least five topic discussions per week. Further, there is a continual opportunity for assessment by monitoring student contribution and the relevance of the discussion in which each student participates.



In addition, students are encouraged, in fact required, to provide a link on their site through which they will compare and contrast any preconceptions and misconceptions they had prior to this unit, then they must briefly discuss their ideas in relation to what they have learned from their classmates. It is imperative that I allow my students the opportunity to continue this discussion in the classroom. At the ends of each period in which students give presentations I will provide an opportunity for classmates to debrief as well as ask questions and respond to ideas. In doing so, I feel as though I am facilitating the opportunity for students to continue the discussion on in their virtual classroom. Furthermore, the final period of the week is not just an opportunity for me, the educator, to provide additional information. It is also a great chance for students to summarize what they have learned throughout the week in class and through their internet exploration.



In an effort to eliminate the deluge of useless information students receive while constructing internet queries, we will discuss and layout an effective mode of searching for information, i.e. narrowing/expanding search terms based upon what the desired result of the search may be. Furthermore, I will provide a list of helpful websites that not only provide inspiration for the students to direct their exploration, but also an idea of types of

information to include in their exploration and internet searches. Below is a list of websites that provided to students, along with a brief description of what the website entails.

[Planet Foss](#) – Planet Foss is a compilation of photographs taken by students and shared on the internet to direct discussions on conceptual ideas as well as relates science to the real world.

[Los Alamos National Laboratory](#) – This site is an interactive Periodic Table of the Elements provided by the Los Alamos National Laboratory. Within this site, students are free to peruse each individual element and find vital chemical information, but also information they may not have known about a particular element.

[Thomas Jefferson National Accelerator Lab](#) – This is the homepage to the Jefferson Laboratory, which provides students the opportunity to explore the nature of matter and chemical interactions through the descriptions of many of the lab's research projects.

[Royal Society of Chemistry](#) – This site directs students to a visual interpretation of the Periodic Table of the Elements. In doing so, students get an idea of what the elements look like, since most elements are either rare in large quantities, volatile and hazardous, or incapable of being seen under standard conditions (gases) students can now develop some sense of what a particular element looks like and how it might be used.

[MadSci Network](#) – This website provides students and educators experiments and demonstrations for exploration at home. As a result, students now correlate information they gained by searching for individual elements with how those elements interact. Additionally, MadSci goes on to provide answers to many science questions.

[Chemical Heritage Foundation](#) – The Foundation provides an understanding of the field of chemistry and how developments in chemistry influence society. Further, they allow the user the opportunity to view a timeline of chemistry, chemists, advances in chemistry, and tools used in the field of chemistry.

[American Chemical Society](#) – The society provides programs and resources for students with a strong interest in chemistry.

[PBS](#) – This site allows the user to assemble atoms from the most elementary particles, thus giving a virtual view of the workings of an atom.

[The Science House](#) – This is a website operated by North Carolina State University. The site provides students and educators insight to chemistry experiments as well as safe experiments that are safe for exploring at home.

[The Periodic Table of Comic Books](#) – The University of Kentucky operates this site and provides a look into the influence chemistry has had over the years in comic books. The site is a database for the elements and their use for doing good, or bad, by comic book superheroes and villains. Just another example of how much fun it is to explore the sciences.

I feel this is going to be an effective method of approaching this section because: 1) students do not always appreciate the beauty of chemistry and how pervasive it is, and 2) not all students have an interest in the manner I present chemistry and if they are able to choose a way to learn about these topics they might take it more seriously and find value in learning. Ultimately, this assignment will allow students to cater their education to things of direct interest to them and, hopefully, foster a love for learning by showing every day applications of what they are learning.

