**Honors Chemistry 2**

**1st Marking Period Quarterly Assessment**

Introduction:

In class thus far, we have discussed radioactive isotopes and how while they have the same chemical properties as stable isotopes of the same element, they emit radiation. Nuclear reactions differ from other chemical reactions in that they involve changing the structure of the nucleus. Most people are familiar with the term Nuclear Chemistry, but don’t normally comprehend the vast set of topics that fall into the Nuclear Chemistry category. With this project, you will study a particular topic that involves Nuclear Chemistry and research what it entails, how the reaction takes place, and how it affects the environment and people around it.

You are to choose a topic from the following list and do an individual research project. The paper needs to be at least 4 pages, double spaced, 12 pt. font. It needs to have a separate works cited page in MLA format. It must adhere to proper punctuation, spelling, and correct grammar.

Project:

You will research the following aspects of your topic:

* Important dates surrounding your topic
* An in-depth description that includes what it is known for or what happened
* A location for where the event occurred or where it is used or found in the world
* An explanation of how the topic relates to Nuclear Chemistry, including:
  + The area of chemistry that is concerned with nuclear reactions
  + The study of the nucleus of an atom and all of its changes, such as fission.
  + The discovery of radioactive elements in nature as well as the synthetic production.
* Reasons why people should care about this topic

Possible topics:

1. Argonne National Lab
2. Yucca Mountain Nuclear Waste Repository
3. CERN - European Organization for Nuclear Research
4. Fermilab in Batavia, Illinois
5. Fusion and the sun
6. Tokaimura Nuclear Accident
7. Braidwood Generating Station
8. Fukushima Daiichi Nuclear Disaster
9. Radiation Therapy
10. Hydrogen Bomb
11. Chernobyl Nuclear Disaster
12. Three Mile Island Nuclear Disaster
13. Carbon dating uses and limitations
14. Dresden Generating Station
15. The Manhattan Project and the atomic bomb
16. Radon: dangers in the home and radon testing
17. Nuclear power plants in the United States except for Three Mile Island
18. Nuclear powered transportation

Project is DUE on Tuesday, November 1st, 2016. You will have 3 class periods (2 class periods and a lab period) to work on this in class and ask any questions. This will be your quarterly assessment for the 1st marking period. Please refer to the rubric as a guide since I will be using it to grade your paper. If you have any questions, please ask for clarification before the due date.

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I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, am doing my 1st Marking Period Quarterly Assessment Paper on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I understand it is due at the beginning of class, November 1st, 2016.

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Signature Date