**Author:** Jared Schwartz

**Lesson Title:** Chemical Reactions

**Suggested Grade Level:**

9th-12th

**Estimated Lesson Time:**

50 minutes

**Abstract:**

Students will explore the different types of chemical reactions and how each of them functions. The following video will give brief overview of the different reactions and by the end of the lesson, students should be able to practice the different reactions on their own to be prepared for the next lesson.

<http://www.youtube.com/watch?v=EEue3g4yebc>

**Student Prior Knowledge:**

Students will be told to read the chapter in the text book that corresponds to chemical reactions so that when they arrive in class, they will be able to provide an active role in the day’s class.

**Standards:**

SC.912.P.8.8 - Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.

**Goals:**

Students will compare, contrast, examine, and analyze the different chemical reactions in order to demonstrate and classify how different substances interact with one another. Understanding how and why substances react with one another and also understand the different rules for reactions.

Learning Objectives:

I can characterize each of chemical reaction (i.e. decomposition, acid-base, synthesis, etc.) This means that I can look at an chemical equation and identify which type of reaction it is based on what is in the products and reactants. To learn this, I will read the chapter prior to class, do example problems online, and practice problems on my own.

I can balance different types of chemical equations using the correct coefficients. This means that I can look at the products and reactants and figure out how to balance them properly. To learn this, I will read the chapter prior to class, do example problems online, and practice problems on my own.

**Resource:**

<http://misterguch.brinkster.net/6typesofchemicalrxn.html>

**Procedures:**

1. I/teacher demonstrates an example of how chemical reactions work by combining vinegar and baking soda. (5 minutes)
2. You/students will watch a brief video breaking down the different aspects of chemical reactions and balancing chemical equations. (10 minutes)
3. We/class will go over some example problems on the board in order to solidify the students’ understanding of the material. (10 minutes)
4. You/students will access the following website and answer 5 chemical equations in each category (i.e. beginner, intermediate, advanced). (15 minutes)

<http://education.jlab.org/elementbalancing/index.html>

1. We/teacher will go over any final questions the students have regarding today’s lesson. (5 minutes)
2. You/students will take the rest of class to begin their homework assignment to be completed before the start of the next day’s class. (5 minutes)