Draft Version: Shifting Reactions A Invention Activity.

Get together with two other students and discuss the following questions. The questions are based on the Shifting Reactions A Exploration activity. (http://genchem1.chem.okstate.edu/2009APW/Default.html)

1. Compare your data for Question 4 in the Shifting Reactions A Exploration. How does each member's of the group amounts of reactants and products compare? Discuss the final amounts and any differences or similarities.

2. Based on Question 4: write the balanced chemical equation that was observed.

3. Compare your data for Question 5 in the Shifting Reactions A Exploration. How does each member's of the group amounts of reactants and products compare? Discuss the final amounts and any differences or similarities.

4. Based on Question 5: write the balanced chemical equation that was observed.

5. Compare and contrast the two equations you have written in Question 2 and Question 4 of this activity.

6. Chemists refer to the type of reaction that is being investigated as a reversible reaction. Using the chemical system that was investigated in the Shifting Reactions A Exploration explain what is meant by reversible reaction.

7. An example of a non-reversible reaction is

$$2KClO_{3(s)} \rightarrow 2KCl_{(s)} + 3O_{2(g)}$$

What is meant when the term non-reversible is used to describe this reaction?

8. When viewed at the macroscopic level in the laboratory, chemical reactions seem to stop changing after a period of time. How does this compare to your molecular observations of the reaction in the Shifting Reactions A Exploration? How do your observations at the molecular level explain what happens at the macroscopic level?

9. Metal Modeling: Using the reaction simulation in the Shifting Reactions A Exploration see if you can observe both chemical reactions you arrived at in Questions 2 and 4 above occurring. Illustrate your observations by drawing a sequence of interactions that result in both reactions.

10. Summarize in a few statements what are the characteristics of chemical reactions of the type studied in this activity.