# Types of Chemical Reactions Jigsaw

## Summary

Students will perform chemical reactions for the class to observe evidence of reactions and write equations to describe the reaction.

# Time Frame

1 class periods of 90 minutes each

### Group Size

Small Groups

# Materials

Each student will need a copy of the <u>student sheet attached</u>. Each section has the chemicals listed that will be needed for each group.

### **Background for Teachers**

### Time Needed:

1-84 min class period. About 15 minutes for an introduction and separating into groups (this can be done the previous class period). Then, about 25 minutes for students to prepare their reaction and presentation and another 30 minutes for each group to present and cleanup.

### Safety Considerations:

Students should where goggles and work in the fume hood. Most of the chemicals can be discarded either in the garbage (solids) or down the drain with water (liquids). Be sure the acids and bases have been neutralized with baking soda (for the acid) or hydrochloric acid (for the base) before dumping them down the drain.

# Student Prior Knowledge

Students should have a basic understanding of lab technique and safety. Also, students should know how to write balanced equations.

# Instructional Procedures

Assign students to 5 different groups and have them assume one of the following roles: materials -- retrieves the materials from the stockroom and puts them away as well as knows the safety to follow (safety could be a separate role if desired), experimenter -- performs the experiment, presenter - the most eloquent of the group that will explain clearly to the class, data -- confirms that the observations and characteristics of the reaction are correct/accurate, clean up -- assures that the lab area is spic n span.

Assign each group a different reaction to perform for the class. Their presentations should show the reaction and they should be able to explain their reaction as they are doing it for the class. I referred students to the textbook and to the internet to find information on their type of reaction. Students must answer each of the questions for their reaction and the class will fill in the answers during each presentation.

Students will need time to prepare their reactions and possibly perform them before their presentations so they know what to expect. Also, students need time to answer the questions and balance the equations.

Group presentations: as each group presents, the students should fill out their own sheets. I mark down their grade as they present.

Debrief: as a whole class discuss each reaction and emphasize the evidences they should have observed.

#### Assessment Plan

#### Scoring:

I gave students 15 points for actually doing the activity and presentation. Students earned an additional 5 points if they covered all of the questions on the student sheet for their group in their presentation and an additional 5 points for a completed student sheet for all groups.

#### Bibliography

Lesson Design by Jordan School District Teachers and Staff.

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