Project: Toy Project

Summary
In this project, students will develop a toy or elementary school project into an inquiry demonstration suitable for a high school chemistry class.

Resource Type: Project
Grade Level: High school

Objectives
By the end of this lesson, students should be able to
- Bulleted list of what students should be able to do by the end of the lesson.
- Should be specific and measurable

Chemistry Topics
This lesson supports students’ understanding of
- Chemistry basics

Time
Teacher Preparation: None
Lesson: 1–1.5 weeks

Materials
Students design their own project and are responsible for providing their own materials.

Safety
Teacher should consult with groups to see what chemicals they are purchasing. Safety precautions depend on the project each group decides to pursue.

Teacher Notes
- Grading rubric and student evaluation form included in Grading Rubric file.
- This project was assigned after the AP Chemistry exam, in lieu of a final exam in the course. Students were given 1 week in class to research and prepare for the activity. They demonstrated creativity with their choices of activities, but also had a lot of fun showing off their knowledge to their fellow students.

FOR THE STUDENT

Student Activity Sheet: Project Assignment

Lesson
Background
Develop a toy or elementary school project into an inquiry demonstration suitable for a high school chemistry class.

By __________________ you and your partner(s) are responsible for developing a toy or elementary school project into an inquiry demonstration and performing it for the class.
**Purpose**
Many toys have been turned into science lessons suitable for elementary school students (example: http://www.omsi.edu/chemunit-3). Your challenge is to find a creative way to use a toy or elementary school project to teach a high school chemistry concept.

**Guidelines**
- Demonstrations and discussion should be 8 to 10 minutes.
- You must work in a group of two or three total. No exceptions.
- You must be ready to perform your demonstration in front of the class, using your inquiry worksheet, on ____________. Names will be drawn in random order. If you are not ready when your name is drawn, you will be penalized 10 points.
- You and your partner(s) are responsible for purchasing all toys or chemicals needed.
- If using chemicals, all chemicals should be readily available in a grocery or drug store.
- You must develop, type, and photocopy a one-page inquiry worksheet. The inquiry worksheet must consist of a series of questions about the demonstration to guide students to a conclusion that relates to a chemical concept.
- Your grade will consist of a written packet (50%) your demonstration (20%), creative development of a high school chemistry concept (20%), and a peer evaluation (10%) done by the other member(s) of your group.
- The written packet should contain:
  - Enough copies of a one-page inquiry worksheet with questions for everyone in the class,
  - One copy with purpose, introduction, materials list, and procedure for the demonstration
  - One copy of a safety handout with safety concerns, equipment, and a MSDS for any chemical used.
  - The written packet must not be copied from another student or a previously published source. This includes books, or any Internet source.
- You will be given a peer evaluation on the day your project is performed. This peer evaluation will allow you to evaluate your team members. All input will be held confidential.