Appendix A: Sample Assignment: Teaching Chemistry to Elementary Students

Overview:
This assignment may prove to be more challenging than initially expected. You will choose your own groups and plan two days of chemistry lessons for 5th grade students. Class size varies from 30 to 40 students and student ability varies. Prepare for 1.5 hours, be flexible. If efficient you should be able to complete most of this work in class. If not, plan to work in lab before school. You may need to provide some materials.

Suggestions for success from former AP students:
- Grab the students attention with an initial demonstration (involve students in the demo if possible).
- Kids learn best through discovery. Keep the students actively involved in learning with hands-on activities.
- Constantly reinforce concepts by planning lessons where activities gradually build upon each other.
- Provide maximum individual attention by working with small groups of students. Elementary school teachers have offered to pre-assign students into the appropriate number of groups so that each of you will be responsible for certain students.
- Practice! Do all of your experiments before you go to the elementary school.
- Be organized! Elementary teachers suggest that you prepare materials for each group in boxes or baggies before you arrive so that you can quickly pass them out to each group.
- Consider reducing the amount of materials needed. For example: By synchronizing your timing, perhaps you can share a hot plate with another group.
- Elementary teachers have offered to introduce your topic to their students prior to your visit.
- Be prepared to talk to students about academic goals and about junior and senior high school experiences.
- Think about what questions to ask on the first day student evaluation. Will the questions help to provide the planning information you will need for the second day?

Assignment:
In your group, begin brainstorming applicable concepts and age-appropriate hands-on activities to address each of the following:

1. What chemistry topic will you address and teach?
2. How will you introduce the topic and grab the students’ attention?
3. What do the students already know about the chemical concepts you plan to teach? How will you discover their misconceptions?
4. How will the students be actively involved? (Plan for two classroom visits) What materials will you need each day?
5. How will students see the real-world connection to chemistry as part of their daily lives?
6. How will you check for their understanding and dispel any misconceptions?
7. Write a brief outline/script for each day, including connections to standards and time needed.

Written Requirements:
These will be turned into the teacher:
- Due before the First Classroom Visit:
  - Initial Preparation (answers to the sections 1-6 above)
  - Rough draft of script (section 7)
- Due following the Second Classroom Visit:
  - Evaluation of Days 1 and 2 (complete a handout)
  - Evidence of Elementary Student Work (both days)