

AP Chemistry “Demo in a Box” Project Description and Expectations

The project itself will be worth 200 points. Here is a breakdown of where the points are earned:

Following Safety Guidelines:	20 points
Good use of class time:	20 points
Daily Cleanup:	20 points
Quality & Depth of Demos:	50 points
Lesson Plan & Safety Info:	50 points
Organization & quality of Boxes:	40 points

Following Safety Guidelines: 20 points possible

Each time any safety guideline is not followed, 5 points will be deducted. Examples: not wearing safety glasses during work, working with a chemical which you have not printed out the safety info. sheet on, etc.

Good use of class time: 20 points possible

Each class day should be put to good use. Either you are working on your project or you are quietly working on material for other courses. Each day of work is worth one point if you are working most of the period. Zero points are given for the day if you are socializing a lot, not working on things, etc.

Daily Cleanup: 20 points possible

Each day you need to clean up all materials which you used and put away your personal items in the lab drawer assigned to you. Any time some of your material is found left out, 5 points will be deducted. This could be anything from chemicals you are using to glassware left on the storeroom counter, etc. When in doubt, ask Mr. B if it's OK to leave something out.

Quality & Depth of Demo (50 points possible)

- 10 Pts: The demonstration works.
- 10 Pts: Depth of effort put into the demo
- 10 Pts: How unique and unusual the Demo is.
- 10 Pts: Overall quality of the Demonstration.
- 10 Pts: How active and interesting (wow!) the Demo is.

Lesson Plan & Safety Info (50 points possible)

- 10 Pts: Accuracy of the material presented in the Demo.
- 10 Pts: Quality and clarity of the teacher's lesson plan in the Demo.
- 10 Pts: Quality of the overhead sheets.
- 10 Pts: Safety Summary Sheet.
- 10 Pts: Complete Safety Info sheet for each chemical used.

Organization & quality of Boxes (40 points possible)

- 10 Pts: The box is 7" x 13" x 5" high (Maximum dimensions)
- 10 Pts: All chemicals are clearly labeled with typed large font (18 Pt Min) labels and all materials present for the Demo or it is clear where to find them.
- 10 Pts: The apparatus setup is clearly shown in a neatly labeled diagram.
- 10 Pts: Boxes are labeled on the outside (on all sides & top) with a large computer font (18 Pt min) label. This label should include the Demo name as well as the topic it relates to in chemistry. IE:

“The Hungry Dragon” Topic: Thermochemistry

Timeline:

May 10: Project announced.

May 10 – June 4: Work on developing your demos & boxes in & out of class:

June 5-9 : Projects are finished, demonstrations are presented to Mr. Bausback's 1st or 2nd Period chemistry classes. Sign up for which day you would like to go and obtain permission from your 1st or 2nd period teacher to miss some class that day.

Other Information: You can do the project in groups of two or three. No solos. No two groups can do the same demo or similar demo. Sign up in advance with your topic to reserve this topic for you or your group.

Safety Information on chemicals used

Here is the URL to find Safety Information: <http://www.hazard.com/msds/index.php>

Here is a sample of how what information you should copy and paste and format on your own chemical safety information sheet you will create for each chemical you use in this project. For consistency, use a Sans Serif font like "Arial" and always use the 12 point size. Put the chemical name in bold. Follow this format exactly:

Nickel (II) chloride, hexahydrate NiCl₂ •6H₂O

synonym: nickelous chloride, 6-hydrate

CAS No.: 7718-54-9

Molecular Weight: 237.7

Chemical Formula:

Yellow or light green deliquescent crystals, odorless

Solubility: 2.54 kg/L @ 20C

Specific Gravity: 3.55

Boiling Point: ca. 973C, Sublimes.

Melting Point: ca. 1001C

Health Rating: 3 - Severe (Cancer Causing)

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 2 - Moderate

Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. May cause allergic skin or respiratory reaction. Cancer hazard. Can cause cancer. Risk of cancer depends on duration and level of exposure.