

Dear Fellow AP Chemistry Teachers:

I would like to welcome you to the first step of the summer AP Chemistry Institute. The next step is to relax, bring a sense of humor, and some paper to the Institute. We will be covering the major content areas of AP: electrochemistry, equilibrium, acid/base, thermodynamics, kinetics, plus touching many other areas. Time will be taken to give each of you a chance to complete 5 or more labs that are recommended as part of the course. The pace will be very fast in order to cover as much as possible and to make the week a useful exercise to you. Time will be given for individual questions, discussions in small groups and to plan and compare teaching situations. I recommend your textbook (if possible), syllabus and a calculator. A large notebook will be provided with over 200 pages of materials about AP Chemistry (old tests and standards, labs, demos, etc.). One topic will be covered in greater detail – writing net ionic equation – since it is not covered in a direct manner in college chemistry books.

I look forward to meeting and working with each of you this summer. My goal for the week is to make it useful, pleasant, fun, and memorable experience for you. Each of us is a dedicated educator trying to improve our teaching skills and information about our desired content area. What I do is what makes me successful in my situation, and each of us has different set of problems to solve so different techniques are often needed. Think about what these may be, write them down, and we will try to help each of us become better educators.

Any other questions or concerns can be e-mailed to me at [ctjtst@mindspring.com](mailto:ctjtst@mindspring.com). See you this summer for great learning experience.

Sincerely,

Steve Thompson  
AP Consultant

Bio: 32 years of teaching AP Chemistry, 14 years consulting for College Board, 11 years AP Exam reader, and 13 years instructor at 6 different colleges (U. of Northern Colorado, U. of La. At Monroe, Olgethrope U., Louisville, Morehead State, Woodard Academy, Wake Forest)

## 2009-2010 AP CHEMISTRY WORKSHOPS/SUMMER INSTITUTES AGENDA

1. Registration
2. AP Packet from College Board
  - \* Guide to AP Program (pp 1 to 39 excellent overview of AP Chemistry)
  - \* AP Chemistry Guide 2008-2010
  - \* MC SECTION 2002 Test, 09 FR
  - \* Professional Development
  - \* AP Test Reader Application
  - \* AP Consultant Application
  - **Overview coverage of Thermodynamics Concepts**
3. AP Packet from Steve Thompson, AP Chemistry Consultant, Brookwood High School
  - \* Questions about an AP Chemistry program & **changes on 10 exam & AP Audit**
  - \* Skills for Student Success
  - \* My syllabus, problem sets, labs, and pacing chart
  - \* Keys to passing the AP Chemistry Exam
  - \* AP Free Response Planning Sheet (use with CD given at workshop)
  - \* 08 Practice exam MC **Analysis of student performance chart**
  - \* AP Report to Teachers (comes to school late September)
  
  - \* **Selected AP Questions Yearly Review - Acid/Base, Equilibrium, Kinetics, Thermodynamics, Electrochemistry, Labs Questions, Atomic theory/Bonding/IMF**, also on CD
  
  - \* **Net Ionic Equations** (Rules, Questions, Answers, Practice quizzes on CD and paper copy)
  
  - \* Selected Labs
    - a. **Hydrolysis of Salt**
    - b. **Cu to Cu**
    - c. **Acid Catalyzed Iodination of Acetone**  
(rate law, mechanism, catalyst, reaction intermediate)
    - d. **MW of Volatile Liquid**
    - e. **Beer's Law/ Colorimetric Analysis**
    - f. **Chromatography of Acid-Base Indicators**
    - g.  **$K_{sp}$ , pH, Equilibrium**
    - h. **Electrochemistry**
  
  - University of Northern Colorado, 14 Labs for Freshmen Chemistry (Titles Only for comparisons)
    - a. Separation of Mixtures (3 solids)
    - b. Formula of Hydrate
    - c. Chemical Reactions and Equations
    - d. Volumetric Analysis (KHP, NaOH)
    - e.  $H_2$  Spectrum Analysis and Flame test
    - f. Colorimetric Analysis
    - g. Periodic Trends of Halogens
    - h. Acidic Gases
    - i. Kinetics
    - j. LeChatelier's Principle
    - k. Hydrolysis of Salt
    - l. MW of Gas
    - m. Electrochemical cells
    - n. Hess's Law/Thermodynamics
  
  - \* Demos
    - a. **Milk of Magnesia**
    - b. **Flame Test**
    - c. **Thermodynamics (spontaneous, endothermic, and disorder)**
    - d. **FP Depression (Quick Freeze)**
    - e. **Catalyst/ Mechanism/ Temperature**
    - f. **Mirrored Flask (Redox, complex ion, ppt.)**
    - g. **Endothermic Equilibrium**
  
  - \* Resources/Reference Charts/ Chem team website
  - \* Nuclear Chemistry Teacher Review Packet
  - \* Roles for my students, myself, college success, and **my contact information** (school address and emails)