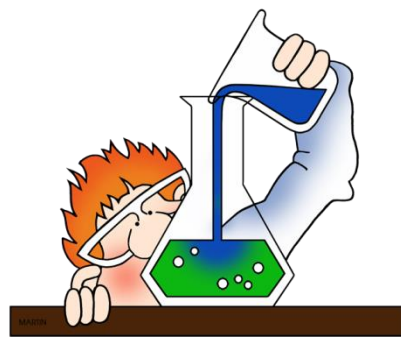


Chemistry for New AP Teachers Summer Institute:
June 26-29, 2018
West Virginia Center for Professional Development,
University High School, Morgantown, WV
Instructor: Mr. Les McSparrin



Course Description: The AP Summer Institute in Chemistry is designed to assist AP Chemistry teachers in building the foundations for success in teaching the redesigned AP Chemistry curriculum framework. Emphasis will be placed on the curriculum framework and the rigor of the materials students need to be successful on the AP Chemistry examination. The course will focus on the Big Ideas, Enduring Understandings, Essential Knowledge, Science Practices, and Learning Objectives that comprise the new course. Time will be allowed for best practices and for sharing ideas among the participants. Each day will consist of a morning session based on the curriculum framework/chemical theory, and the afternoon will be used for modeling the suggested laboratories and several alternative lab experiences. This institute is designed to specifically meet the needs of the beginning AP Chemistry teacher.

Tuesday, June 26

8:00 A.M. – 12:00 P.M.

- Introductions and expectations
- Equity and Access
- Curriculum Framework – Big Ideas, Enduring Understandings, Essential Knowledge, Science Practice, and Learning Objectives.
- What is an audit? – elements of a syllabus
- The Teacher Community
- A first look at last year's free response questions

12:45 P.M. – 4:30 P.M.

- Spectrophotometry principles
- Brass Screw Experiment
- Synthesis of Potassium Tris-Oxalato Iron (III)
- Kinetics of Crystal Violet

Wednesday, June 27

8:00 A.M. – 12:00 P.M.

- The "Read" – Salt Lake City
- A first look at multiple-choice from released exams
- Strategies for answering the multiple choice questions
- Periodicity and PES Theory
- Acid/Base Equilibria and Buffers

12:45 A.M. – 4:30 P.M.

- Modeling Le Chatelier's Principle
- Titration Curves and Determination of K_a by Half-Titration
- % Water of Hydration of Oxalato Complex

Thursday, June 28

8:00 A.M. – 12:00 P.M.

- How to construct your syllabus.
- REDOX and Electrochemistry
- In-depth look at free response questions.
- Thermodynamics

12:45 P.M. – 4:30 P.M.

- Determining % Oxalate by Redox
- Making a Galvanic Cell and Concentration Cells
- Hess' Law Guided Inquiry
- Ion-Exchange Chromatography

Friday, June 29

8:00 A.M. – 12:00 P.M.

- Writing in-class assessments
- Sharing of best practices
- What is guided inquiry?
- Time to work on syllabi for course audit

12:45 P.M. – 2:30 P.M.

- Determination of Iron and Potassium in Oxalato Complex
- Concluding questions and concerns
- Door Prizes
- Evaluations

Please Note: Participants will be surveyed in regard to their greatest needs prior to the APSI. Therefore, the exact morning topics and order are subject to change based on the results of that survey.

What should participants bring?:

- goggles and apron or lab coat
- closed-toe shoes and long pants (no shorts in the lab)
- calculator
- sample lab and an example of a "best practice"

Participants who elect to apply for 3 graduate credits through West Virginia University or Marshall University will need to complete 15 hours of coursework in addition to the 30 hours of contact time in the APSI. Assignments collected will be

- completion of nightly assignments to be turned in daily*
- presentation of a “best practice” to the APSI participants*
- modification of a traditional lab into one using principles of guided inquiry*
- submission of a rough draft of the participant’s course audit syllabus*