

Tue-06:30-Poster-1, Bernhard Center Ballroom, Exhibit Hall.....Poster

Tue 6:30-8:00 PM

An Alternative to Traditional AP Lab Reports

Dalia Zygus, dzygas@comcast.net

Do all of your AP Chemistry students get the benefit of the critical analysis of lab data? Or does “working with others” allow students to avoid making critical connections? Assessment strategies to evaluate comprehension in both individual and group lab experiences will be presented.

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The University of Tennessee, Knoxville Pre-College Science Outreach Programs

Dr. Al Hazari, ahazari@utk.edu,

The University of Tennessee, Knoxville Department of Chemistry is conducting several outreach programs for area students and teachers and for the public.

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Teaching Thermodynamics: A New Concept

Dr. Regina Ruffler, Regina.Rueffler@job-stiftung.de, and Dr. Georg Job

Thermodynamics is generally considered a difficult science. It seems that two quantities are especially hard to grasp: entropy (S) and chemical potential (μ). As part of the new didactic concept already adopted in schoolbooks in Germany and Switzerland, they are introduced by a phenomenological description (comparable to a “wanted poster”).

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A Guided Inquiry Twist on Two Traditional Gas Labs

Jean Weaver, jweaver@prairieschool.com

Two traditional, first year high school gas labs were modified to become guided inquiry experiments that emphasize creative thinking, problem solving and application of chemical principles. The activities, how they are run in class, and their inherent benefits and challenges will be presented.

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Combining Explanations, Activities, and “design method” Inquiry

Craig Rusbult, craig@chem.wisc.edu

Teachers can design eclectic instruction that creatively combines clear Explanations (using ideas from Ausubel), Activities (for application-and-extension), and Inquiry structured by a model of Integrated Design Method - developed based on my PhD work about Scientific Method - to help students learn scientific concepts, creative-and-critical thinking skills, and metacognitive learning strategies.

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Catalytic Volcano

Emil Losanov, emillosanov@yahoo.com

The entertaining lecture demonstration, given in less than three minutes, with the smoking shrinking bottle, presenting the decomposition of hydrogen peroxide in the presence of manganese (IV) oxide. The topics of state and changes of matter, exothermic and decomposition reactions, condensation, reaction rate factors (catalyst, surface area, and concentration), enthalpy of reactions, thermoplastic polymers, and formation of PETE bottles can be introduced.