

PWISTA Summer 08 Institute

Math of Chemistry for Teachers

Presented by

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Mahopac HS,

Captain Kirk and Mr. Spock dealt with the “Wrath of Kahn”, this program will help you with the “Math of Chem.” Prior science workshops have gone through the science behind the topics and theories covered in Regents, Honors, SAT II, AP, and concurrent enrollment chemistry. Many teachers have been jumbled by the math involved in solving many of these problems. Have you ever felt ... “There must be a better way”? Relieve the anxiety of trying to explain this to your students. This course is designed to conquer the MATH involved with all aspects of chemistry. We will be going through dimensional analysis; a great way to solve many categories of problems WITHOUT any formulas. No more memorizing the many mole formulas; factor label solves is just by “Letting the units do the talking.”

Titration problems looked great on the Vernier apparatus; creating the fantastic curves. We will go through calculating pH's before, after and at the equivalence point of the titrations. Refresh your memory (Those good old college days) on log's and ln's. This comes in especially handy when calculating rates of first and second order reactions as well as half life's. Specific heat, heat capacity, molar heat capacity, heat of fusion, heat of vaporization, heat of reaction, heat of formation; and all things enthalpy will be calculated with more ease.

Topics will include:

Everything mole – atoms, ions, molecules, concentrations, compounds to ions, compounds to elements, and ALL stoichiometry and solution chemistry.

Thermo chemistry, Gas laws – real and ideal, Chemical Kinetics, Chemical equilibrium, Acid-Base equilibrium, Electrochemistry at standard and non standard states, Thermodynamics at standard and non standard states, Nuclear chemistry

This Institute will provide information and materials to participating teachers that will:

- Enhance your classroom presentations in many areas.
- Encourage teachers to use methods in their classrooms that involve new demonstration ideas
- Expand the scope of your laboratory activities using computer interfaced equipment.
- Provide a forum for discussion and sharing of their materials and ideas.
- Refine your skills in examination preparation
- Curriculum Structure and Sequencing
- Context Knowledge for the Specific Discipline
- Methods of Teaching Specific topics within the Curriculum

Date: June 30th – July 3rd, 2008 , Time: 8:30 AM-4:00 PM , Cost: \$595.00 (includes Breakfast and Lunch)

Place: Science Wing, Mahopac High School, Mahopac, NY

For additional information and online registration visit: <http://www.pwista.com/calendar.htm>

Credit: A 30-hour certificate toward in-service credit will be issued for use according to your school district's policy.

For college credit information contact: Dr. Peter Corfield, 914-251-6675

Detach and Mail with Payment

Name: _____ Home Phone: _____

Street Address, City , State, ZIP : _____

Email: _____

District/School: _____ Course Title : Math of Chemistry for Teachers

Please make checks payable to PWISTA and mail to:

Putnam-Westchester Industry & Science Teacher Alliance, 67 Fassitt Drive, Mahopac, NY 10541