Meeting Videos and Handouts from March 2012

A big thanks goes out to Paul Brant for hosting the 6th Annual Demo Night March 3rd 2012 at North Central College.

Bob Blaus from York High School:

Bob had the awesome idea of involving his students in the demo presentations. They were all really well done and all were accompanied with music.

- The first demonstration was "Red, White, and Blue" He uses this demonstration to illustrate several colorful equilibrium reactions. "Aqueous ammonia is added to each of the three beakers in which reactions take place to form products that are colored red, white, and blue, respectively." (Handout) (Video)
- The second demonstration was "Blue sky - red sunset." He uses this demonstration to demonstrate the Tyndall effect. "At sunrise and sunset the sunlight travels through the maximum amount of atmosphere to reach your eye, during this journey, the greatest amounts of blue wavelengths are scattered and the light that reaches your eye is correspondingly richer in the red wavelengths. If the number of scattering particles is increased from sources such as forest fires or volcanic eruptions, you get spectacularly red sunsets. (Handout) (Video)
- The third demonstration was "Rossini, William Tell and the Iodine Clock Reaction" He uses this to demonstrate how "the rate of reaction is affected by the concentrations of reactants" "The contents of a series of flasks are mixed together and eventually each mixture will change from colorless to blue after a different amount of time. Segments of the William Tell Overture by Rossini are played as the chemicals are mixed and the mixtures change colors. The goal is to get the final flask to change color." (Handout) (Video)
- The fourth demonstration was "Chicken Eggs" which is a variation on the Leaky Faucet. It is a great way to use dry ice to demonstrate sublimation. (Handout) (Picture) (Video)

Karl Craddock from William Fremd High School:

- The first demonstration is called "Cloud in a Bottle" It can be used to explain air pressure, weather systems, and the formation of clouds! "A 2L bottle has a small amount of rubbing alcohol added to it. It is them pressurized with a bicycle pump. When the pressure is released, a cloud forms in the bottle.....when the pressure is increased again the cloud disappears." (Handout) (Video)
- The second demonstration is called "Big Smoke Rings" It can be used to demonstrate the effects of air pressure. "A garbage can has part of the bottom cut out and a shower curtain attached to the other side. The garbage can is then filled with smoke from a smoke machine. When the shower curtain is hit it produces smoke rings from the open bottom!" (Handout) (Video)

Jaime Stasiorowski from Deerfield High School:

- Jaime presented a great way to get students to experience what it is like to be a gas molecule. "Students are molecules of gas. The classroom is the container. Instructor asks the students to behave like gas molecules. Once they've spread out around the room and are moving, instructor changes the variables and has the students gas molecules change their behavior some how." (Handout) (Video)

Kevin Kopack from Lane Tech High School:

- The first demonstration is called "Superheated Steam" It is used to show "the energy of superheated steam and why steam is a greater skin-burning threat than boiling water." Basically students will see that superheated steam is hot enough to light a match! (Handout) (Chem Matters Article) (Video soon to come)
- The second demonstration is called "Mountain Dew' Viar? Spherification! Veggie Friendly Edible Orbs." It is used to show gelling, solubility, and surface temperature. In this demonstration you can use food chemistry to make some pretty yummy gelled spheres. (Handout) (Scientific American Article) (Video Part 1) (Video Part 2)

Therese Youel from Cary-Grove High School:

- The demonstration is called "Self Demos for Electrochemistry" Instead of doing a huge demo for students she encouraged teachers to make smaller scale demos that students can experience for themselves in small groups. "Each lab table has a tray with a prepared set of solutions and all other materials needed for doing the "self-demos" at lab stations with a small group of students" (Handout....I think the third page is supposed to be first but this is how it is presented in the book) (Video)

JulieAnn Villa from Niles West High School:

- The demonstration is called "Circle of Hands" "This is a quick and simple classroom activity that can be performed to show that our bodies, being made of ionic solutions and permeable membranes, can act as conductors of electricity.....students will be surprised that they can conduct electricity and not feel a thing" (Handout) (Video to come)
- The Ropes: A Molecular Polarity Activity. "In order to make it easier for beginning students to visualize the net dipole, we set up a "human molecules." (Handout) (Video)

Bryan Taylor from North Central College:

- This demonstration is called "Ghost Metal/Haunted Penny - NerdRage." "In a variation of luminol chemiluminescence, we make a coin appear to glow with ghostly trails, making this great experiment to do around Halloween." (Handout) (Video)

Becca O'Dette from Fremd High School:

- This demonstration is called "Cool Light Chemical Reaction" This is another fun chemiluminescence demonstration....producing light without heat. (Handout) (Video)

Paul Kash from Whitney Young High School:

- This demonstration is called "Electron Orbitals and Standing Waves in a Spring" "The purpose is to use standing waves in a spring to illustrate the shape of electron orbitals and the concept to discrete energies" (Handout) (Video)

Lee Marek from University of Illinois Chicago:

- This demonstration is called "Getting a Band out of Chemistry." Lee brought a carbide cannon. "To introduce the idea of limiting reagents right after the first firing of the cannon, add two more plungers full of the calcium carbide and refire the cannon. A small yellow flame and some black smoke will result, but there will be very little noise (much to the surprise of your students.) .....if you add more you will probably get no reaction.....this is because all of the oxygen has been used up." You can get a carbide cannon at http://www.bigbangcannons.com/ ....Lee said his was about $400 but there are some that are $200.....the calcium carbide is sold in a tube called "Bangsite" on the website as well. (Handout) (Video)

Sue Bober from Schaumburg High School: (sbober@d211.org)

Sue was not able to stay so her coworker Mike Palazzolo presented the handouts she submitted. (Video)

- The first handout is a song called "Mole per Liter "ville" that is sung to the tune of "Margaritaville" by Jimmy Bugget. It is a song about Molarity. (Handout)
- The second is a research project which came from a ChemEd '11 conference. "Students are given levels of trace metals in a patient's blood and they have to determine the probably cause(s) of the patient's complaints. They are to type a 1-2 page report describing the patient complaints, your diagnosis, and recommendations for treatment for your supervising doctor at UIMN." (Handout)
- The third is an activity where students make Borate crystals to create an ornament.....but Mike said they do not let student's take home their ornaments because it is basic.Students use Molarity to create their sodium borate solution, they create an

ornament out of pipe cleaners, and then suspend the ornament and wait over night for the crystals to form. (Hanout)
- The fourth is a lab called "Molarity if Kool..." Students make different Kool-aid drinks, calculate their molarities, and taste them! (Handout)

Mike Heinz, Niles West High School

- This was not included in the booklet. Mike took a blow torch and heated up a cow magnet. As it heated the electrons were excited and the magnet lost its magnatism.....the nickel shot fell off the magnet. Then after cooling for a couple seconds Mike explains that the electrons return to ground state and then it regains its magnetism. (Video)

Jill Sterling and Mike Palazzolo from Schaumburg High School

- Jill Sterling and Mike Palazzolo brought some flash paper and showed us how a violet laser will make it glow but a green one will not. This helps to demonstrate that violet light has much higher energy then green. If you would like a purple laser for **$10** you can email her at jill.serling@gmail.com (Video)
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