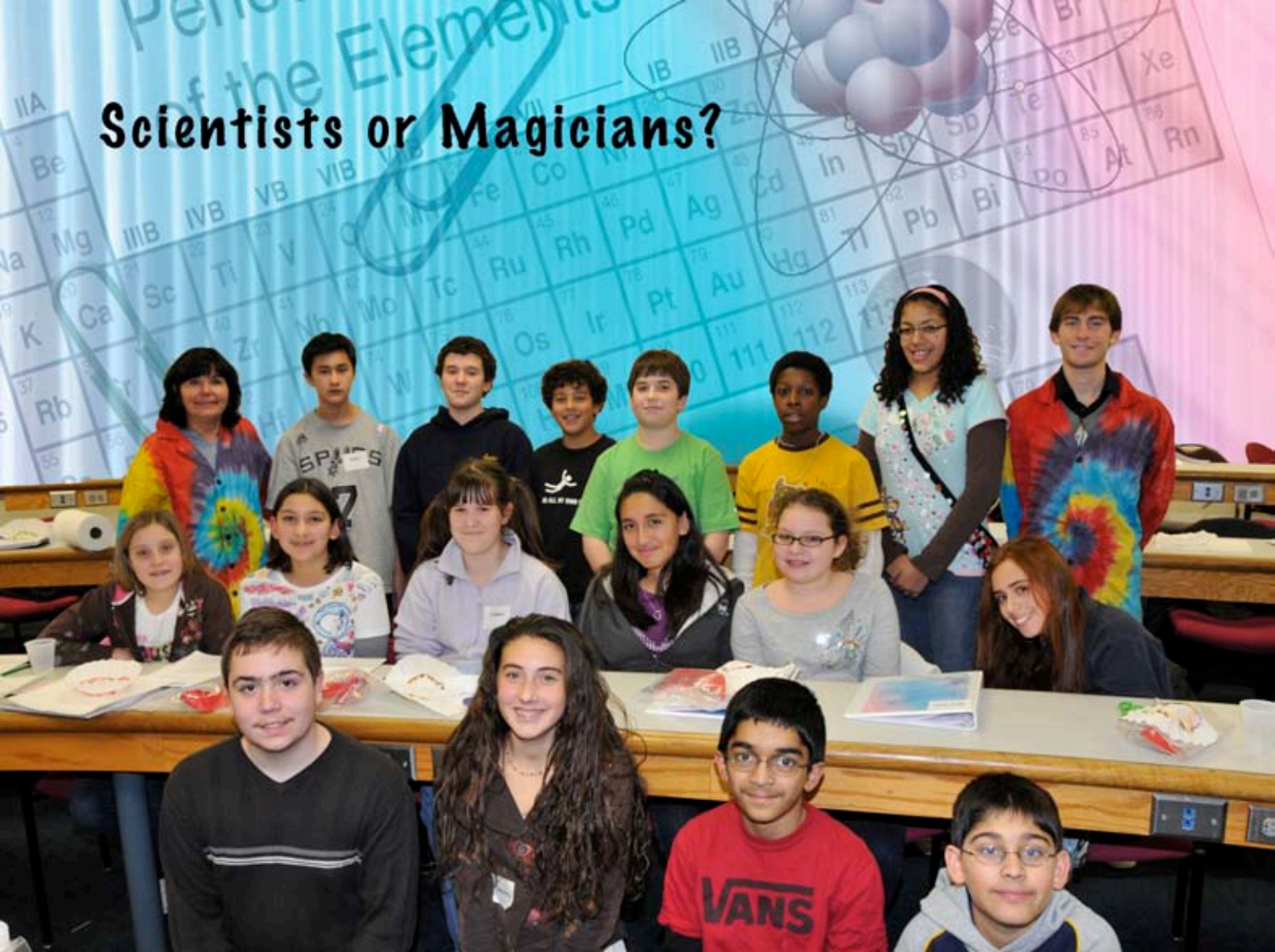




Is it Science or Magic?

The Stars Challenge at Monmouth University 2009

Scientists or Magicians?



Is it Science or Magic?

Dear Students,

I can't believe we have finished our Chemistry adventure already! As the saying states, "Time flies when you're having fun." Where has our adventure taken us? We investigated atoms and molecules, density, bonding, polymers (lots of those), solutions, gases, acids and bases. Throughout our experience I learned from you while you were learning from me. We have worked hard but for the most part, we had FUN.

We all remained enthusiastic while we safely—observed, examined, questioned, defined, modified and discovered. You are great collaborators and through this

experience together we used creative approaches to explain scientific laws and theories. Nadav and I had a wonderful time sharing our magic with you. We hope you have "wowed" your family and friends with some of your new chemistry "magic".

What does the future have in store for you? I imagine great achievements — doctors, researchers, pharmacists, professors, teachers, the list is endless. Your enthusiasm for learning is contagious. It has been a great journey with you and I can't wait to hear about your science accomplishments in the future.

The world is secure with you as its future.

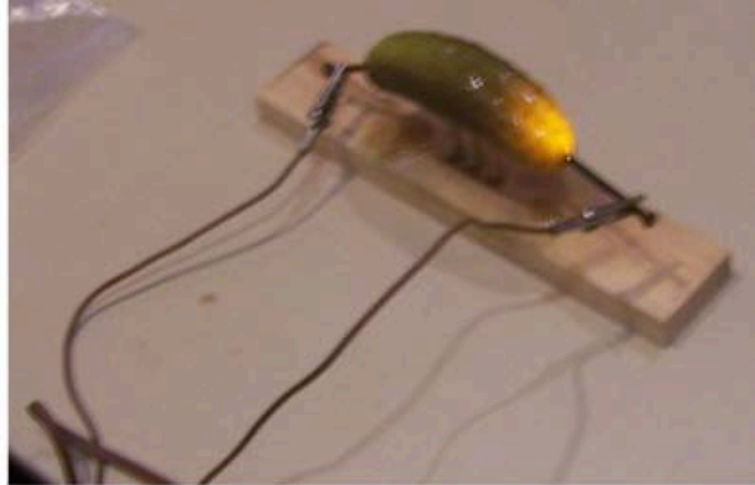
Chemically yours, Mrs. McCarthy
(aka Mrs. McChem)



Our ink molecules traveled along the coffee filter—it was a race that the small molecules won.



We were getting familiar with the “tools of the trade” for the chemist.



Chemists take measurements and make observations—we did lots of both. The electric pickle was very “enlightening” and “electrifying”.



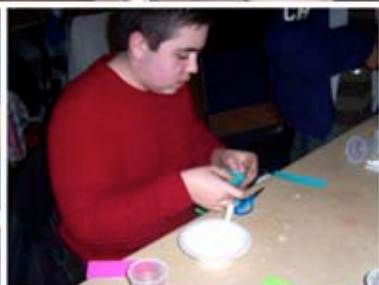
Discovering the properties of a non-Newtonian fluid—solid and liquid. We applied pressure to make it into a sphere but when we stopped—it was a runny mess.



Our density column made a terrific rainbow. We designed mini-lava lamps by combining immiscible liquids.



We examined polar and non-polar liquids, they don't mix but they look awesome when you combine them.



Our candy molecules modeled molecules found in nature. Mrs. McChem is sporting her "water" molecule ears.



Mrs. McChem makes a memory tool to remember the names of her student chemists—all the names were “absorbed” by her OTHS pal.



Dissecting a baby diaper and checking for water absorbance. We found polymers everywhere.



Mixing up more polymer madness—polymer foam sculptures and stalactites and stalagmites.

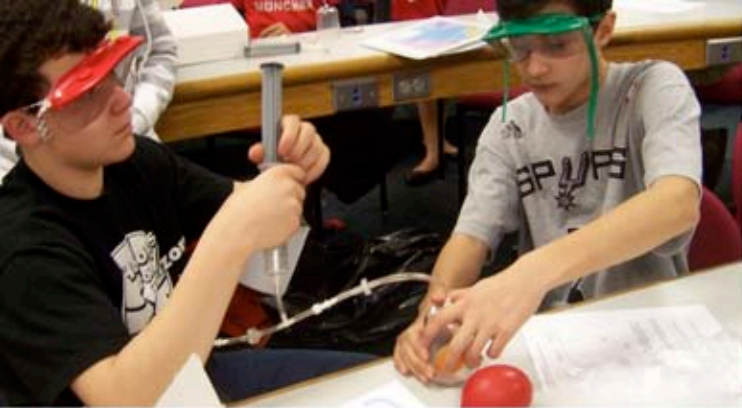




We vacuum packed classmates while discovering gas pressure properties. We found that air pressure was really “forceful”.



We collected carbon dioxide in a balloon by feeding yeast. Sugar, warm water, and yeast made our balloon grow but it also made the room smell.



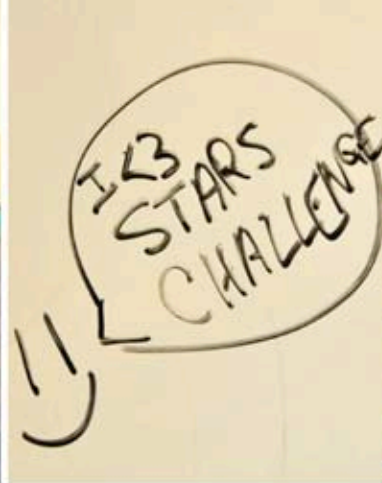
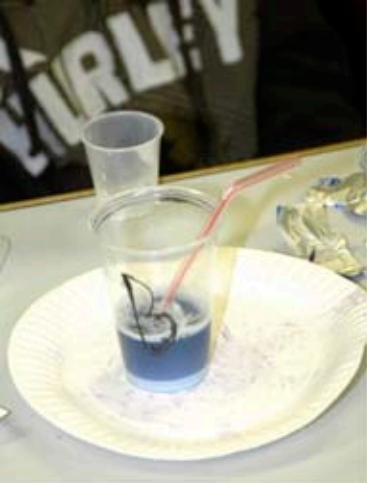
Inside mini-pressure chambers we expanded balloons, removed suction cups, and boiled water - all without heat.



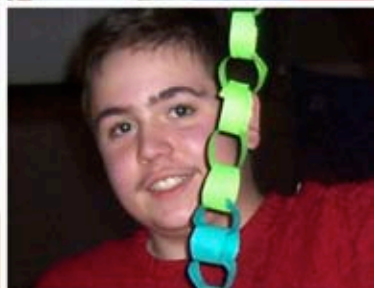
Students discovered that cabbage juice is a great indicator for acids and bases. Tornadoes like the ones in our bottles are caused by pressure variations.



"Cartesian diver condiments" are fun and work by changing pressure and density. Billy Joel's song "Pressure" makes great background music for synchronized divers.



pH changes are part of the story in food tastes. We sampled several fruits, vegetables, and juices to make a pH rainbow.





Made on a Mac