

Scenes from the **NIST Summer Institute for Middle School Science Teachers**  
June 16-27, 2008



How Big is Pi?  
Hung-Kung Liu and Dennis Leber, June 16, 2008



Building an atomic clock – huh?  
Bob Vocke, June 16, 2008



Learning about tolerance and gallons of gasoline  
Elizabeth Gentry, June 17, 2008



Hi-jinks with Dan or a break in the study of experimental design  
June 17, 2008



Experimental Design  
Jim Filliben, June 17, 2008



Experimental Design  
Jim Filliben, June 17, 2008



Death by LabQuest  
June 18, 2008



LabQuest Trials  
June 18, 2008



Master teacher, master students  
Jamie Jenkins, June 18, 2008



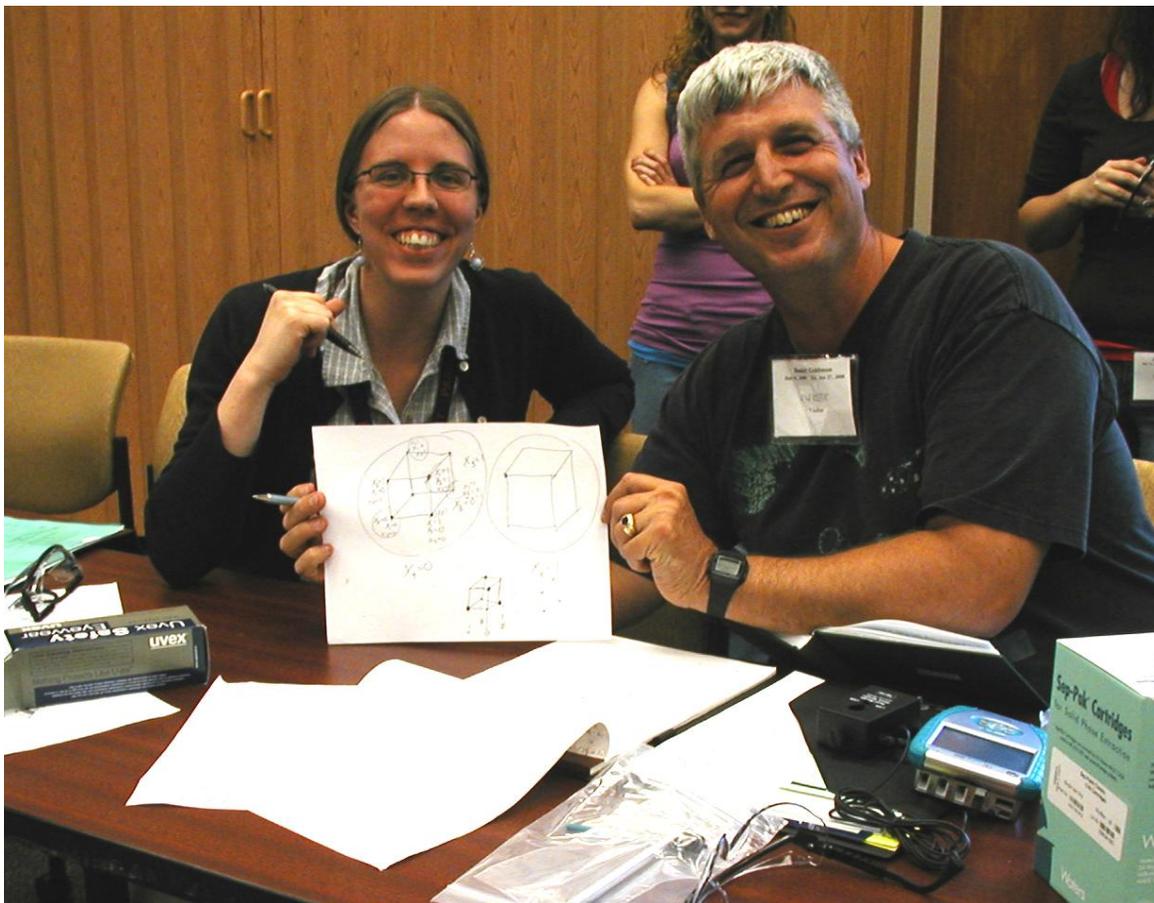
Chromatography demonstrated with grape soda  
Kate Rimmer, June 19, 2008



Chromatography on our own – what can be done to separate these colors?  
June 19, 2008



Jamie Jenkins, Summer Institute alum, helping out  
June 19, 2008



Orthogonal experimental design rules!  
June 19, 2008



Is this the pen used by the villain?  
June 19, 2008



Pretty colors separating for analytical purposes  
Janelle Newman and Jocelyn Waddell, June 19, 2008



Ink identification under UV light  
Janelle Newman, June 19, 2008



Making crystals at NCNR  
June 20, 2008



Visit to the Small-angle Neutron Scattering (SANS) Instrument at NCNR  
Cindi Dennis, June 20, 2008



Just prior to the chain reaction  
NCNR, June 20, 2008



Neutrons produced!  
NCNR, June 20, 2008



John Butler's Introduction to Forensic DNA  
June 23, 2008



Electrophoresis in a flash (1)  
Margaret Kline, June 23, 2008



Electrophoresis in a flash – and it's finished!  
Margaret Kline, June 23, 2008



Trying out electrophoresis on our own (1)  
June 23, 2008



How much do you add for that gel?  
June 23, 2008



Applying the DNA sample to the gel  
June 23, 2008



Technique is everything in electrophoresis  
June 23, 2008



Superconductivity: how cool!  
Bob Shull, June 23, 2008



Superconductivity: how cool (part 2)!  
Bob Shull, June 23, 2008



Isn't it amazing what a little bit of silver can do?!  
Bob Shull, June 23, 2008



Determining the time using the “atomic clock”  
Bob Vocke, June 24, 2008



Determining the time using the “atomic clock”  
Bob Vocke, June 24, 2008



Effects of different ingredients in cement  
Clarissa Ferraris, June 24, 2008



Effects of different ingredients in cement  
June 24, 2008



Materials for reinforcing buildings in earthquake prone areas  
Dat Duthinh, June 24, 2008



Effect of an earthquake on different soil compositions  
Dat Duthinh, June 24, 2008



Under the Newton Apple Tree  
June 24, 2008



Under the Newton Apple Tree with Jamie  
June 24, 2008



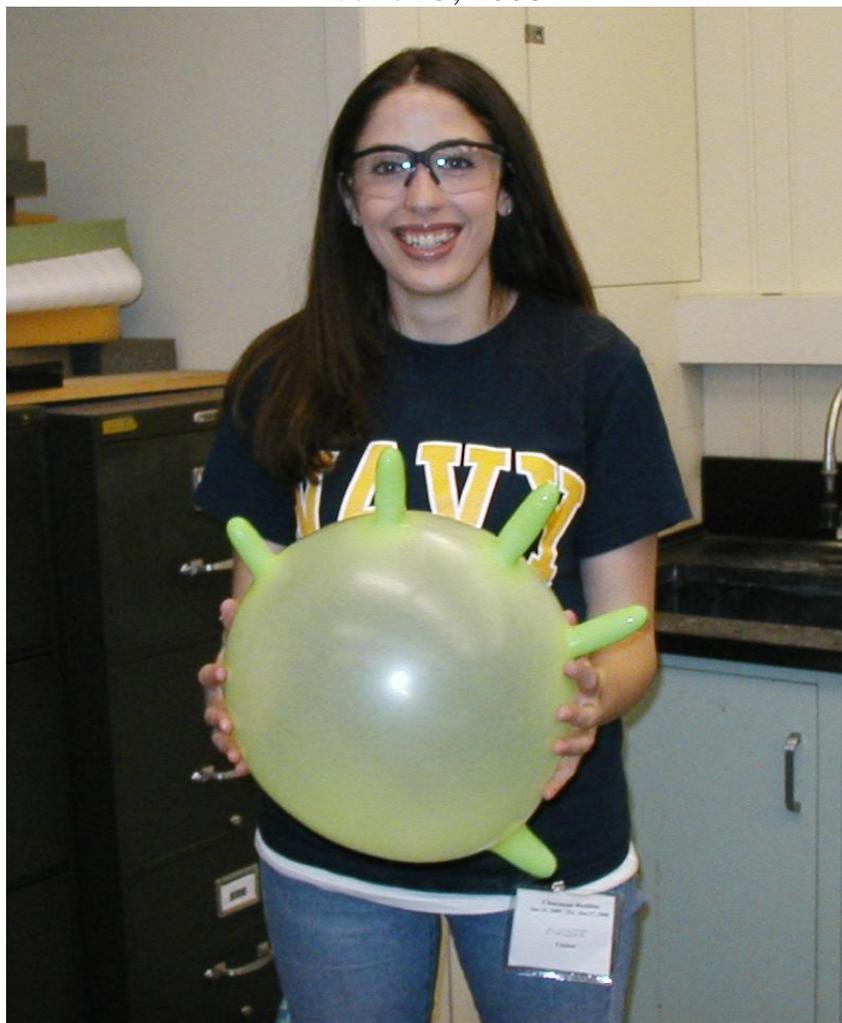
Fun in the thermometry lab with Greg Strouse  
June 25, 2008



Investigating the sublimation of dry ice in the thermometry lab  
June 25, 2008



Kristen discovers another use for the science prop  
June 25, 2008



Charm's investigation of changes of state.  
June 25, 2008



Scale models of the planets – with PlayDo!  
Richard Steiner, June 25, 2008



Inappropriate classroom behavior – what would your students think?  
Richard Steiner, June 25, 2008



Considering the differences in the sizes of the planets  
Richard Steiner, June 25, 2008



Pacing out a scale model of the distances between the planets  
Richard Steiner, June 25, 2008



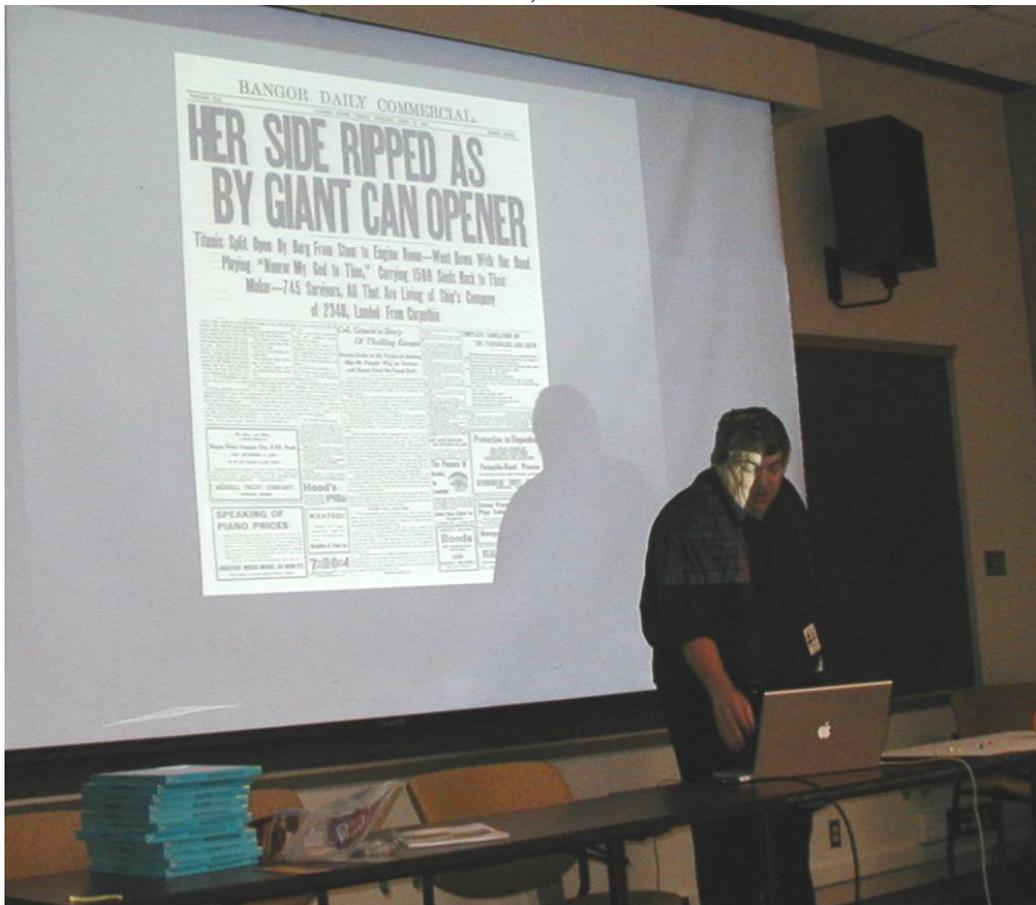
What *is* the relationship between pressure in a pop can when it is shaken vs. still?  
Ken Pratt, June 25, 2008



Using the force sensor to measure the pressure in a pop bottle (after partial consumption)  
Ken Pratt, June 25, 2008



Exploring the Xtreme Weather CD from NOAA  
June 26, 2008



CSI: Titanic – Wow!  
Tim Foecke, June 26, 2008



**SURF Panelists**

Carlos Manuel Torres, David Winogradov, Stephanie Martin, Jesse Manders, Kelly Opert  
June 26, 2008



**SURF Panel Discussion**

June 26, 2008



“Magic” Sand – hydrophobicity in action  
Jamie Jenkins, June 26, 2008



The “drinking bird” works because of phase changes,  
as demonstrated by Jill Maisch  
June 27, 2008



Introduction to spectrometry  
Steve Choquette, June 27, 2008



Building spectrometers, HAS III  
June 27, 2008



Building spectrometers, HAS III – do you see anything?  
June 27, 2008



Calibrating HAS III spectrometers  
June 27, 2008



Tissue network as seen in virtual reality  
Steve Satterfield, John Hagedorn, June 27, 2008



Jamie Jenkins giving a concluding overview of the  
NIST Summer Institute for Middle School Science Teachers  
June 27, 2008

Teachers in Summer Institute 2

Maura Hinkle

Francine Pivinski

Helen Sun

Dennis Ross

Stephen McGillivray

John Shirk

Kristen Weaver

Charmian Redden

Roseann Brady

Jeneen Stewart

Jill Maisch

Pam Pennington

Barbara Dietsch

Daniel Goldman

Bryan Goehring

Stephanie Lee

Jamie Jenkins, alum from SII