LEAPS NEWSLETTER

Upcoming Events

Dec 19 2006-Jan 1 2007:
Winter Break

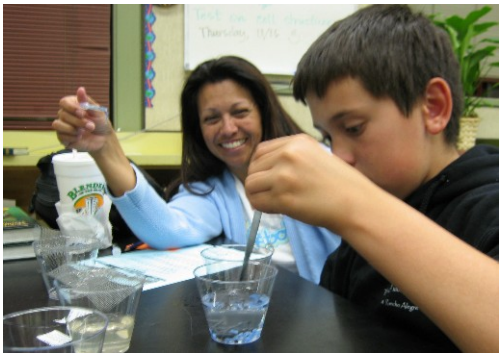
Volume 1, Issue 1 | Santa Barbara Junior High School | December 2006

FUSE Combines Families and Science

by Michael Quinn

FUSE! The Second Annual Family Ultimate Science Exploration (FUSE) Night was held on November 15th and was a hit with the families who attended. They visited three stations with three activities.

The first activity focused on Life Science. Everyone made colorful beads out of kelp sugar and mixed their own sample of pyrocystis, an algae that glows when you shake it. The second activity was Chemistry, which the 8th graders have been studying in class. Here, families discovered the ink colors in marker through chromatography and made "elephant toothpaste," a chemical reaction that shoots a big column of soapy goo. Messy fun! The last activity focused on electronics. The families learned about magnets and motors, and then used that knowledge to build their own motor to take home.



Families making kelp beads at FUSE Night.

Thanks to everybody for making FUSE a success. Look out for another in the spring!

A lemon battery at Family Night.

Family Science Night Treats

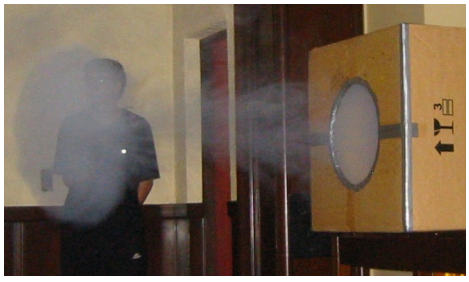
by Luke Bawazer

On the evening of October 25, 2006 at SBJHS's LEAPS family science night, LEAPS fellows helped demonstrate to an audience of engaged and lively students and parents that science can be appealing enough to eat. Not coincidentally, the evening started out with a dinner. Catered sandwiches were combined with a host of delicious 'pot-luck'-style dishes as students, teachers, parents, and fellows casually conversed and dined prior to moving to the Globe theater for a hearty helping of science demonstrations. As the LEAPS fellows led the demos with student and parent volunteers helping along the way, audience members were treated to lemon batteries, colorful chemical reactions, giant traveling air-rings, freezing liquids, luminescent pickles and, to top it all off, a delightful dessert of liquid nitrogen ice cream (yum!), allowing everyone to actually eat some of the science itself before heading home.

Dodging and ducking on Halloween

by Patrick O'Neill

The 8th grade science classes gathered in The Globe Theater on Halloween Day for a science demo competition between the LEAPS fellows. Dressed in costumes inspired by the movie *Dodgeball*, the Average Joe's (Mr. Kuo, Ms Gary, Mr. Bawazer) went up against the formidable Purple Cobras (Mr. Durham, Ms Alvarez-Rohena, Mr. O'Neill) – both teams striving to win the students' choice for the most impressive science demonstrations. The Average Joe's pulled out all the stops, and handed the Purple Cobras defeat after decisive defeat in periods 1-6, clinching victory with their enthralling "nitrogen escaping from a 2 liter bottle" demonstration performed out on the lawn. The Purple Cobras' complaints that the use of liquid nitrogen-frozen marshmallows constituted bribery of the student voters fell on deaf ears.



An emerging smoke ring on Halloween.

Fun Facts

- Diamonds are the hardest natural material known.
- The only person to have an element named after him while still alive was Glenn Seaborg, who discovered the most elements: 10 including plutonium.
- Saturn, the second largest planet in our solar system, has a density of ~0.7g/cm^3, meaning it would float in water!
- Bose-Einstein condensate is a phase of matter that occurs at a few billionths of a degree above absolute zero.

Let's Explore

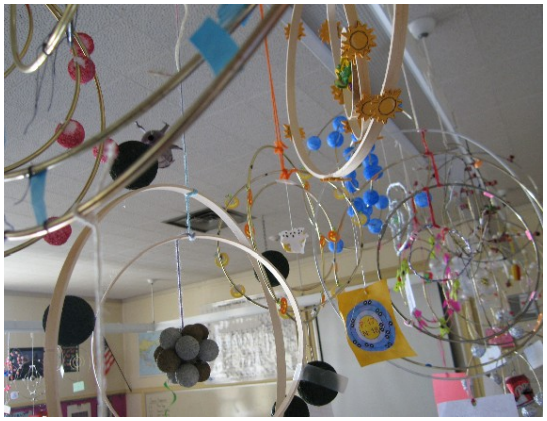
liquid nitrogen

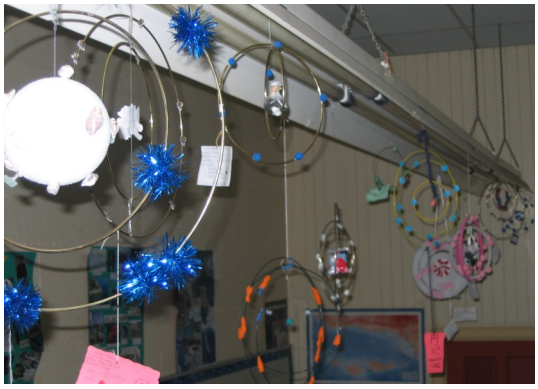
Liquid nitrogen is a party favorite as demonstrated at Family Science Night and on Halloween. Typically, nitrogen is a gas and makes up 78% of the atmosphere. To change it into a liquid, it must be cooled to below -196°C (or -320°F). At this temperature, it will boil anywhere on the surface of the earth, even Antarctica. This also makes it very dangerous causing explosions if sealed and frostbite if touched. Nitrogen was first liquefied in 1877 by Louis Paul Cailletet and Raoul Pictet in independent experiments. Nowadays, it is typically created through a process known as fractional distillation.

Fellow of the Month: Mr. Quinn

Mr. Quinn is a Ph.D. student in Electrical Engineering at UCSB. He grew up near St. Louis, MO and attended college at UM-Rolla. After college, he worked at General Motors in Detroit for three years. He worked on vehicles like the Cadillac Escalade, the Chevy Trailblazer, and the GMC Envoy. His research is in the field of video tracking with multiple (like hundreds) cameras. When he's not working or teaching, he enjoys cycling, swimming, traveling, and surfing very poorly. His favorite teacher in Junior High was Mr. Ruby, his 8th grade science teacher. The weirdest thing that he's ever eaten is a dish whose name translates to "cow everything" in Chinese. He hosts a biweekly punk rock radio show on UCSB's radio station, KCSB 91.9 FM.

Mr. Quinn eats cows.





Students made atom models that now hang in Ms. Garza's room (above) and Ms. Kluss's room (below).

About LEAPS

Let's Explore Applied Physical Science (LEAPS) engages UCSB graduate and undergraduate Fellows as instructors and mentors for inquiry-based science in Grade 8 classrooms. By establishing collaboration between Fellows, science teachers, and UCSB scientists in school classrooms, the LEAPS project implements hands-on, minds-on learning experiences in physical science.

LEAPS partners with the Endowment for Youth Committee in Santa Barbara to coordinate after school clubs at junior high sites. The Fellows also help younger students to prepare for Family Science Nights that foster community interest to science education and opportunities.

Fellows

Maria del Mar Alvarez-Rohena
Luke Bawazer
Joey Durham
Lindsay Gary
Thomas Kuo
Patrick O'Neill
Mike Quinn

Teachers

Marilyn Garza
Julie Kluss

UCSB Participants

Beth Gwinn
Fiona Goodchild
Wendy Ibsen

Visit the LEAPS website: www.leaps.ucsb.edu
Send questions or comments to msgarza@msgarza.com.

Santa Barbara Junior High School
721 E. Cota Street
Santa Barbara, CA 93103

Apply Stamp Here

Apply Address Label Here