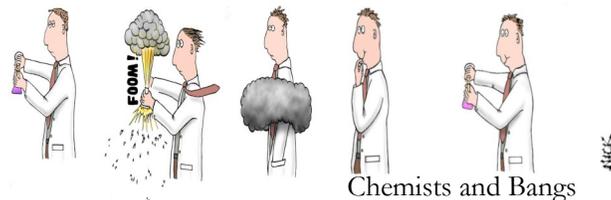




LEAPS NEWSLETTER



Chemists and Bangs

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Santa Barbara Junior High School

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Eighth graders experience science at UCSB

by Luke Bawazer, LEAPS Fellow

New discoveries in science always happen outside the classroom: they happen in places like the laboratories at UCSB. So it was fitting that this past January 30th, two buses full of Ms. Garza's and Ms. Kluss's eighth grade science students had a chance to leave the classroom and discover some of the sights and sounds of science on UCSB's campus. The 8th graders split into eight different groups once they arrived on campus, each group led by a different LEAPS instructor and trekking its own course through

different science-related sites, exhibits, and laboratories throughout the day. The stops made along the way included a tour of main library at UCSB (it has 2.7 million books!) and explorations of chemistry experiments, strength-of-materials testing demonstrations, specialized mi-



Students at UCSB soak a dollar in alcohol before lighting it.

croscopes, an AM/FM radio station, a marine laboratory replete with touchable and slimy sea slugs, a room full of instructional physics demonstrations, and a computer imaging laboratory.

Science Mentor Night, a student's story

by Olivia Cusimano, 8th grader

On January 9th, the LEAPS Fellows and their friends helped students with

the hard task of narrowing down science fair project ideas. The night began with a presentation by two

of the Fellows about ways to choose a science project and how to get a good grade on it. After their presentation, the fellows set up different stations, such as Biological, Mechanical and Environmental sciences. From the Fellows, I got quite a few suggestions and a ton of ideas. I had no idea what I was going to do, so this night was very helpful. A lot of my friends also got many ideas. In all, Science Mentor Night was very successful.

Olivia Cusimano is an 8th grader in Ms. Garza's 3rd period science class.



A UCSB graduate student discusses science fair ideas with families.

Fun Facts

- Lemon ants in the Amazon use the very acidic formic acid in their stingers to kill plants they do not like.
- Researchers twice tried to use the main component of Super Glue as a clear plastic before realizing its potential as a glue.
- The only letter not appearing on the periodic table is the letter "J".
- When hydrogen burns in the air, water is formed.

Let's Explore

Physical Reactions

Drop some regular Mentos mints into a two-liter bottle of Diet Coke. Immediately, a geyser of soda will erupt from the bottle. Carbon dioxide (CO₂) that was trapped in the soda is escaping, taking the soda with it. The carbon dioxide can escape for two reasons. First, bubbles of carbon dioxide form at many tiny imperfections on the surface of the Mentos as it descends. This process is called nucleation. Second, the dissolving mint reacts with the soda to weaken the bonds that hold the CO₂ in the water creating a cascade that allows all the CO₂ to escape. This is a physical reaction that is safe and easy to try at home.



Students in Ms. Kluss' and Ms. Garza's classes work on the cabbage juice lab and conservation of mass lab.

Fellows of the Month: Ms. Alvarez and Mr. O'Neill



Ms. Alvarez enjoys power.

Ms. Alvarez-Rohena completed her undergraduate studies at the University of Puerto Rico in Bayamón. She is a Computer Science Ph.D. student at UC Santa Barbara where she enjoys doing research in power-aware mobile computing. In the past, she has worked as a researcher at IBM Research, UC Berkeley and the Lawrence Berkeley National Laboratory.

Mr. O'Neill is a UCSB grad student who has been helping out in Ms. Garza's classes as part of the LEAPS program. He grew up in Ventura, and often goes back there to see his family and go surfing. When he's not at SBJHS or UCSB, he likes to play soccer and tennis. At UCSB he works in a physics lab, studying tiny semiconductor particles positioned on chips made from synthetic DNA for applications in optical computing.



Mr. O'Neill can see computers.

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 in 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

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