LEAPS NEWSLETTER

UPCOMING EVENTS

Family Ultimate Science Exploration (FUSE)
November 14, 2007
6:00pm – 7:30pm @ The Globe Theater

VOLUME 2, ISSUE 1 SANTA BARBARA JUNIOR HIGH SCHOOL NOVEMBER 2007

Reflections on Family Science Night

By: Sophia Spann, 8th grade student

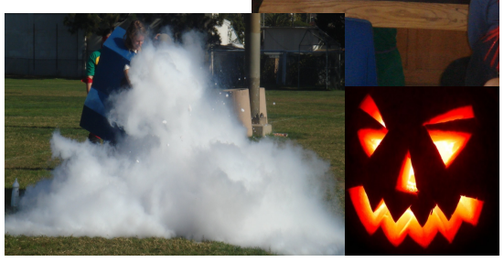
Just recently in Ms. Garza's science classes we have had the joy of working with graduate students, or fellows. These magnificent student teachers have helped all of us complete the labs and assignments throughout the class period. On October 18, 2007 the fellows showed all of us, the students and parents, what they could do as scientists. Our fellows, along with the another class' gave amazing presentations. Before the show all the families mingled and then were entertained with an excellent demonstration. One of our fellows, Ms. Kline crushed aluminum cans using hot and cold water. Another fellow, Mr. Archer, showed us how to change the color of a substance many times using only one chemical. It was very cool and a fascinating presentation.

Mr. Kuo explains the science behind smoke rings.

A Scary Competition

By: Elizabeth Gonzales and Christie Delgadillo, 8th grade students

(Right) Mr. Archer, as Donatello, shows off some amazing cup tricks. Ms. Kline (below) makes a spectacle with liquid nitrogen bubbles.



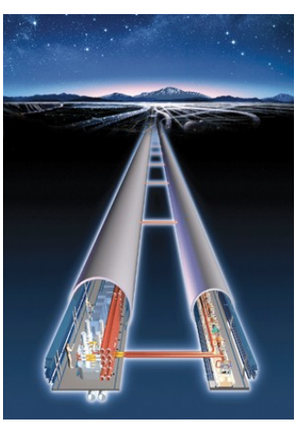
On Halloween a competition was held between the Transformers and the Ninja Turtles. The students got to see a science show put on by the fellows. First, the students saw the Transformers (Ms. Garza's fellows) make smoke rings. The Ninja Turtles (Ms. Kluss' fellows) fought back with an absorption demonstration with cups of water. We saw many interesting and exciting demonstrations with a grand finale of explosions that took place outside. The explosion was made by Nitrogen in a sealed bottle when the pressure built up. Overall it was a fun way to spend Halloween and still learn something about science!

A Colossal Collaboration on Collisions

By: Kimberly Kline, LEAPS Fellow

The Large Hadron Collider (LHC) currently being built in Geneva Switzerland will be finished in May 2008 and will mark the biggest and most expensive scientific collaboration ever to occur. The project, which costs 2.6 billion dollars, will be a research station for over 7,000 particle physicists from 80 countries (700 from the US).

The LHC, a 27 km circular tunnel 50-175 meters below ground, will allow physicists to accelerate protons to near the speed of light (3×10^8 meters per second) and smash them into each other. These collisions will cause the formation of extremely small and unstable particles that have not existed since the Big Bang when the Universe began.



A Large Hadron Collider used to collide particles.

Fun Facts

* Venus is the only planet in our solar system that rotates clockwise.
* Earthworms have 5 hearts.
* If an electron weighed the same as a dime, a proton would weigh the same as a gallon of milk.
* Boron nitride (BN) is the second hardest substance known to man.
* The only letter not appearing on the Periodic Table is the letter "J".

Let's Explore

The Atom

Atoms make up everything that we can see in the everyday world. We know that atoms are made up of three different particles – protons, neutrons, and electrons. But what's inside of these particles? As far as scientists can tell, there's nothing that "makes up" an electron – it's what's called a fundamental particle. But protons and neutrons are made up of things called "quarks." These quarks are never found alone in nature – protons and neutrons are actually made up of three quarks stuck together.

5 Things You Did Not Know About...

Ernest Rutherford!

1. He was awarded the Nobel Prize for Chemistry in 1908.
2. He was one of 12 children.
3. He has craters on Mars and the Moon named after him.
4. He is the face of the New Zealand 100 dollar note.
5. He was the first human to create a "nuclear reaction."

LEAPS in the Classroom

By: Lina Kim, LEAPS Fellow

Undoubtedly, one of the most important topics the students learned about this past month was the atom and its components. For a scientist, protons, neutrons, and electrons go hand in hand with the **periodic table of elements**. The reason for this is because the periodic table is a method of displaying chemical elements, where each of those elements has a unique number of protons, neutrons, and electrons. The periodic table was invented by Russian chemist **Dimitri I. Mendeleev**. Astonishingly, he was able to predict properties of elements which had yet to be discovered. The order in which the elements are presented in the table is no coincidence, each group of elements have similar characteristics. Currently, there are 117 confirmed elements in the table.

Fellow of the Month:

Mr. Karmis

Mr. Karmis is originally from a small town in northern Illinois and moved to Santa Barbara about two years ago for graduate school. He loves California, mostly for the weather. In his spare time, he enjoys playing video games, as well as going ballroom dancing, which is somewhat of an odd mix of hobbies. Lately he has started running again, and also enjoys the fun outdoorsy things to do in California, such as hiking or going to the beach. In college he studied physics and is continuing studies in that field here at UCSB. His research is on soft condensed matter physics, which is basically the study of liquids and other gooey stuff.

Ribbit: What is Science?

Doing great experiments and it's ok if they blow up in your face.

Austin Wood

A world with thought.

Mikey Perez

The study of all things.

Sydney Colby

People shout out random things and make you laugh.

Luis Monroy

Awesomely fun!

Matthew Oatis

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

Reggie Archer
Lindsay Gary
Anthony Karmis
Lina Kim
Kimberly Klein
Thomas Kuo
Amir Rahimi

Teachers

Marilyn Garza
Julie Kluss

UCSB Participants

Beth Gwinn
Fiona Goodchild
Wendy Ibsen
Samantha Freeman

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

UCSB - LEAPS
SBJHS – Science Department
721 E. Cota Street
Santa Barbara, CA 93103

Stamp

Apply Address Label Here