



AUBURN UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

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E=mc²

Engaging More Community Connections

A Science and Math Outreach Newsletter

Inside this Issue

Upcoming Events and Programs 1-2

Experiment of the Issue 3

Since last issue... 3-4

Upcoming Events & Programs:

G.U.T.S.

The spring 2010 Getting Under the Surface program will continue on Thursday, March 4th. Courses will include:

- Getting the Dirt on Dirt- Brenda Wood, AU Department of Agronomy and Soils
- Birds, Bugs, and Botany- Sallie Martin, AU Department of Entomology
- The GUTS of Art- Andrew Henley, Julie Collins Smith Museum of Fine Art

The \$18 registration fee for each session includes dessert and all course materials for each student/adult pair per session. Additional sessions this semester are scheduled for **March 30th** and **April 21st**. Registration for each of these programs will be available on the outreach site, www.auburn.edu/cosam/outreach.

Schedule of Events

- **March 4** – G.U.T.S.
- **March 10** – GEARSEF
- **March 27** – Elementary Science Olympiad
- **March 30** – G.U.T.S.
- **April 10** – Spring Y.E.S. Camp
- **April 21** – G.U.T.S

Please visit our website for a complete listing of all our programs!

www.auburn.edu/cosam/outreach

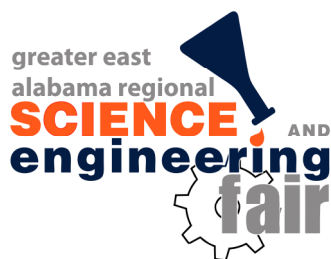
G.U.T.S
at
Auburn University



Getting Under the Surface

GEARSEF

On March 10th, COSAM will host the 2nd annual Greater East Alabama Regional Science and Engineering Fair. Over 100 students from 20 schools across Eastern and South Alabama will compete in the fair. The winners in each division and category will be eligible to compete at the Alabama State Science and Engineering Fair at UAH in April. The top two winners in grades 9-12 will advance to compete in the Intel International Science and Engineering Fair in San Jose, CA May 9-15. For more information, please visit www.societyforscience.org/ISEF/



Upcoming Events & Programs, cont'd:

Elementary Science Olympiad

The Division A Science Olympiad will occur on Saturday, March 27th. Division A competition is geared toward students in grades 3-6. The event will take place on the Auburn University campus and will run from 8:30-3:30.



Spring YES

The Spring Youth Experiences in Science program at Auburn University will occur on Saturday, April 10th. Registration is now available on the outreach website, www.auburn.edu/cosam/outreach. Students in grades 3-6 will sign up for camp courses on the morning of the event, beginning at 8:00 am. The day will consist of a variety of hands-on, minds-on courses. Topics will include chemistry, design, and biology. Spring Y.E.S. is a free program, and space is limited, though pre-registration is required.



Students enjoying Y.E.S. camps.

Summer Program Announcement

Registration for the new summer program, Science Matters, is now available on the outreach website. The new program for 2nd-5th graders will offer 7 weeks of science-themed camps beginning June 1st. You may choose to enroll in as many weeks as you would like and you may choose Regular Day (8:00am -3:30 pm) or Extended Day (8:00am - 5:00pm) options. More information is available on the outreach website.

For up-to-date program information from the COSAM Outreach Office, sign up for our new listvrv, AU4kids. To become a member, send an e-mail to cosam_outreach@auburn.edu and let us know you would like to enroll.

Experiment of the Issue

Cloud in a Bottle

What It 's All About...

The Spring months are always filled with crazy weather patterns. This experiment allows you to make your very own cloud in a bottle. (Note that the results of this experiment are not as striking as others featured in the newsletter, but still very interesting.)

Materials

- **1 Liter plastic bottle with cap**
- **Warm Water**
- **Match**

Procedure

1. **Place enough warm water in the bottle to cover the bottom.**
2. **Now, put some smoke particles in the bottle. Light the match and let it burn for a few seconds. Immediately place the head of the match into the bottle. Let the smoke fill the bottle. After a few seconds, the smoke will begin to disappear- but the particles are still floating in the bottle.**
3. **Quickly screw on the cap, not letting too much smoke out.**
4. **Firmly squeeze the bottle 6-7 times (or more if necessary). Squeeze the bottle again holding it for a few seconds, then quickly release.**
5. **Look quickly at what happens in the bottle!**

The Science Behind It...

The fog that forms in the bottle is an actual cloud! There are tiny water droplets in the air at all times. Most of the time, these molecules are bouncing around in the air and don't stick together. When you squeeze the bottle, you compress the molecules. On the release, the air expands and cools, which makes it easier for the molecules to stick together. The tiny droplets are the same type of droplets that form clouds. The smoke in the bottle aids this process by giving the water particles a nucleus to stick to.

Clouds on earth form when warm air rises and pressure drops. The air expands and cools and clouds form when the temperature reaches the dew point. The smoke particles in this experiment represent things such as pollution, dust, smoke, or even dirt in the atmosphere that the particles adhere to.

Since last issue...

Math-a-Thon

The year in Outreach began with the 3rd Annual Auburn University Math-a-thon which took place on February 6th, 2010. Teams competed in Comprehensive (Pre-Calculus) Level and Algebra II with Trigonometry Level Individual Tests, Team Tests, Ciphering, and the Aubie Bowl Interschool Tests. This year, LEGO artist, puzzle designer, and mathematician Eric Harshbarger spoke to students about the interesting tract he followed after obtaining his mathematics degree. The Aubie Bowl Interschool test also featured a math digits puzzle developed by Mr. Harshbarger.



Students explore a variety of puzzles designed by Mr. Eric Harshbarger. You can find out more by visiting his website, www.ericarshbarger.org.





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Since last issue ...

G.U.T.S.

Students and parents enjoyed a night of science together on February 8th at Getting Under the Surface. This was the first G.U.T.S. session of 2010. During this Valentine's Day themed night, participants learned about topics that ranged from magnetism to the gross anatomy of hearts. Three additional sessions and the end of the year "G.U.T.S. Backyard Bash" are still available for interested families.

TEAMS

On Friday, February 26th, schools from across the region competed in the TEAMS competition at Auburn University. TEAMS is a timed national engineering & science competition, sponsored by the Junior Engineering Technical Society (JETS), that asks high school students to solve real-world challenges. Winners from the AU competition included Northside High School (9th/10th Grade Division Winner and 11th/12th Grade Division 3rd Place), Randolph School (11th/12th Grade Division 2nd Place), and Columbus High School Team A (11th/12th Grade Division 1st Place).

Science Olympiad

The 2010 Division B Science Olympiad took place on Saturday, February 27th on the Auburn campus. Middle School events throughout the day ranged in subject matter that spanned all areas of the science course of study. Winners of the competition were Auburn Junior High School Team A – 1st place, Auburn Junior High School Team C- 2nd place, Auburn Junior High School Team B- 3rd place, Beverly Magnet School- 4th place, and Carver Magnet School- 5th place. These teams will qualify for the 2010 Alabama State Science Olympiad at Huntingdon College on March 13th.



Students and parents enjoy a night of science together at the February 8th G.U.T.S.



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www.auburn.edu/cosam/outreach