



AUBURN UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

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Engaging More Community Connections

A Science and Math Outreach Newsletter

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Schedule of Events

- May 2— G.U.T.S. Backyard Science Bash
- May 4— AU Explore
- June 1-4—Earth and Worms *Science Matters* program
- June 7-11—NASA Design Squad *Science Matters* program
- June 21-25—Rocket Challenge *Science Matters* program
- June 21-25—AP Summer Institute for Teachers
- June 28-July 2—Art in Science *Science Matters* program
- July 6-9—BizWorld *Science Matters* program
- July 12-15—Summer YES Camp
- July 19-23—Soda Pop Science *Science Matters* program
- July 26—Furry Friends *Science Matters* program

Upcoming Events & Programs:

Science Matters

Summer Enrichment for Elementary Students

Does your child like exploring the outdoors? Is he creative or always taking things apart? Does she love solving problems? Do your kids excel at math or science? If you found yourself answering yes to any of these questions or you have a rising second through fifth grade child who shows high interest or aptitude in science, math, or technology-related subjects you should definitely send your child to *Science Matters* at Auburn University! They'll have a blast, and you'll feel great about positively contributing to your child's summer break!

Science Matters is an all new summer enrichment program for elementary students in grades 2-5 that offers youngsters a supercharged science experience. The program allows participants to explore the world of science through **real experiments, fantastic field trips**, technology and art projects, and hands-on, **make-n'-take activities**. During this action-packed program, kids can design and build, **dabble in the art of chemistry**, "become a flight specialist", **see amazing critters**, and more!

Science Matters offers seven different science-themed weeks. Your child can delight in as many weeks as they like! Parents can choose between the Regular Day option from 8am-3:30pm daily or the Extended Day option from 8am-5pm daily. Multiple child and multiple week discounts are available.

Program Fees Include: **All materials** for all courses, fantastic **field-trips** each week, first-class experienced instructors and staff, all snacks (morning and afternoon breaks), special **Science Matters T-shirt and backpack**, and a **Certificate of Achievement**.

For more information or to request a registration form, contact *Science Matters* at COSAM_Outreach@auburn.edu or by phone at (334) 844-7449 or visit our website.

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

www.auburn.edu/cosam/outreach

Science matters

Summer Enrichment for Elementary Students

Upcoming Events & Programs, cont'd:

Summer YES Camp



The College of Sciences and Mathematics will host the Summer Youth Experiences in Science (YES) camp July 12-15 for rising sixth- through ninth-grade students. Summer YES is a great opportunity for students to explore the many wonders of science by participating in hands-on experiments related to Chemistry, Robotics, River Creatures, Art in Science and much more. Students can choose a half-day, full-day or residential option. Summer YES was the only middle school camp in the state of Alabama to be featured in the national

publication, "The Ultimate Guide to Summer Opportunities for Teens," in 2008. Information and registration forms can be found at www.auburn.edu/cosam/outreach. Register by May 21 to receive the early bird discount. For more information, contact COSAM Outreach at 844-7449 or eesoon@auburn.edu.

AP Summer Institute for Teachers

The Advanced Placement Summer Institute is designed for the professional development of teachers, counselors, and administrators involved in Advanced Placement (AP) courses as well as teachers and administrators who are involved in implementing vertically aligned curricula that prepare 6th-12th grade students for AP courses. These workshops will be held on the campus of Auburn University during the week of June 21-25, 2010. Tuition is \$500 per workshop. Please add a \$50 lab fee for all Science workshops. The tuition fee covers all instruction, breaks, and course materials. Each workshop has limited enrollment. Registration is completed when processed on-line or when received in the Office of Professional & Continuing Education with payment. For more information or to register, go to <http://www.auburn.edu/outreach/apsi/>.

Auburn University in cooperation with the College Board will host workshops in the following areas:

Introductory Biology
 Advanced Biology
 Environmental Science
 Physics

English Language and Composition
 Calculus AB
 English Literature and Composition

Introductory Chemistry
 Advanced Chemistry
 US History

Women's Leadership Symposium on Science and Mathematics

On August 27, 2010, COSAM will host its annual Women's Leadership Symposium on Science and Mathematics. Held every August, the Symposium was established to showcase distinguished women in the fields of sciences and mathematics. Fifty area high school girls with leadership potential are invited to campus to be a part of this dynamic one-day experience. The morning opens with a panel discussion featuring accomplished women from various disciplines, then follows with a luncheon that features a keynote speech delivered by a woman distinguished in her discipline. Past panelists and keynote speakers have included women from NASA, the Centers for Disease Control, The Wharton School, and a Jefferson Science Fellow recipient. Our goal is to provide a platform for young women to meet many different female role models in sciences and mathematics. This event is sponsored by the Society of Women in Sciences and Mathematics. For more information, go to http://www.auburn.edu/academic/science_math/swsm/.

For up-to-date program information from the COSAM Outreach Office, sign up for our listserv, AU4kids. To become a member, send an e-mail to cosam_outreach@auburn.edu

Experiment of the Issue

Disappearing Act

Materials Needed:

- 2 large beakers (Must be big enough that you can completely submerge the Pyrex objects in them)
- 2 Test tubes, or other small Pyrex objects (stirring rods, small beakers, etc.)
- Wesson brand vegetable oil (enough to fill one beaker)
- Water (enough to fill one beaker)
- Rubber gloves (optional)
- Tongs (optional)

Procedure

1. Fill one beaker with water and another with oil.
2. Place the test tube in the water-filled beaker and note its appearance.
3. Now submerge the beaker partway in the oil, but don't let the oil fill the test tube.

The outside edges should be nearly invisible, but the inside edges should be easy to see.

4. Fully submerge the test tube, allowing oil to fill it completely. Now its edges should be very difficult to see.

The Science Behind It...

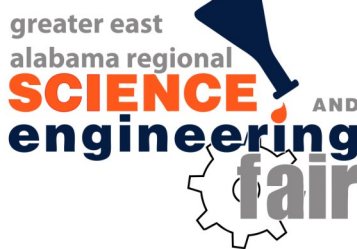
We see the edges of objects because light is either reflected or refracted at their boundaries. In the case of clear objects, such as glass and some plastics, refraction allows us to discern their edges from the surroundings. For instance, water and glass have different indices of refraction, which makes the light bend at the boundary between the two materials. This makes the sides of a submerged test tube clearly visible when held underwater.

When a test tube is submerged in vegetable oil, however, the boundaries are invisible because the oil and Pyrex glass have the same index of refraction. This means that the light is not at all refracted when it crosses the boundary between the oil and glass.

Since last issue...

GEARSEF

On March 10th, 2010 COSAM hosted the 2nd annual Greater East Alabama Regional Science and Engineering Fair. Over 70 students from 20 schools across Eastern and South Alabama competed in the fair. The two ISEF finalists who will be attending the Intel International Science and Engineering Fair (ISEF) in San Jose, CA May 9-15 are Nicholas Christensen from Wetumpka High School and Pranjal Gupta from Auburn High School. For more information on ISEF, please visit www.societyforscience.org/ISEF/





Since last issue ...

G.U.T.S. Backyard Science Bash

In celebration of the huge success of the Getting Under the Surface science program, we hosted our second annual Backyard Science Bash on Sunday, May 2, 2010. The Bash opened with dinner followed by a jello optics dessert activity and a special presentation of the “Phun with Physics” Show. The show was performed by one of Auburn University’s very own physicists, Dr. Ed Thomas.



AU Explore Open House

AU Explore is COSAM’s annual Open House Day for middle school students. Approximately 1500 5th– 8th grade students from all over Alabama participated in this year’s event, which occurred on Tuesday, May 4. Students experienced live birds of prey, reptiles, and insects up close, interacted with University faculty and students at the Science and Math EXPOs, built motors and dissected sheep eyes at the Science Fun Shops, and watched hydrogen balloons explode at the Wet and Wild Science Show.



Spring YES

Spring YES, our annual free Saturday academy for third—sixth grade students was held on Saturday, April 10, 2010. Over 115 third-sixth graders had the opportunity to take two of the following courses: Plants and Pollination, Art in Science, Chemistry in a Bag, Propulsion and Parachutes, and Your Healthy Heart.

College of Sciences and Mathematics K-12 Outreach

315 Roosevelt Concourse
 131 Science Center Classrooms
 Auburn University, AL 36849
 Phone: 334-844-8161
 Fax: 334-844-5740
 E-mail: cosam_outreach@auburn.edu



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