



AUBURN UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

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E=mc²

Engaging More Community Connections

A Science and Math Outreach Newsletter

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Upcoming Events & Programs:

Spring YES—March 5 *Youth Experiences in Science*

The Spring Youth Experiences in Science program at Auburn University will occur on Saturday, March 5, from 9:00 a.m.—12:00 p.m.

Spring YES is a free Saturday science camp for 100-200 students in grades 3-6. Students explore hands-on, minds-on activities in courses like Tigers for Tigers, Slimy Toys at Hogwarts, Art in Science, LEGO-Mania! and Don't Catch that Germ. Pre-registration is required.



Schedule of Events

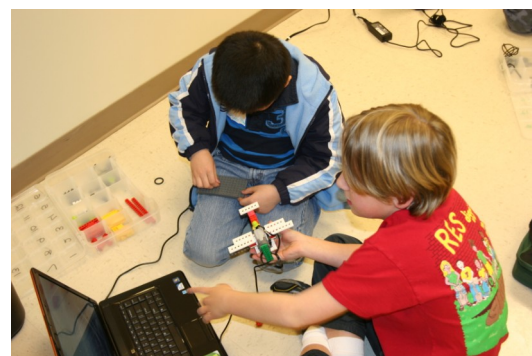
- March 5—Spring YES
- March 25—Parents Night Out
- March 29— GUTS
- April 2—Elementary Science Olympiad
- April 8—Parents Night Out
- April 21—GUTS
- April 29—AU Explore
- May 31—Science Matters Camps Begin
- June 20-23—Summer YES
- June 27-30—Summer YES

Parents Night Out—March 25 & April 8

Parents Night Out is an opportunity for parents to have an evening to themselves and peace of mind knowing their children are in a safe, secure, and FUN environment. Parents Night Out will take place on the AU campus for children ages 6-12 on select dates this semester (see below). Children will have the opportunity to participate in a variety of science-based activities, including: LEGO Robotics; K-Nex amusement park ride construction; educational videos, puzzles and board games; arts and crafts; and much more!

Dates for Parents Night Out events this semester:

- Friday, March 25, 2011
- Friday, April 8, 2011



Each event will take place from 6:00 PM-10:00 PM. The cost is \$25 for one child and \$15 for each additional child in the same family. Pizza dinner is included. Pre-registration required—registration form can be found on our website at www.auburn.edu/cosam/outreach.

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

www.auburn.edu/cosam/outreach

Upcoming Events & Programs, cont'd:

G.U.T.S—March 29

The spring 2011 *Getting Under The Surface* program will continue on Tuesday, March 29th. G.U.T.S. is a bimonthly evening program aimed at students in grades 1-8 and their parents or grandparents. Each evening session includes dessert followed by a 90-minute science activity featuring a "Getting Under The Surface" theme. Courses for the March 29th session will include "Bubble Magic", "Race to the Sun", and more.

The \$18 registration fee for each session includes dessert and all course materials for each student/adult pair—discounts available for additional family members to participate. The final session this semester will occur on Thursday, April 21st.

G.U.T.S
at
Auburn University



Getting Under the Surface

Elementary Science Olympiad—April 2



Auburn University will host the 15th annual Division A Science Olympiad on Saturday, April 2nd. Division A competition is geared toward students in grades 4-6 and will include events such as "A is For Anatomy", "Barge Building", and "Can Race". The event will take place on the Auburn University campus and will run from 8:30-3:30. Good luck to all the competitors!

Summer YES Camps—Save the Date!

The College of Sciences and Mathematics will host two Summer Youth Experiences in Science (YES) camps this year—**June 20-23** and **June 27-30**— for rising 7th—9th grade students (students currently in 6th—8th).

Summer YES is a great opportunity for students to explore the many wonders of science by participating in hands-on experiments related to Chemistry, Electronics, River Creatures, Biotechnology, Nanotechnology, 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. Registration and course information will be available in mid-March on our website.



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

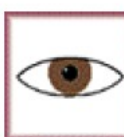
Your Sense of Taste

Materials Needed:

- Life Savers or other flavored candies



Chemistry



Perception



Life Science

Procedure:

- Work in pairs
- One person closes their eyes and holds their nose, while another feeds them a lifesaver, without telling them the flavor.
- The person who ate the candy should try to guess what flavor the life saver is, without letting go of their nose.
- Observations should proceed for a minute or so as the candy dissolves in their mouth. Is there any change in the taste of the candy from the beginning to the end of the experiment? Describe the tastes.
- Take turns feeding each other candy and guessing flavors until you run out of candies!

The Science Behind It...

There are only four different types of true tastes - sour, sweet, salt and bitter. Each of these types of receptors bind to a specific structure of a "taste" molecule. Sweet receptors recognize hydroxyl groups (OH) in sugars, sour receptors respond to acids (H⁺), the metal ions in salts (such as the Na⁺ in table salt). Alkaloids trigger the bitter receptors - alkaloids are nitrogen containing bases with complex ring structures which have significant physiological activity. Some examples of alkaloids are nicotine, quinine, morphine, strychnine, and reserpine. Many poisons are alkaloids, and the presence of receptors for the bitter taste at the back of the tongue may help to trigger the vomiting response.

Approximately 80-90% of what we perceive as "taste" actually is due to the sense of smell. Just think about how dull food tastes when you have a head cold or a stuffed up nose. At first students may not be able to tell the specific flavor of the candy, just perhaps a sensation of sweetness or sourness. If students are patient, some may notice that as the candy dissolves they can identify the specific taste. This is because some scent molecules volatilize and travel up to the olfactory organ through a "back door" - that is up a passage at the back of the throat and to the nose. Since we can only taste four different true "tastes", it is actually smell that lets us experience the complex, mouth watering flavors we associate with our favorite foods.

Upcoming Events & Programs, cont'd:

Science Matters—Save the Dates!

Registration is now open for our Science Matters summer academy for elementary students. The program was such a huge success last summer that we have expanded the program this summer with ALL NEW courses! This summer, the program will target elementary students in rising grades 1—6 (currently in grades K-5). 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. A few of the courses planned for this summer include:

To Catch a Thief - LEGO-Mania! - Ocean Explorers - Science Stew -- Hogwarts I - Toy Science

Science Matters offers seven different science-themed weeks (four weeks for rising 1-2 graders). Your child can delight in as many weeks as they like! Parents can choose between the Regular Day option from 8:30am -3:30pm daily or the Extended Day option from 8:30am-5pm daily. Multiple week discounts are available.

Program Fees range from \$170—\$235 per week and include: All materials for all courses, field-trips, first-class experienced instructors and staff, all snacks (morning and afternoon breaks), special Science Matters T-shirt and backpack, and a Certificate of Achievement.

Science Matters Dates this summer:

May 31—June 1 (4-day week)

June 6-10

June 20-24

June 27-July 1

July 11-15

July 25-29

August 1-5

**Science
matters**
 Summer Academy for Elementary Students

For more information, contact us at COSAM_Outreach@auburn.edu or by phone at (334) 844-7449 or visit our website. www.auburn.edu/cosam/outreach

Opportunities:

Scholarships available for Alaska science camp

The Mississippi-Alabama Sea Grant Consortium is sponsoring two scholarships to the Ocean Science and Leadership Expedition in Alaska on July 14-23, 2011, for students who will be in grades 10-12 in the 2011-2012 school year and reside in Alabama or Mississippi.

The camp, offered by the Prince William Sound Science Center and based in Cordova, Alaska, will include ocean-science learning on subjects, such as oil spills, oceanography and climate change. The course includes a sea-kayaking expedition, a hike on a glacier, camping on a remote beach and a trip to Valdez on the Alaska Marine Highway.

The scholarship will cover the \$1,100 tuition and \$400 toward travel expenses. The deadline for applications is April 1. For the Mississippi-Alabama Sea Grant Consortium scholarship application and more details about the program, go to <http://www.pwssc.org/blog/summer-programs/ocean-science-and-leadership-expedition>. Scholarship awards will be based on merit and financial need.



Engaging More Community Connections**Since last issue ...****Valentine's Parents' Night Out**

The special Valentine's session of our new Parents' Night Out program took place on Saturday, February 12, 2011. 13 children spent their Saturday night with us enjoying Magic School Bus videos, a pizza dinner, making Valentine's Day cards, playing educational board games, and building/programming with LEGO Wedo Robotics. Thank you to all who attended for making the first Parents' Night Out program of 2011 a success.

TEAMS

On Friday, February 25th, 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 Randolph School (11th/12th Grade Division, 1st Place), Columbus High School (11th/12th Grade Division, 2nd Place), and Grissom High School (11th/12th Grade Division, 3rd Place). Montgomery Catholic School Team B won the 9th/10th Grade Division.

Science Olympiad

The 2011 Division B Science Olympiad took place on Saturday, February 19th 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 – 1st place, Drake Middle School Team A- 2nd place, Drake Middle School Team B- 3rd place, Baldwin Arts and Sciences Team A- 4th place. These teams qualified for the 2011 Alabama State Science Olympiad at Huntingdon College on March 12th.

**Colleges of Sciences and Mathematics K-12 Outreach**

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www.youtube.com/AUCOSAMOutreach

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www.auburn.edu/cosam/outreach