

AUBURN UNIVERSITY
COLLEGE OF SCIENCES
AND MATHEMATICS

E=mc²

Engaging More Community
Connections



A Science and Math Outreach Newsletter

Volume 3: Issue 6

November/December 2011



Upcoming Events & Programs:

DAMES

Daughters and Mothers Exploring Science

Saturday, January 21st

Sponsored by the Society of Women in Science and Mathematics, DAMES is a one day mini-conference aimed at increasing the number of women in the fields of science and mathematics. DAMES is a great opportunity for both mothers and their daughters (grades 6-8) to explore the many wonders of science at Auburn University. The event includes 2-3 hands-on courses taught by female students, faculty, and women from industry followed by a luncheon and keynote speaker.



Inside

Upcoming Events and Programs

- DAMES
- Arboretum Days
- Science Fair Teacher Workshop
- South's BEST Robotics Regional Championship
- Science Afternoon at AU
- AMP'd 2

Activity of the Issue

- Hot 'n' Cold 5

Since Last Issue...

- GUTS
- AP Study Day
- Science Investigations 6

Follow me to Page

4



Upcoming Events and Programs (cont'd)

Arboretum Days

Saturday, November 12th

The next Arboretum Days will take place on, Saturday, November 12th from 9-10am. This month's activity will be all about winter birds! Many birds will make Auburn their home all through the winter. Learn to recognize the birds you might see and what you can do to help them 'live the good life'. Everyone will learn how to make tasty treats to help our local birds survive and thrive during the winter. Arboretum Days is designed for students Pre-K through 5th grade. The program, which takes place at the Donald E. Davis Arboretum at Auburn University's main campus, allows kids to become actively engaged in science-based activities while allowing them to explore the outdoors in a unique and beautiful environment.

While the event is free, pre-registration is required as space and materials are limited. To register, e-mail Dee Smith at arbinfo@auburn.edu.

Each child must be accompanied by a parent or guardian. As a courtesy, please inform Dee, in advance, should you decide to cancel.

Science Fair Teacher Workshop

Tuesday, November 15th

The Intel International Science and Engineering Fair is the world's largest, international pre-college science competition. Auburn University is home to the regional affiliate fair, GEARSEF (Greater East Alabama Science and Engineering Fair). The fair, which will occur on March 7, 2012, serves as the fair site to middle and high school students from east central Alabama counties.

Teachers of 6th-12th grade students interested in participating in this year's fair are invited to join us on Tuesday, November 15 from 5-8pm for our teacher workshop. The cost to participate in the workshop is \$10.00 and dinner is included. Public schools, home schools, and private schools are invited to participate. A local expert will dish out the secrets to science fair success and all participants will be shown how to register for the event and complete the required paperwork.

Teachers interested in participating in the November workshop should complete the Teacher Workshop Registration Form found at: www.auburn.edu/cosam/outreach. Questions can be directed to Erin Percival at erin.percival@auburn.edu.

South's BEST

December 2nd-3rd

BEST (Boosting Engineering, Science, & Technology) is a non-profit, volunteer-based organization whose mission is to inspire students to pursue careers in engineering, science, technology, and math through participation in a sports-like science- and engineering-based robotics competition. BEST is designed to engage students through teamwork, self-directed learning, apprenticeship, and problem solving. Students participating in BEST are responsible for all the work involved in designing, building, and operating a robot.

In September and October, 847 teams at 47 hubs across the country participate in this six-week event. Winning teams from these hubs advance to compete in one of three regional competitions. Auburn University hosts one of these regional competitions, South's BEST. South's BEST brings all winners from hubs east of the Mississippi River to Auburn to compete in late November or early December of each year.

The 2011 competition will occur on Friday, December 2nd and Saturday, December 3rd at the Auburn Arena. Robot matches will begin on Friday afternoon and will continue throughout the day on Saturday. The public is invited to attend the event at no cost.

Advancing BEST Teams from AU-supported hubs

From our own

War Eagle BEST hub

Auburn Junior High School
Springwood School (Lanett, AL)
Stanhope Elmore High School (Millbrook, AL)
Wetumpka High School

From our sister hub

Tennessee Valley BEST

Athen's Bible School
Decatur Austin Robotics Coalition
Lindsay Lane Christian Academy (Athens, AL)
The Academy for Science and Foreign Language (Huntsville, AL)



Outreach Calendar

November

- 11 Science Investigations
- 11 Science Afternoon at AU
- 12 Arboretum Days
- 15 Science Fair Teacher Workshop
- 17 GUTS
- 18 Science Investigations

December

- 2 December 2-3- South's BEST Regional Robotics
- 9 December 9- Science Investigations





Continued from page 1

DAMES

Daughters and Mothers Exploring Science Saturday, January 21

Registration is now open and spaces are available to girls (and their mothers) in grades 6-8 interested in participating in the January 21st DAMES event.

Mothers are encouraged, but not required to attend. The cost is \$8.00 for a mother/daughter pair or \$16.00 for a daughter/friend pair.

To register for DAMES visit
www.auburn.edu/cosam/outreach.

DAMES

Event Schedule
January 21st

9:15
Check-in

9:45
Welcome

10:00
Course 1

11:00
Course 2

12:00
Lunch (provided)

1:15
SWE Challenge Event

2:30
Wrap-up

Science Afternoon at Auburn University

Friday, November 11

Sponsored by the
National Organization of Black Chemists and Chemical
Engineers (NOBCChE)

Inviting Middle & High School Science Teachers:

Connect with Scientists and Engineers, learn about the Auburn Chemistry Department, learn about Nanotechnology, and take part in hands-on activities designed for the classroom.

2-4pm- Nanotechnology Teacher Workshop
3:30-5:30pm- Chemistry Department Open House

To register:

Contact Dr. Ashley Beasley Green at

Ashley.beasley@nist.gov

Please include name, e-mail, school, and grade level in e-mail.

AMP'd

Auburn Math Puzzle Challenge

A 7th-8th grade problem-solving event for schools

Are YOUR students up to the CHALLENGE?

The Commissioner of the Auburn Math Police, or A.M.P. Squad, needs your students' help apprehending the most heinous of thieves! Put your students' math and problem-solving skills to the test while engaging them in a classic who-dun-it game they will love!

- Engage in real-world problem solving
- Use practical applications of mathematics
- Acquire competence and confidence through self-directed learning
- Engage in applied technology
- Develop leadership, teamwork and organizational skills and, of course...

...Have a blast while learning!

Schools may enter a maximum of two, 6-8 member teams in the 2012 middle school challenge.

To register:

Complete the AMP'd registration form available at: www.auburn.edu/cosam/outreach

The deadline to register is
November 30, 2011.

Activity of the Issue

Hot 'n' Cold

Materials:

- Various materials: wood, metal, Styrofoam, glass, plastic, cardboard, etc. (preferably with a flat surface larger than your hand)
- Thermometer

What to do:

1. Allow the materials to come to room temperature.
2. Place your palms flat on the various surfaces and compare how cold they feel.
3. Arrange the materials in order from cold to warm.
4. Then place the thermometer on each surface.
5. Notice they are all the same temperature.

What's happening?

The temperature-sensing nerve endings in your skin detect the difference between your inside body temperature and your outside skin temperature. When your skin cools down, your temperature sensitive nerves tell you that the object you are touching is cold. An object that feels cold must be colder than your hand, and it must carry body heat away so that your skin cools down.

Styrofoam and metal are two materials that work well as heat conductors because they both start at room temperature and carry heat away from your body, but at different rates.

How cold something feels matters less about the actual temperature and more about the rate of heat exchange.

For more great science activities like this one, you can do at home visit:
www.exploratorium.edu/snacks



Since the last issue

Science Investigations-September 9 and September 16

Forty, 6th-8th grade homeschooled students are participating in this year's Science Investigations program. Students are conducting science labs as a means of learning the lab process. The year will culminate with a science fair project they will display at GEARSEF in March.

AP Study Day- September 17

300 students taking AP-level courses visited us to spend a day studying and reviewing for their classes on our university campus.

GUTS- September 20 and October 27

The September GUTS event attracted 28 parent/child pairs who participated in three hands-on courses: Rollercoaster Rally, Lego Mania, and Multiplying Microbes. In October, 29 parent/child pairs participated in Halloween themed courses about bats, blood, food, and all things creepy and slimy.



E=mc² Engaging More Community Connections

Volume 3:Issue 6

Engaging More Community
Connections

E=mc²

131 Sciences Center Classrooms Bldg.
315 Roosevelt Concourse
Auburn University, AL 36849

phone: 334-844-7449
fax: 334-844-5740
COSAM_Outreach@auburn.edu



For more information about
any of our programs visit:

www.auburn.edu/cosam/outreach

or call us at: 334-844-7449