

AUBURN UNIVERSITY
COLLEGE OF SCIENCES
AND MATHEMATICS

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AND MATHEMATICS

E=mc²

Engaging More
Community Connections



Volume 4: Issue 5

September/October 2012



Upcoming Events & Programs:

AMP'd

Saturday, September 29

The Auburn Mathematical Puzzle Challenge is an annual event for current 7th-8th graders that takes place each fall. The event begins with a video from the Commissioner of the Auburn Math Police who tasks the AMP'd Squad (the students) with solving a crime. Students then engage in solving a series of puzzles. Students meet witnesses along the way and act out or show their solution and earn puzzle pieces. These puzzle pieces are the put together as proof that the suspected villain committed the crime. This year's suspect is Techno-Nerd! A computer hacker who is thought to have stolen the AMP'd Squads entire fleet of computers!

War Eagle BEST Mall Day

Sunday, September 30

Mall day marks the half way point for teams competing in the War Eagle BEST Competition. This year's game, Warp XX challenges students to build a robot capable of climbing a space elevator and delivering goods to and from the space station. Teams will test their prototype robots at Mall Day on Sunday, September 30th at the Village Mall in Auburn. Mall day is open to the public! Robot practice will begin at 1:15pm in the main entrance lobby! We hope to see you there!

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Upcoming Events and Programs (cont'd.)

Halloween GUTS

Tuesday, October 23

This semester we will be offering one GUTS event for current 1st-6th grade students and their parents. GUTS offers parents a chance to engage in science with their youngsters! The evening will begin with dessert, followed by a 90 minute science course. Courses are designed and taught by excellent teachers, faculty members, or expert graduate students. Each class features a series of activities and experiments designed to promote deeper understanding around a science concept or topic

1st-3rd Grade Course Options

Batty for Bats
Pumpkin Mania

4th-6^h Grade Course Options

Bones: Connecting the Living to the Dead
The GUTS of Blood

Courses fill on a first-come-first-serve basis and remaining seats are filling quickly, so be sure to register today by visiting:

www.auburn.edu/cosam/guts

Kidz-sized SCIENCE

Friday, October 26

The College of Sciences and Mathematics is proud to introduce our newest program, Kidz-sized SCIENCE. In COSAM Outreach, we aim to meet the needs of our local community. Many of you have been inquiring about a program for your 4-6 year old children. We listened! This community-based program will take place monthly in the Community Room at the Village Mall in Auburn for pre-kindergarten and kindergarten students (ages 4-6).

Registration is \$15.00/month.

To register, visit

www.auburn.edu/cosam/kidzsizedscience

If you have questions, please contact Erin Percival at erin.percival@auburn.edu or by phone at 334-844-7449.

War Eagle BEST

Saturday, October 13th

Smiths Station High School

The six-week War Eagle BEST program will culminate on Saturday, October 13th with an intense robotics competition between participating schools in east Alabama and west Georgia at Smiths Station High School. In August, schools were tasked with a daunting challenge; build a robot capable of carrying goods up and down a 14' pole. This challenge, entitled Warp XX has not been taken lightly by students. This is the first time students have been tasked with building a robot capable of climbing! The educational theme is the concept of a space elevator. Many believe that building a robot capable of carrying goods to and from the International Space Station could be possible with the use of a space elevator.

Teams were all given the same kit of materials to use to build their robot in August and are not allowed to supplement with additional supplies.

In addition, many schools have opted to participate in the optional, BEST Award, competition. These teams will compete in the following judged components: Marketing Presentations, Team Exhibit and Interview, Project Engineering Notebook, and Spirit and Sportsmanship. Below you will find a list of this year's competing teams.

School

A-2-Z Homeschool
 Auburn Jr. High School
 Benjamin Russell High School
 Brewbaker Tech. Magnet High School
 Chambers County Career Tech Center
 Central Educational Center
 Columbus Consortium
 J.F. Drake Middle School
 Glenwood School
 LAMP High School
 Lee-Scott Academy
 Loachapoka High School
 Montgomery Catholic Prep. School
 Opelika High School
 Opelika Middle School
 Prattville High School
 Saint James School
 Smiths Station High School
 Southside Middle School
 Springwood School
 Stanhope Elmore High School
 The Heritage School
 Wetumpka Middle School
 Wetumpka High School

Competing in

Game & BEST Award
 Game & BEST Award
 Game Only
 Game & BEST Award
 Game & BEST Award
 Game Only
 Game & BEST Award
 Game Only
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 Game & BEST Award
 Game Only
 Game Only
 Game & BEST Award



Outreach Calendar

September

- 29 AMP'd
- 30 Mall Day

October

- 23 GUTS Workshop
- 13 War Eagle BEST



Activity of the Issue

Make Your Jack-o-Lantern Glow in the Dark!

Materials:

- A pumpkin (real or artificial)
- Tools to carve the pumpkin (if real)
- A bottle of glow-in-the-dark paint (available at any hobby store)
- A paintbrush
- A flashlight
- Black construction paper (if artificial)
- Glue (if artificial)

What to do:

1. If you have a real pumpkin, carve out a jack-o-lantern face and scoop out the inside of the pumpkin. If you have an artificial pumpkin, cut out your jack-o-lantern's eyes, nose, and mouth from the black construction paper and glue them onto your pumpkin.
2. Take the paintbrush and coat the pumpkin with the glow-in-the-dark paint, painting around the areas where the eyes, nose, and mouth are. You may want to use more than one coat of paint to make the glowing stronger.
3. Once the paint dries, use your flashlight to charge the paint by shining the light over the entire surface of the pumpkin for 1-2 minutes.
4. Turn off the lights in the room, or take your pumpkin outside after the sun has set and watch your spooky jack-o-lantern glow!

What's Happening?

Glow-in-the-dark paint is made with special chemical substances called **phosphors**. These substances are able to absorb energy in the form of particles of light called **photons**. Any light source can be used to provide photons to the phosphors in the paint. When you then move the paint into a dark area, the phosphors begin to release the photons back into the air by a process called **photoluminescence**. Your eyes can see the photons being released, and thus, your painted pumpkin will appear to glow!

Make it an Experiment:

The project above is a **DEMONSTRATION**.

To make it a true experiment, you can try to answer these questions:

1. Do different colors of glow-in-the-dark paint glow brighter? Longer?
2. Does the paint glow brighter or longer if exposed to the sun instead of a flashlight?
3. Does the time that the paint is exposed to light affect how long it will glow in the dark?



For more science activities visit:

<http://www.sciencebob.com>

Since the Last Issue

War Eagle BEST Kick Off

Schools in East Alabama and West Georgia are congregated this August for the widely-anticipated Kick-off of the 2012 War Eagle BEST program.

Each fall, teams of students from local schools are tasked with a new, robot design challenge. This challenge is kept secret from teams until Kick-Off Day at which time, teams get their first glimpse of the game field and rules! Kick-off Day serves as the beginning of the students six-week-long program

War Eagle BEST is co-hosted by the College of Sciences and Mathematics and the Samuel Ginn College of Engineering. The free program challenges students in grades 6-12 to design, build, and program a robot from a kit of raw materials through implementation of the Engineering Design Process. The six-week-long program culminates in a one-day, sports-like competition.

For more information about War Eagle BEST visit our website at www.wareaglebest.org.

BEST Teacher Workshop

On August 6 -7th in cooperation with the Samuel Ginn College of Engineering, we hosted an annual BEST Teacher Workshop. This workshop, while intended for teachers new to the BEST program allows all BEST teachers the opportunity to learn some new skills and learn from other teachers in the area.

This year, teachers built and programmed VEX Robot, practiced technical writing and studied the connections between 21st Century Learning Skills and the BEST program.



Since the last issue

Science Matters

Another successful summer of Science Matters came to a close on Friday, August 3rd. This summer we hosted more than 200 1st - 6th grade students and filled 394 seats in the program! In fact, at 94% capacity, this was the fullest summer of Science Matters since its inception in 2010. July course instructors included:

- Rebecca Balkcom- Auburn Junior High School
- Hilary Boyd- Auburn Junior High School
- Andrew Click- Sanford Middle School
- Lana Grooms-Auburn Early Education Center
- Mark Jones- J.F. Drake Middle School
- Amanda Prince- Auburn Early Education Center
- Amy Rutherford- J.F. Drake Middle School
- Leah Shope- Auburn Early Education Center
- Frank Ware- Sanford Middle School (retired)



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