

AUBURN UNIVERSITY
COLLEGE OF SCIENCES
AND MATHEMATICS

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Engaging More Community
Connections



Volume 4:Issue 2

March/April 2012



Upcoming Events & Programs: Science Matters

Application Deadline: May 7, 2012

Science Matters is a summer enrichment program for elementary students in rising grades 1-6 offering youngsters a supercharged science experience. The program allows participants to explore the world of science through real experiments, 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 six different science-themed weeks for rising 1st-4th graders to choose from and four weeks for rising 5th-6th graders to enjoy. Parents may choose between the Regular Day option from 8am-3:30pm or the Extended Day option from 8am-5pm. Prices range from \$170 - \$235 per week/child. Multiple week discounts are available.

Courses fill on a first-come-first-serve basis, so be sure to register today by visiting:

www.auburn.edu/cosam/sciencematters

Inside

Upcoming Events and Programs

- Science Matters
- Science and Engineering Fair
- Elementary Science Olympiad
- GUTS Backyard Bash

1

Activity of the Issue

- Ketchup Density

5

Since Last Issue...

- Middle School Science Olympiad
- AMP'd

5

For a list of course offerings go to page

2



Upcoming Events and Programs (cont'd.)

Science Matters Courses

June 4-June 8:

- 1st-2nd graders: Penguins and Polar Bears
- 3rd-4th graders: NASA Design Squad
- 5th-6th graders: Pirates of the Caribbean

June 18-June 22:

- 1st-2nd graders: Calling All Artists!
- 3rd-4th graders: Slimy Science 2
- 3rd-4th graders: Creepy Crawler Olympics

June 25-June 29:

- 1st-2nd graders: Can I Dig to China?
- 3rd-4th graders: Gettin' Froggy With It
- 5th-6th graders: The Electric Pickle

July 9-July 13:

- 1st-2nd graders: Growing a Pizza!
- 3rd-4th graders: Rocket Science
- 5th-6th graders: Amusement Park Adventure

July 16-20:

- 1st-2nd graders: Light and Sight!
- 3rd-4th graders: We Got The Beat
- 3rd-4th graders: Snap It!

July 30-August 3:

- 1st-2nd graders: Rockin' and Rollin' All About Motion
- 3rd-4th graders: Forest Friends
- 5th-6th graders: Measuring: From Microbes to Mountains

For more information about Science Matters contact:

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Find course descriptions and more information at:

www.auburn.edu/cosam/sciencematters

Greater East Alabama Regional Science and Engineering Fair

Wednesday, March 7th

One hundred middle and high school students exhibited their science and engineering fair projects on Wednesday, March 7th at Auburn University's Science and Engineering Fair. The fair, which is an Intel International Science and Engineering Fair Regional Affiliate advanced top projects to the 2012 Alabama State Science and Engineering Fair and one top High School winner directly to the International Science and Engineering Fair in Pittsburgh, PA later this spring.

A list of winning projects can be found online at:

www.auburn.edu/cosam/gearsef.



Outreach Calendar

March

- 3 Spring YES
- 3 AP Study Day-Science
- 7 GEARSEF
- 10 AP Study Day-Math
- 20 GUTS

April

- 11 GUTS
- 13 Science Investigations
- 21 Elem. Science Olympiad
- 21 AP Study Day-Math
- 22 GUTS Backyard Bash
- 26 AU Explore
- 28 AP Study Day-Science

Elementary Science Olympiad

Saturday, April 21st
2012 Participating Schools

Brighton Elementary School
Brighton, AL

Cary Woods Elementary School
Auburn, AL

Excalibur Christian School
Huntsville, AL

Girard Elementary School
Dothan, AL

Geneva Middle School
Geneva, AL

Highlands Elementary School
Dothan, AL

Hillview Elementary School
Birmingham, AL

Hueytown Elementary School
Hueytown, AL

Kelly Springs Elementary School
Dothan, AL

W.O. Lance Elementary School
Lanett, AL

Math and Science School
Tuscaloosa, AL

Mountain Gap Elementary School
Huntsville, AL

James Mulkey Elementary School
Geneva, AL

Ogletree Elementary School
Auburn, AL

St. Luke's Episcopal
Mobile, AL

The Kings Co-Op
Tuscaloosa, AL

Wright's Mill Elementary School
Auburn, AL

Yarbrough Elementary School
Auburn, AL



AU Explore

Thursday, April 26th

Deadline to register: March 19, 2012*

AU Explore is a science and math festival sponsored by the College of Sciences and Mathematics at Auburn University. It will take place on the AU campus on Thursday, April 26th. Approximately 1,500 students in grades 5-8 from across Alabama will be invited to experience raptors, snakes, and other live animals up close, participate in mini-workshops at the "Make-n-Take Science Fun Shop", visit with Auburn faculty and students at the Science and Math EXPOs, and much more!

Check-in will begin at 8:30 a.m.

Activities will begin at 9:00 a.m. and run until 2:00 p.m.

*The event is free, but **pre-registration is required**. This event fills quickly and less than 50 spaces remain.

To register visit us online at www.auburn.edu/cosam/auexplore

This year's AU Explore is a satellite event of the USA Science and Engineering Festival in Washington D.C. on April 28-29. For more info, visit www.usasciencefestival.org.



GUTS Backyard Bash

Sunday, April 22nd

Deadline to register: April 6, 2012

The GUTS Backyard Bash is an annual end-of-the-year, family-friendly event that includes an outdoor picnic followed by a science-themed demonstration show featuring our outstanding faculty and students.

This year's bash will feature the Alabama Science in Motion Wet 'n' Wild Science Show. The show, which is famous among science educators in Alabama is great fun and excitement for all ages!

While the GUTS Backyard Bash offers free admittance to children who hold 2011-2012 GUTS Memberships it is open to any family with an interest in science!

Cost:

1. The cost to attend is \$5.00/person.
2. Children under the age of three are free.
3. Those holding child memberships will receive one free admittance to the event.
4. Those holding family memberships will receive two free admittances.

Registration begins April 1st

To register visit our website at:

www.auburn.edu/cosam/guts

Activity of the Issue

Ketchup Density

Materials:

- A 1 liter plastic bottle
- Ketchup packet
- Salt (Kosher works well)

What to do:

1. Remove any labels from the bottle and fill it all the way to the top with water.
2. Add a ketchup pack to the bottle.
3. If the ketchup floats, you're all set - go to step 4. If the ketchup sinks in the bottle, go to step 5.
4. For the floating ketchup pack simply screw the cap on the bottle and squeeze the sides of the bottle hard. If the ketchup sinks when you squeeze it, and floats when you release it, congratulations, you're ready to show it off. If it does not sink when you squeeze it, try a different kind of ketchup pack or try a mustard or soy sauce pack.
5. If the ketchup pack sinks, add about 3 tablespoons (45 ml) of salt to the bottle. Cap it and shake it up until the salt dissolves. (Kosher salt will keep the water from getting too cloudy, although it will usually clear up over time if using regular table salt.)
6. Continue adding salt, a few tablespoons at a time until the ketchup is just barely floating

top of the bottle.

7. Once it is consistently floating, make sure the bottle is filled to the top with water, and then cap it tightly.
8. Now squeeze the bottle. The magic ketchup should sink when you squeeze the bottle and float up when you release it. With some practice you can get it to stop in the middle of the bottle.



What's Happening

This experiment is all about buoyancy and density. Buoyancy describes whether objects float or sink. This usually describes how things float in liquids, but it can also describe how things float or sink in and various gasses. Density deals with the amount of mass an object has. Adding salt to the water adjusted the water's density to get the ketchup to float. Sound complicated? It is, but here's the basics on the ketchup demo...there is a little bubble inside of the ketchup packet. As we know bubbles float, and the bubble in the ketchup sometimes keeps the heavy packet from sinking. When you squeeze the bottle hard enough, you put pressure on the packet. That causes the bubble to get smaller and the entire packet to become MORE DENSE than the water around it and the packet sinks. When you release the pressure, the bubble expands, making the packet less dense (and more buoyant) and, alas, it floats back up.

For more science activities visit:

<http://www.sciencebob.com/experiments>

Since the last issue

Middle School Science Olympiad Results

1st Place

J.F. Drake Middle School-Team A
Auburn, AL

2nd Place

Auburn Junior High School-Team A
Auburn, AL

3rd Place

Beverlye Magnet School
Dothan, AL

4th Place

The Altamont School
Birmingham, AL



Since the last issue

On February 4th, 46 seventh and eighth grade students descended on the Auburn campus to compete in the first ever AMP'd Competition! Students used higher-level thinking skills to work their way through eight puzzle-based challenges and in the end solved the case in which Dan Rook, a notorious villain, stole the "Spirit of Auburn!" Below are the results of the event:

Auburn Mathematical Puzzle Challenge (AMP'd) Results:

1st Place Overall: Opelika Middle School Team B

2nd Place Overall: Opelika Middle School Team A

3rd Place Overall: Auburn Junior High School

Black Market Challenge Winner: Auburn Junior High School

Ready, Set, Go! Challenge Winner: Opelika Middle School-Team A

Super Sleuth Award (Fewest Hints): Auburn Junior High School, Opelika Middle School-Team A, Opelika Middle School-Team B, and Southside Middle School-Team B

Five Star Award (Teamwork): Russell County Middle School



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