



TABLE OF CONTENTS

President’s Message.....	2
MAST Mission Statement.....	3
What’s up in the sky.....	4
BYOD.....	4
Chem Sudoku.....	5
Demonstration of the Month.....	6
Bookmark it!.....	7
MAST Awards.....	8
Extra! Extra!	10

President's Message October 2014

Dear Fellow Science Educators around Maryland,

My name is Kate Cobb and I am honored to be serving my first term as your president. Coincidentally, I am also this year's conference chairperson. Although I am excited to meet many of you on October 17th and 18th at the Conference, I thought I'd share a little about myself here...it will save time when we meet next month.

I am a K-5 STEM Resource Teacher in Prince George's County. Before that, I taught second grade for several years. I began my journey in education through the Resident Teacher Program as that I was a career changer (from Hospitality Management). What a great change, and at what an exciting time in education. In addition to my duties at my home school, I often serve as a project manager for curriculum writing projects and other Leadership duties as needed. I like to differentiate and so I work as a peer coach (mentor other teachers) in an after school reading program for ESL students. For the past few summers I have worked as a Master Teacher for MSDE as well. My favorite Science subject is Environmental Science, what's yours??

In my free time, my husband and I are completely rehabbing our second home (anyone want to buy a beautiful row home in Baltimore??). I enjoy cooking, traveling playing games and reading. I also try to spend some time at home with my dog and cat.

I first became involved with MAST when I won a mini-grant for my classroom and eventually Outstanding Educator (turn in your applications ASAP!!)

At this year's conference, we are excited to partner with TEEAM-it is sure to be a great experience for all of us. Looking ahead, we have some great Member's Only Events in the pipeline as well as the relaunching of our newly branded "Science on Thursdays" series. Hope to see you soon.

Yours in Science,

Kate Cobb



The Maryland Association of Science Teachers (MAST), a local affiliate of the National Science Teachers Association, is a professional, non-profit organization dedicated to science education in the state of Maryland. It strives to make science accessible and enjoyable to the citizens of Maryland by promoting and supporting career education in science and technology, instruction for general science literacy, and science outreach programs in all geographic regions of Maryland.

MAST PHILOSOPHY AND GOALS

The Maryland Association of Science Teachers, dedicated to scientific literacy, cares deeply about its mission and members engaged in science education. Its members believe that science is a human endeavor employing careful observation and reasoning necessary for professional and personal problem solving and decision making in our increasingly more technological society. To support this MAST promotes science research, applied science, and science education as professional careers. It also understands that science literacy opens doors for all Marylanders to pursue alternative technology careers, and to understand and enjoy the world they live in.

To these ends, MAST has the following goals:

- 1) provide science educators at all academic levels in the state of Maryland with the opportunities for professional development through the presentation and exchange of knowledge, strategies, and resources;
- 2) acknowledge the accomplishments of exemplary science teachers, students, and administrators;
- 3) encourage and utilize partnerships with business, professional organizations, and science resource centers;
- 4) broaden the base of support in MAST through increased membership throughout the five designated regions;
- 5) provide financial support for outstanding science-related educational programs.

What's up in the Sky?

Look for this feature in upcoming erappers!

By Dan Hewins



BYOD!

The start of the 2014-2015 school year ushered in a new Bring Your Own Device (BYOD) policy to many schools. As a non-smart phone user, I was at first reluctant to incorporate the new policy into my curriculum. I was confused about how and when to allow my students to use their device. I wanted to let my students use their device to enhance their learning not simply for the sake of using their device. Over the summer I did a lot of searching on the internet and came up with a number of ways to implement BYOD in my classroom. QR codes are an easy way to put added information into any assignment or PowerPoint. Step by step directions on creating a QR code for many types of media can be found by going to www.qrstuff.com

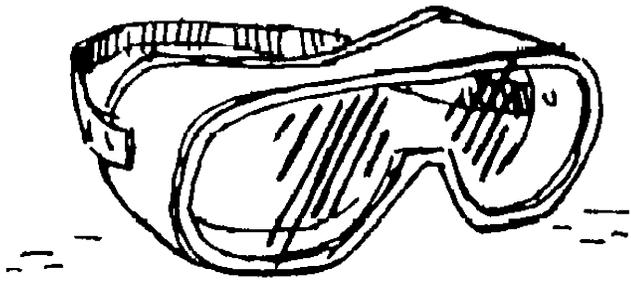
In need of an informal formative assessment of your students' progress? Socrative is useful for creating a quick survey for your students. Finally Edmodo is a website designed for teachers and students to keep in touch outside of the classroom for content related matters. Easily upload PowerPoints, videos, and assignments for student access in the classroom. These are just three of the ways I found to enhance learning with BYOD.

The start of the new school year ushered in the new BYOD policy. As a non-smart phone user, I was at first reluctant to incorporate the new policy into my curriculum. I was confused about how and when to use it. Over the summer I did a lot of searching on the internet and came up with a number of ways to implement BYOD. QR codes are great for added information, Socratic is useful for surveys and Edmodo in the classroom allows for students to mark up and edit your power points in class. I am more than willing to help you create ways for students to use their device in the classroom.

Chem Sudoku

	H	F					O	Li
	B		H			Be	C	
			Be		B	He		
C					N		He	
O			Li		C		Be	
	Be				F	C	Li	N
	He							
	N	O				Li	H	
				B				

Bill Hoffman, Westminster High School



DEMO OF THE MONTH

A Cooking Throwback

Those of you old enough to remember the kitchen device known as a pressure cooker might recall the noisy clanking, hissing, cooking pots that our moms and grandmothers used to speed up the cooking time of food – usually reducing the cooking time in half compared to dry heat cooking in the oven, somewhat like a primitive microwave, but without the microwaves. Well, pressure cookers are still available in the housewares departments of most stores (including Walmart, Macy's, and Kohls) and can be used to demonstrate some great science. And they are less noisy and very safe to use.

The essence of this demo is to show that Styrofoam is a composite material made of polystyrene and air. When a Styrofoam cup is placed in a pressure cooker with a small quantity of water (about 50 mL) in the bottom of the cooker, after 10 minutes of cooking, the cup is reduced to one-fifth of its original size. Follow the instructions that come with the cooker, which will explain how to seal the lid and to run cold water over the cooker when completed to reduce the pressure and safely remove the cover. The pressure literally pushes most of the air out of the foam, leaving a mini version of the original cup, complete with the markings on the cup, including the stamped markings on the bottom of the cup.

In performing this demo, I normally ask one of the students to create some artwork on the cup so students will recognize the cup that emerges is indeed the same cup.



Materials needed

Pressure cooker
Hot plate or stove
Water
Styrofoam cups

Enjoy!

Gary Fuhrman, Liberty High School



Each month E-rapper will feature a site for you to bookmark for future use in your instruction. Bookmark it even if you can't explore it right away!

This e-Rapper's column is dedicated to keeping you the teacher up-to-date on some of the great information out there that you can use in your classroom. There are some excellent websites that don't require you to spend precious time looking for information.

Science is Awesome – provides daily and weekly science information, with links that provide information on the latest discoveries in biology, engineering, medicine, chemistry, physics, and much more!

The Scientist – is an online magazine that has a Facebook site. You can get daily information, as well as click the link that takes you to this free online magazine. If you are looking for ELA7 nonfictional readings, this is a great site.

I F*!&king Love Science – yes, an unfortunate title, but an excellent resource for YOU. Elise Andrews provides both information as well as videos. She will soon be on the Teaching Channel with her videos, which have excellent information into what is cool and current in science. It's my hope that she changes the title so that teachers can use her website.

From Quarks to Quasars – another informational site that provides great information as well as inspirational “posterettes” that you can copy off and post on your bulletin boards.

Eduademic – is positively addicting. Lots of great ideas to use in the classroom for using iPads, a “cheatsheet” for using Edmodo (I use this for all my classes and it is GREAT!), teachers guides to using Twitter, how to “flip” your classroom, keeping your students safe online, the best apps for phones and tablets, and much more.

Other websites that provide short “Readers Digest” versions of the latest information *include Science Daily* (<http://www.sciencedaily.com/>) which will send daily posts to your email and will allow you to “specialize” what content areas you are interested in (such as Environmental Headlines, Health Headlines, or Top Science Headlines) and *Discover Magazine Online* (www.discovermagazine.com). These are also great for providing short, nonfictional text for student's to use with direct reading skills.

Happy reading! Cindy Perouty

MAST Awards

Applications now available for 2015 Awards!

The Maryland Association of Science Teachers annual award program recognizes excellence in science teaching, administration, and outreach in Maryland. Each year, the Maryland Association of Science Teachers honors a group of people who have made outstanding contributions to science education for the State of Maryland. Awards are presented in the areas of elementary school science, middle school science, senior high science, college science, science education administration, and science outreach. If you know someone who deserves to be recognized for his or her contributions in one of these areas, we encourage you to submit a nomination packet.

So many wonderful people worthy of this award never receive it because no one takes the step to nominate them. The nominee and nominator do not need to be MAST members. Winners receive statewide recognition, a monetary award, and a year membership in MAST. Application packets can be found online at <http://emast.org> and are due on Friday, May 22, 2015 to:

Carl Bilotta
C/o Deer Crossing Elementary School
10601 Finn Drive
New Market, MD 21774
240-236-5900

Applications for SPRING ARE NOW OPEN!

MAST will award instructional Project Sponsorship's to MAST members for the 2014 - 2015 school year. With the success of previous years' Instructional Project Scholarship Programs, the MAST Executive Board has decided to continue the program. Each award will be for a sum of money up to \$500 to enable a teacher to purchase supplies and equipment for new and innovative projects to supplement his or her classroom instructional program.

Applicants, who must be MAST members, should submit an application via email showing a time-line, detailed budget, and plan for evaluation of the project. They should indicate how the project incorporates current science education reform movements such as the National Science Education Standards, Project 2061, Benchmarks, Maryland State Department of Education Content Standards and county outcomes among others. They should show evidence that their principal understands the scope of the project and concurs with its implementation. The merit of a proposal will be judged on the above criteria as well as the number of students that will benefit. Projects that will reach students at more than one grade level are especially encouraged. Upon acceptance, applicants must also provide a digital media record of how the funds were used with students.

Applicants can check the MAST web site for an application form and a rubric used in evaluating proposals. The deadline for submitting a Fall mini-grant proposal is Wednesday, APRIL 8, 2015. A principal's letter of support should also be emailed or postmarked by Wednesday April 8, 2015 to:

Carl Bilotta
Chair MAST Awards Committee
C/o Deer Crossing Elementary School
10601 Finn Drive
New Market, MD 21774

Extra! Extra!

Bring Evolution To Your School/Community For Darwin Day 2015!

Interested in bringing cutting-edge evolutionary science to your school and community? Apply to be a stop on NESCent's 2015 [Darwin Day Roadshow](#).

[NESCent](#) (The National Evolutionary Synthesis Center) is an NSF-funded evolution research center. To celebrate Charles Darwin's contributions to science and society, we send our scientists on the road every year around "Darwin Day" (the annual, world-wide celebration of Darwin's birthday on Feb. 12th) to talk to students, teachers and the general public about their research and career opportunities in science. Our focus is on small, rural communities (i.e., places that wouldn't likely have a Darwin Day celebration if they weren't a stop on our Roadshow) and any schools with traditionally under-served students. There is no cost to you, the teachers, and we'll even leave you with a collection of evolution teaching resources!

For more information, and to apply to have your school considered, please visit roadshow.nescent.org or contact Jory Weintraub (jory at nescent dot org). Applications are being accepted now through Friday, November 21st.

Subject: \$1000 Scholarships for Amazon Rainforest PD Workshop Educator Academy in the Amazon Rainforest + Machu Picchu

The July 1-11, 2015 Educator Academy in the Amazon Rainforest of Peru is a cross-curricular professional development workshop for K-12 formal and informal educators to learn and use:

- **21st Century Instruction:** 5E Lesson Design ~ Inquiry-Based Exploration ~ STEM
- **Inquiry Protocols & Resources:** [Project Learning Tree](#) ~ Cornell Lab of Ornithology ~ & More!
- **Global and Cultural Perspectives:** Service Learning ~ Sustainability ~ Global Education

Join Al Stenstrup, Project Learning Tree (PLT); Lilly Briggs (Cornell Lab of Ornithology), Christa Dillabaugh, Amazon Rainforest Workshops; and Dr. David Pearson, Wildlife Travellers' Guide to Peru; and work side-by-side with scientists Dr. Steve Madigosky, Widener University; and Randy Morgan, Curator/Entomologist, Cincinnati Zoo as you:

- Participate in **citizen science projects** and **inquiry based field studies** on a 1/4-mile **Rainforest Canopy Walkway** in one of the most biologically diverse environments on the planet.
- Spend **a day in an Amazon village** as you **explore the complexities of sustainability** and the role of education in creating a sustainable future for Amazon children.
- **Work with fellow educators** to explore strategies for using the Amazon as a vehicle for incorporating STEM education, inquiry-based learning, and sustainability science education into your classroom.

PLT Certification, BirdSleuth resources and 50 ASU PD Hours included. Academic Credit and Machu Picchu Extension optional. \$1000 scholarship deadline March 1, 2015. Program cost is \$1240 + air for scholarship recipients. Space is limited! Register early to secure your spot!



Houghton Mifflin Harcourt



**Fisher Science
Education**





THE BIOTECHNOLOGY
EDUCATION COMPANY



Delta Education

...because children learn by doing.®



CHESAPEAKE BAY FOUNDATION

Saving a National Treasure



BIOZONE

