



eRAPPER

Monthly Newsletter of the Maryland Association of Science Teachers
January 2010

Editor's Note

Happy New Year to all! I hope you all had a restful, pleasant, and joyful holiday.

MAST has a gift for you from Society for Science and the Public! Each of you will receive one free year of Science News (online edition). In order for you to receive your gift, MAST needs to supply member email addresses to the organization which will in turn send you an email notification from studentsciencenews@texterity.com. Your subscription will also allow you to share with other people for free. If you DO NOT want this gift, please let us know by February 15th and we will not send your email address. Or, if you want the subscription sent to something other than your primary member address (in other words, the email address I use to send the Rapper and Blasts) then send us a note regarding your preference by the date as well.

If you want your free access, just wait and you will see an email notification sometime after February 15th. (By the way, a one year subscription usually costs \$49.95.)

Be sure to check out January's Demonstration of the Month. Gary has a new demonstration to help your students understand reaction rates!

Vikki has given us access to her blog in this month's Teacher to Teacher to help us with ideas for our online virtual classroom presence. I'll be checking out some of her other suggestions as well. Many of my students have appreciated being able to access content online when they have missed class.

Thank you to all who submitted presentation proposals for the NSTA Regional conference. It will be outstanding to see all of the Maryland talent represented in November.

Be sure to mark your calendars, set up your substitute plans and head up to Philadelphia in March for the NSTA National Conference! It's just a train ride or short drive for many of us. See the flyer in this month's Rapper for more information.

Whew! I'm glad we're a monthly delivery schedule now. There's so much to share. Please let me know if there's anything else you would like included. Also, please send any comments or suggestions for any of the board members. We all work together. We are MAST.

Thank you very much for your time, attention and participation.

Donna

Donna Balado, Carroll County • dmbalad@carrollk12.org

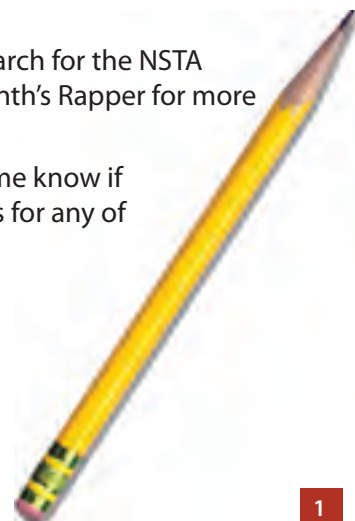




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President's Message

Happy New Year! Though the beginning of 2010 means the end of 2009 and the "Year of Science," there is no reason for science or science education to take a back seat. Instead, it is time to take full advantage of the public interest piqued in 2009 to redouble our efforts towards ensuring all children have opportunities for first rate science experiences.

Professional development opportunities to support our efforts on behalf of children abound throughout 2010. The culmination comes in November with the NSTA Regional Conference on Science Education in Baltimore. This unique opportunity in our own backyard will include myriad presentations by many of you and others from across the nation that highlight some of the "best of's" in science education. It's a terrific chance to get involved in a variety of leadership roles throughout the preparation phase too. I encourage each of you to consider volunteering some time leading up to November and during the conference. Rest assured that as opportunities arise and details are finalized, they will be posted on the MAST website, www.emast.org, and through periodic E-MAST Blasts.

In the more immediate future, know that the NSTA National Conference is just a short drive for us this year...in Philadelphia during March. See the NSTA information included in this issue. Finally, the MAST Executive Board continues to strive fervently to expand our existing programs. Look for information in the coming weeks on the spring installments in our Evening Speaker Series. Two events are currently in the planning stages for April. Bear in mind, too, that MAST mini-grant and Excellence Award applications will be due later in the spring.

Remember, MAST is of and for science teachers. Please don't hesitate to share your ideas for how your needs can best be served. Contact me anytime at mcwelle@carrollk12.org or through the links at www.emast.org. I look forward to hearing from you soon.

Warmest regards,

Mary



Each month E-rapper will feature a site for you to bookmark for future use in your instruction.

Do you need a warm-up that will capture the attention of your students? The site below provides short 1-4 minute videos. Subject areas include chemistry, angular momentum, thermodynamics, astronomy, physics and more.

Show the video and provide a question. It's a great hook!

<http://www.lghs.net/teachers/science/burns/scienceonsimpsons/Clips.html>

Jackie Geer, Montgomery County



TEACHER TO TEACHER

Creating a Virtual Classroom to Enhance Student Achievement and Accountability

It never fails: You ask your students to research a topic for homework, and most students come back with information from the internet that is written at a level they do not understand.

Have you ever considered ways to custom-build an internet learning experience for your students? Here are a few sites that can help you design a virtual world of learning that is easily accessible and exactly what you wish your students to study:

BRAINPOP.COM

Brainpop.com hosts funny, relevant videos with follow-up quizzes on a variety of subjects. Teachers can search to find information for topics in elementary, middle school, or high school science. Videos can be paired with pre-fabricated quizzes for formal and informal assessment. The site offers free trials, but if you plan to use the site beyond the trial period your school system will have to buy a license. Students can sign up for their own trials at home, too!

BLOGGER.COM

Blogger.com allows you to create a website for your classroom where you can post daily activities, contact information, and comments between students, parents, and teachers. (Unlike Facebook or Myspace, Blogger is not a social community. Individuals who know the web address can access blogs without having an account.)

If you are intimidated by web publishing, don't worry: Blogger has ready-made templates for website backgrounds and formatting. Photos are easily uploaded, links are quickly embedded from other sites, and teachers have the satisfaction of knowing that parents and students can access classroom information from any net-based computer. Check out my blog, www.missbolbiology.blogspot.com if you would like to see a sample setup. I especially love that blogger.com becomes a virtual day planner for students with organizational difficulties. If my students have my website bookmarked, they never have an excuse for not knowing upcoming assignments and due dates!

SLIDESHARE.NET

Slideshare.net allows you to post PowerPoint presentations, Adobe worksheets, and Word documents online to a host site. From the host site, you can upload your digital teaching tools to your blog, Facebook, or Twitter account. The site also allows you to add audio to your presentations.

Settings allow for public or private display directly from Slideshare.net, so even teachers without a website can post digital media for students to study. I use the site to upload in-class PowerPoints to my blog. Students can access the PowerPoints at home to help them review for tests and quizzes.

Do you have a question you want answered or advice that would help other teachers? Email us back and your ideas may appear in a future column!

Vikki Bol, Calvert County





Blue Bottle Demo

I'm a firm believer that students should look forward to coming to science classes. There's a world of wonder in each of us and seeing science come alive through classroom demonstrations is an excellent way to engage students. This is the second in a series of demonstrations that can be used in most physical science classes at either middle school or high school levels.

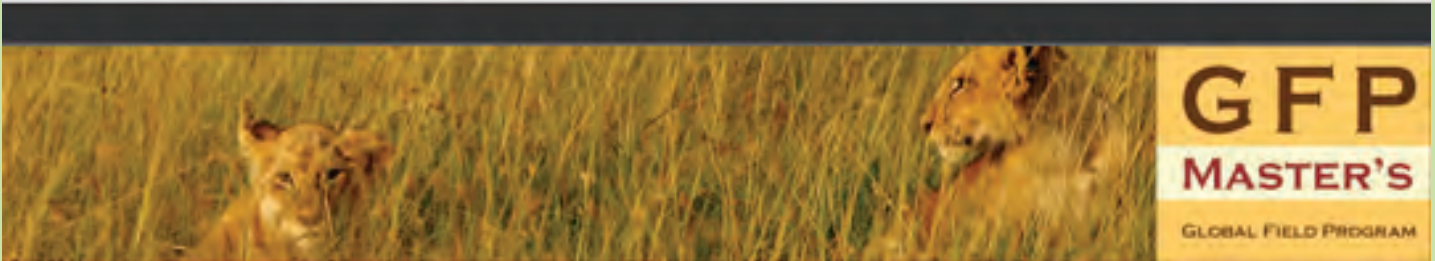
This is a great demonstration to show the difference in reaction rates based on concentration. In this chemistry demonstration, a blue solution gradually becomes clear. When the flask of liquid is swirled around, the solution becomes blue again. The blue bottle reaction is easy to perform and uses readily-available materials.

1. Half-fill two one-liter Erlenmeyer flasks with tap water.
2. Dissolve 2.5 g of glucose in one of the flask (flask A) and 5 g of glucose in the other flask (flask B).
3. Dissolve 2.5 g of sodium hydroxide (NaOH) in flask A and 5 g of NaOH in flask B.
4. Add ~1 ml of 0.1% methylene blue to each flask.
5. Stopper the flasks and shake them to dissolve the dye. The resulting solution will be blue.
6. Set the flasks aside (this is a good time to explain the chemistry of the demonstration). The liquid will gradually become colorless as glucose is oxidized by the dissolved dioxygen. The effect of concentration on reaction rate should be obvious. The flask with twice the concentration uses the dissolved oxygen in about half the time as the other solution. A thin blue boundary can be expected to remain at the solution-air interface, since oxygen remains available via diffusion.
7. The blue color of the solutions can be restored by swirling or shaking the contents of the flask.
8. The reaction can be repeated several times.

Gary Fuhrman, Carroll County



Educational Opportunities



Application open for global field courses/Master's degree 2010 scholarships available.
Contact: Jamie Bearcat Anzano; 513.529.5103; dragonfly@muohio.edu

Miami University's Project Dragonfly is accepting applications now for its 2010 graduate field courses and master's programs offering international field and conservation studies in Africa, Asia and the Americas.

Each accepted applicant is awarded a tuition scholarship covering 2010 field course tuition, equivalent to \$3,100 in-state and \$7,100 out-of-state. Award recipients are responsible for travel and field costs.

The deadline to apply is Thursday, January 28, 2010.

Created by Dragonfly and the Cincinnati Zoo & Botanical Garden, Earth Expeditions graduate courses and the Global Field Program (GFP) Master's degree bring together graduate students, scientists, educators and community leaders at critical conservation field sites in Belize, Costa Rica, Baja, Trinidad, Mongolia, Thailand, Kenya and Namibia. New in 2010 are courses in Borneo and the Amazon.

Earth Expeditions courses and the GFP Master's may be completed part-time from anywhere in the U.S. or abroad and are open to educators and other professionals from all settings and disciplines, regardless of academic focus. For information and to apply, visit:

- Earth Expeditions <http://www.EarthExpeditions.org>
- Global Field Program <http://www.MastersGFP.org>

Interested applicants in the Cincinnati, Chicago and Seattle regions may want to visit <http://www.MyMasters.org> for information on Dragonfly's additional master's degrees, including the community-based Advanced Inquiry Program co-delivered with premier learning institutions in select U.S. cities.

Project Dragonfly reaches millions of people each year through inquiry-driven learning media, public exhibits and graduate programs worldwide. Dragonfly is housed at Miami University, a state university in Oxford, Ohio, established in 1809 and listed as one of the eight original Public Ivies.

Project Dragonfly
Miami University
Oxford, Ohio 45056
513.529.5103

Educational Opportunities (cont'd.)



Society for Science & the Public (SSP), with generous support from Intel, is pleased to announce the 2nd year of its Fellows Program. The SSP Fellows Program provides funds and training to selected U.S. science and math teachers who serve under-resourced students, to enable interested and motivated students to perform high-quality independent scientific research.

The SSP Fellows Program has attracted the most creative and motivated high school science and math teachers in the country. Through a competitive selection process, the Program will provide teachers the financial and training resources necessary to support and inspire the success of their most enthusiastic science students. Fellows may serve for up to four years. The goal is to enable Fellows to guide students to produce project-based research of the highest quality, such as is selected for SSP's premiere science competition, the Intel Science Talent Search.

ELIGIBILITY:

- Demonstrated interest in research but actual research experience not required.
- Active engagement in 9-12 grade science or if not actively teaching at this time, must demonstrate access to students to mentor.
- Teaching credential.
- Must be from a school that has enrollment that is at least 40% underrepresented minority and/or with at least 30% of students qualified for free or reduced rate lunches.
- Demonstrated evidence of engagement with students (e.g. participation in field trips, science clubs, science fair, mentorship activities; support of independent research).
- Excellent written and oral communication skills.
- Must be able to attend Fellows Institute in Washington DC - July 26 through July 30, 2010. SSP pays for the whole trip!

STIPEND:

Fellows receive a stipend of up to \$8500/year depending on proposed budget, demonstrated need, support of the school and needs of the student population.

Deadline for application to the 2010 Fellows Program will be January 15, 2010 at 5:00pm EST.

For information about the Fellows Program please visit: <http://outreach.societyforscience.org/>

For questions please contact:

Jennifer A. Carter
Director of Outreach
Society for Science & the Public
1719 N Street NW, Washington, D.C. 20036-2801
202.872.5140 (phone), 202.822.3922 (fax), jcarter@societyforscience.org

www.societyforscience.org • <http://outreach.societyforscience.org> • www.sciencenews.org

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Science Education is a National Matter

It has been mentioned that teachers are the most important factor for student success. The National Conference on Science Education, March 18-21, Philadelphia, is one event where science educators can gather with renowned experts in every science discipline, in every grade band, and access the best professional development across the nation.

Educators will work on learning new content, hear about assessment strategies, tackle how to integrate science study with other subjects, and participate in hands-on activities to take back to the classroom. It might be that you want new inquiry techniques or you teach ELL and want to close the achievement gap.

With nearly 2000 sessions to choose from, day long programs in Chemistry, Biology, Earth Science and Physical Science, renowned presenters like Bill Nye, and 10,000 other science educators to meet, you'll come away with solid skills, new ideas, and a network of peers who have a passion for science. And we're betting your students will profit from your new experiences.

Check out some of our sessions:

- Seven Inquiry-based Labs That Integrate the Physical Sciences and Algebra (High School)
- NASA Astrobiology Institute: Life on Earth...and Elsewhere? (Middle-High School)
- Differentiated Science Inquiry (Elem-High School)
- Making Biology Come Alive Through Bioinformatics (High)
- Can You Keep a Secret? hands-on/minds-on activities involve the science of disappearing ink, puzzles. Lessons are related to the science standards of solubility, material science, and energy. (PreK/Middle)
- Nanotechnology for the Classroom: The Next BIG Thing! (Elem)
- The Ubiquitous Middle Level Science Classroom- Learn effective strategies for integrating math, social sciences, and the arts into your curriculum.
- Empirical Evidence vs. Intuition and the Let's Make a Deal Game Show (High-College)
- Featured Speaker, John Mooy, story teller and author will present "*Class, I'd Like You to Meet Mr. Einstein*"- Make scientific facts, concepts, and events past and present come to life in your classroom through story...a most powerful tool.
- Climate Change Here and Now: Coastal, Ocean, and Atmospheric Impacts-ticketed with \$60 stipend. Symposium led by NOAA scientists (Grades 5-12)

From the pre-service teacher to the valued administrator, this conference offers rich experiences and lasting memories. Join us.

Visit www.nsta.org for more information or to register. Jan. 22 is the early bird deadline.

NSTA BALTIMORE AREA CONFERENCE



“Charting the Course to Excellence”

Baltimore, MD • November 11–13, 2010

CONFERENCE STRANDS include:

- Teaching Science in the 21st Century
- Embracing the World from our own Backyard: Environmental Education
- Building Tomorrow’s Workforce: Science, Technology, Engineering and Mathematics Educ.

Please Contact Elizabeth McCook, NSTA Baltimore 2010 Program Chair, with your questions at Elizabeth.mccook@fcps.org



MEMBERSHIP FORM

Welcome to MAST! Please print, complete, and mail this form to the address below.

Type of Membership – Please check one space in each column.

- | | |
|--|----------------------------------|
| <input type="checkbox"/> 1 year – \$15.00 | <input type="checkbox"/> New |
| <input type="checkbox"/> 3 year – \$40.00 | <input type="checkbox"/> Renewal |
| <input type="checkbox"/> Student – \$5.00 (1 year) | |

Member Information – Please fill this out completely!

Last Name		First Name		Level – please check all that apply: <input type="checkbox"/> Pre-K <input type="checkbox"/> Elementary <input type="checkbox"/> Student <input type="checkbox"/> Supervisory <input type="checkbox"/> Middle/Jr. High <input type="checkbox"/> High School <input type="checkbox"/> College/University <input type="checkbox"/> Organization (please specify) <input type="checkbox"/> Other (please specify)
Street Address				
City		State	Zip	
Local School System		School		
Home Phone	Work Phone	Cell Phone		
Email Address		Alternate Email Address		

I would like to donate \$ _____ to support:
 the MAST Awards for Excellence in Science Education Program
 the MAST Mini-Grants Program

Please make your check payable to the Maryland Association of Science Teachers (MAST) and send it with this completed application to:
 MAST
 P.O. Box 368
 Finksburg, MD 21048

For Office Use: Date Received _____ Amt Paid _____ Membership to: _____
 Cash _____ Check Number _____ Check date _____ MER 12.09