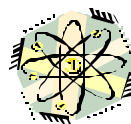


C₃ BONDS

VOLUME 1, ISSUE 3

WINTER 2003,
SESSION 1

C₃ KICKS OFF 2003 WITH ELECTRON CONFIGURATIONS



With 2003 barely under-way and the second academic semester just beginning, C₃ participants wasted no time in getting back into the swing of their professional development. Gathering at Tech over the weekend of January 11-12, the teachers engaged in a workshop that further extended topics covered in the previous two meetings. Dr. Bill Deese engaged the teachers in the exploration of atoms, electron configurations, and the periodic table through a variety of strategies and learning experiences. The C₃ participants developed the topics through group presentations, card sorts, demonstrations, conceptests, modeling, graphing, and a carousel assessment. The group did a tremendous job, even after only being back in the swing for



five days following the long holiday break. Those Session 1 teachers in attendance included **Nathaniel Ad-**



ams (Green Oaks High School), Betsy Chism and Dan Sassone (East Ascension High School), Mandy Dugdale and Leslie McClure (West Feliciana Middle School), Julie Du-bois (Simsboro High School), Sherri Ferrel and Carolyn Smith (La. Tech), Bill Gallien (Fair Park High School), Jane Hamby (Morehouse Magnet School), Cindy Hampton (Cedar Creek High School), Tyron Lacy (North Caddo Magnet High School), Brenda Kelley (Winnfield High School), Mary Beth McCoy (Ouachita Junior High School), Richard O'Neal (Crossett High School), Aleta Overby (Ruston High School), Annette Parker (Zwolle High School), Carolyn Sykes (Ouachita Parish High School), Michelle Underwood (Chatham Jasper Henderson High School), and Missy Wooley (Rayville High School). The C₃ team salutes these teachers for their continued enthusiastic participation and looks forward to next month's meeting! Super job everyone!!



LOOKING AHEAD TO FEBRUARY . . .



All C₃ teachers are reminded to mark their calendars for February 8-9, 2003, when we will gather for our fourth academic year workshop. Session 1 is scheduled for the **SATURDAY**



meeting but can attend the Sunday meeting should a conflict arise. We're on the downhill stretch now—you're almost done!! Let's make the most of our final meetings for the 2002-03 school year! See you then!



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ELVIS IS IN THE BUILDING!



Even The King gets into science—at least in C₃ he does! In honor of his 68th birthday on January 8, Elvis was the focus of the icebreaker and opener for the recent C₃ workshop. And the teachers took the idea and ran with it! Kicking off with the group scouring the room for participants possessing trivial knowledge of The



King, the top finishers won special “Elvis Bags” filled with all The King’s favorite things—peanut butter and a banana (for that famous sandwich!), Little Debbie Fudge Brownies (his favorite snack), and a can of Pepsi (his favorite drink). Cooperative groups were formed as the C₃ teachers matched key catch-phrases associ-

ated with his life and career. But the fun really began when the groups then worked together in their “team building experience” to create stories from an “Elviscience Paper Bag Skit”. And no doubt The King would have approved. The group was typically creative and hilarious in their creations and presentations that incorporated assorted items found in their paper bags, their Elvis catch-phrase, and an appropriate science concept. Needless to say, the C₃ team gave the group high marks for helping to set the tone for a fun and energetic day of learning together. Thank ya gang . . . Thankyavermuch!!



BLACKBOARD BITES



The C₃ Blackboard experience is on the fast track to being completed! January’s assignment, “Investigating Inquiry”, was posted as the second semester got underway and teachers are already engaged in the group discussion. Using two web based resources, the group will look at how to more effectively construct and implement inquiry learning experiences in the science classroom. In addition, other new forums have been posted based on teacher requests. One features a special location for the C₃ colleagues to share web sites and other resources they discover and find helpful. Another forum is posted to as-



sist the teachers as they work on their professional portfolios. And finally, because so many of the teachers are involved in the science textbook adoption process, the final assignment will deal with what makes a good classroom text for science students. This assignment is listed as “Textbook Trauma” and features a discussion of both good and bad features of classroom textbooks. The assignment is posted early so teachers can benefit from it as they make the final decisions for their school adoption committees. Cathi will continue to monitor all forums and looks forward to seeing everyone on the Board!



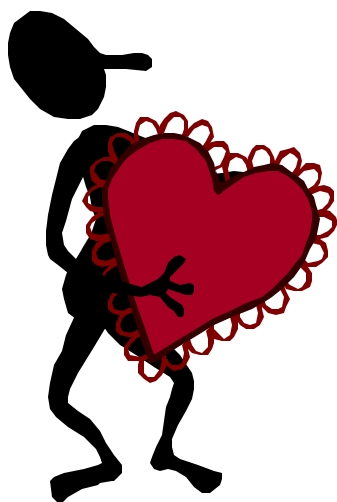
SECOND SEMESTER CLASSROOM VISITS ARE UNDERWAY



Cathi kicked off the second round of C₃ classroom visits on January 14 and things are not only well underway, they’re looking GOOD! Reminder notices have been sent to all participants and each teacher is encouraged to place the reminder in a prominent place so that you will be ready for Cathi when she arrives at your school. The schedule has been carefully constructed to get everyone’s visit completed before the last meeting in March and there is very little room for adjustments at this point. Be sure if

something does come up, you let Cathi or the C₃ office know immediately. In addition, the school office and/or administration should be alerted to the date of her visit so that they can appropriately plan as well. And don’t forget the areas that we hope to focus on during our second semester together—from our first semester data, we know there are certain strategies that we want to try and Cathi will be looking to see if we can accomplish that. So jump right in and be looking for the Jeep to be pulling into your school SOON!



HAPPY VALENTINES DAY!

May your heart get exactly what it wants
and needs . . . (even if it IS chocolate!!)

C₃ REMINDERS:

Important Dates to Remember:

February 8: Session 1 Workshop
February 9: Session 2 Workshop

March 8: Session 2 Workshop
March 9: Session 1 Workshop

Remember you can attend with a different session, just let the Cathi know of your plans

June 1—13, Sessions 1 & 2 Combined

Things to complete ASAP:

**Portfolio, Blackboard Assignments,
Application for Summer Session**

CHEMISTRY CAFÉ at the CAPITOL

The National Science Teachers Association has joined with the Food and Drug Administration to initiate and implement a professional development program in Food Science consistent with the National Science Education Standards. Selected middle and high school science educators will have an opportunity to be involved in a multi-dimensional project that prepares teachers to provide topically relevant lessons in food science based on the new understandings of the subject. Activities scheduled start with a summer 2003 workshop, followed by a

participant led workshop for colleagues during the academic year. Dates for this year's workshops are:

Middle Grades Workshop: July 6-13, 2003

High School Workshop: July 27-August 3, 2003

Both workshops take place in Washington, DC, and all workshop related expenses are paid; all applicants must be certified teachers. For information and an application, visit www.nsta.org/fda or fax (703-522-5413), e-mail <jheywood@nsta.org> or Call Jill Heywood at (703-312-9228)

WORKING WITH CBL TECHNOLOGY IN THE LAB

Many teachers are working toward developing original lab experiences for their science students. In doing so, technology has become a focus in an effort to make the laboratory learning experiences related to real world situations and therefore applicable to life beyond the classroom. Using Calculator Based Labs (CBL's) has become a popular method of achieving this goal while creating more innovative laboratory experiences in the process. In an effort to assist teachers in this endeavor, the following web sites are offered as tools to be used toward more effective implementation. Following each web site is a description of what can be found at the site.



<http://cesme.utm.edu/resources/CBL/cblclearinghouse.html>

(The CBL Clearinghouse [Center of Excellence for Science and Math] has activities, links, and CBL activity workbooks plus other downloads. The links are organized into categories, including many CBL references)

http://www2.ncsu.edu/ncsu/pams/science_house/

(Science House of NC State University includes inquiry activities, discussion, links and labs linked to state and national standards. After reaching this site, use the site map to access "For Teachers", CBL Able: A Guide to Using Computer Based Lab Equipment)

SPOTLIGHT ON C₃ SUCCESS



Missy Wooley, Rayville High School, reports that her Physics class made hovercrafts and used them to explain Newton's Laws of Motion. The class plans to take them to the elementary school to share with the young science students.



In addition, **Missy** shares that the pressure board her husband made like Bill's really impressed the students. With one nail, the board only held one textbook. But with 25 nails, the board held FIVE books!



Way to really get the students engaged and involved **Missy**—great job! . . . **Aleta Overby, Ruston High School**, engaged her students in the



production of projects that showed how Newton's Laws of Motion apply to everyday activities. Topics included hot air balloons, toe touches, dancing, swimming, and more.

Very creative **Aleta!** . . . **Julie Dubois, Simsboro High School**, shares that she has now gone "high tech" with brand new computer technology in her classroom. She is using this new tool as a daily classroom strategy by presenting information to the students using power point.



Julie sends a big THANKS out to Lincoln Parish for accomplishing this wonderful task! . . . **Betsy Chism, East Ascension High School**, has worked hard to use multiple strategies in her classroom and have her students engaged in all phases of instruction.



After modeling the phases of mitosis and meiosis using paper plates, the students had fun creating "children" in genetics. Way to go **Betsy!** . . . **Leslie McClure, West Feliciana Middle School**, reports that her students went on a Challenger Mission in Baton Rouge and completed it with flying colors. How exciting! . . .



Carolyn Sykes, Ouachita Parish High School, indicates that her students are working on a project to make videos of selected demonstrations that can be shared with the Physical Science and elementary science classes. What an awesome idea



Carolyn! . . . Even at the beginning of a year, the C₃ teachers are busy with challenging and exciting things for their students. Great job everyone and keep up the good work. Your efforts are appreciated!!

CONGRATULATIONS . . .

Mandy Dugdale, West Feliciana Middle School, and the WFMS faculty received an A&G Grant in the amount of \$2000 to develop a pond on the school campus. Fantastic! . . .



Carolyn Sykes, Ouachita Parish High School, now National Board Certified, was named OPHS Teacher of the Year as well as Sigma Xi Science Teacher of the Year and Who's Who Among America's Teachers. In addition, she was the recipient of both a Bell South and QSM grant and is a nominee for the Radioshack/Tandy Teacher of the Year. Fantastic **Carolyn** and good luck with the Tandy results!! . . .



And **Cindy Hampton, Cedar Creek High School**, and her family are celebrating the recent scholarship awarded to her son to play baseball and attend college at Centenary in Shreveport. Wonderful news **Cindy!** . . . And congratulations to others in the C₃ group who are also involved in exciting and news worthy events and activities. We're proud of you all!



WE DO EXTRA CURRICULAR, TOO!



Carolyn Sykes, Ouachita Parish High School, serves as National Honor Society Sponsor and collected over 1000 lbs of food in "Trick or Can".



In addition, she volunteered for the Salvation Army as a Bell Ringer and placed #2 in the area . . . **Cleo Head, Riverfield Academy**, and his Lady Raider Basketball team are on a roll going into district with a winning record that is drawing the attention of rivals and fans alike . . . Great job everyone!





C₃ FOLKS SHINE IN PROFESSIONAL DEVELOPMENT OPPORTUNITIES



Brenda Kelley, Winnfield High School, traveled to New York City for a meeting on Education at the United Nations. Impressive! . . . **Cindy Hampton, Cedar Creek High School**, engaged in a Writing to Learn Workshop and should have lots of tips for her C₃ colleagues next time they meet!. . . **Mary Beth McCoy, Ouachita Parish Junior High School**, began a Physical Science project facilitated by **Sherri**



Ferrel, La Tech and both report that things are going well . . . **Carolyn Sykes, Ouachita Parish High School**, is serving as a curriculum writer for the Ouachita Parish School Board as well as a National Board Certification Mentor. In addition, **Carolyn** has presented in-service training for OPHS teachers on GEE Rubric Scoring. Wonderful! . . . **Carolyn Smith, La Tech**, developed a workshop entitled "Mystery Candy Investigations" and presented it to West Carroll Science Teachers. In addition, she presented a full day in-service for teachers in El Dorado, Arkansas. Great work! . . . Thanks to everyone for continuing to carry the torch for education and getting out there to really make a difference. Your efforts are certainly appreciated!



Chemists' Last Words . . .

1. And now for the taste test.
2. That may become hot...
3. And now add a little bit of this..
4. ... and please keep that test tube separate!
5. And now shake it a bit.
6. Why is there no label on this bottle?
7. In which glass was my mineral water?
8. The Bunsen burner *is* out!
9. Why does that stuff burn with a green flame?!?
10. *H* stands for Nitrogen - and that does *not* burn...
11. Oh, now I have spilt something...
12. First the acid, then the water...
13. And now the detonating gas problem.
14. This is a completely safe experimental setup.
15. Where did I put my gloves?
16. Oh no, wrong beaker...
17. The fire alarm is just being tested.
18. Now you can take the protective window away...
19. And now keep it constant at 24 degrees Celsius, 25... 26... 27...
20. Peter can you please help me. Peter!?! Peeeeeteeeeeer?!?!?!?
21. Am I to wait 10 seconds or twenty?
22. Something is wrong here...
23. What caused all those holes in my apparatus?
24. Trust me - I know what I am doing.
25. And now a cigarette...



REMEMBER . . .

**SAFETY
FIRST!!!**

BULLETIN BOARD:

Need technology for field projects? Check with the Office of Environmental Education for grant opportunities. Contact Gwen Emick, Coordinator, P.O. Box 82980, Baton Rouge, LA, 70884-2980. Due date for grants is March 17, 2003.

Need to get parents and your community involved? Visit www.challenger.org/journey for details on the "Journey Through the Universe" program. The program uses the space sciences and human space flight to take students, educators, and families in underserved communities to the frontiers of exploration. Educator workshops for over 100-200 k-12 teachers, powerful k-12 educational materials matched to the national science standards, a national team of researchers visiting thousands of students in classrooms, and family science events each for hundreds of parents and children, celebrate the joy of learning, and bring science and exploration alive for an entire community. Call 703-683-9740 for more information or download an application at the web site. Deadline for submission is March 3, 2003.

LA Black Bear Workshop: August 4-6, 2003 at the Tensas National Wildlife Refuge
Designed to inform educators about this growing native population. Spend 2 days in bear country with the experts, Louisiana's Black Bear Biologists. \$25.00 registration fee Contact Todd Buffington: 318-371-3326, fax 318-371-3052, BuffingtonAT@wlf.state.la.us
Limited to first 20 educators who apply

A new curriculum for high school biology that explores how scientists extract useful information from the Human Genome Project is available. It includes background information for teachers and five classroom lessons. The lessons are both print and web based activities to help students learn how computers are used to assemble DNA sequences, locate genes, and obtain clues about gene functions. The ethical, social, and legal implications are considered as well. To receive your **FREE copy, visit <http://www.bsos.org> and fill out the request form. Requests received prior to January 31, 2003 will be shipped free of charge while requests received later will be charged \$5.00 for shipping and handling.**

Check out the Einstein Distinguished Educator Fellowship Program for K-12 Science and Math Teachers. Visit www.trianglecoalition.org/ein.htm for information and then www.scied.science.doe.gov for online application submissions. Deadline for applications is 2/1/03.

SEDL announces the availability of a new research synthesis: "A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement". The synthesis is available online in PDF format. Print copies may be purchased from the SEDL catalog, and you can save \$5 by ordering before February 28th. To access the document or to place an order, visit <http://www.sedl.org/pubs/catalog/items/fam33.html>

Looking for a clever and creative way of showcasing Chemistry? How about a Periodic Table of the Elephants?! <http://www.chemistry.org/portal/Chemistry?PID=elephant.html> is the site to visit to check it out! Or, if you are in the Washington DC area, you can see it on display as one of 200 "party animals" that will be part of a campaign to promote tourism.

Subscribe to Chem Matters. It contains an excellent Teacher's Resource Guide that gives puzzles as well as the answers to the puzzles, examples of ways to help students get more from reading the articles with student work sheets, correlates each article to the National Science Standards, and more. Visit <http://chemistry.org/education/chemmatters.html>

Looking for online professional development? The Annenberg/CPB Channel offers free professional development for k-12 teachers broadcast via satellite to schools and community agencies while streamed 24 hours a day on the web. Science topics include The Science of Teaching Science, Reactions in Chemistry, Science in Focus: Force and Motion, Learning Science Through Inquiry, and more. Go to www.learner.org or call 1-800-LEARNER for more information.

Just for laughs . . .

Teacher: What's the chemical formula for water?

Sam: "HIJKLMNO"

Teacher: What?!

Sam: Yesterday you said it's H to O!

Amazing Scientific Breakthrough



A major research institution has recently announced the discovery of the heaviest chemical element yet known to science.

The new element has been tentatively named "Governmentium."
Governmentium has 1 neutron, 12 assistant neutrons, 75 deputy neutrons, and 11 assistant deputy neutrons, giving it an atomic mass of 312.

These 312 particles are held together by forces called morons, which are surrounded by vast quantities of lepton-like particles called peons. Since governmentium has no electrons, it is inert. It can be detected, however, as it impedes every reaction with which it comes in contact.

A minute amount of governmentium causes one reaction to take over 4 days to complete, when it would normally take less than a second. Governmentium has a normal half-life of 3 years; it does not decay, but instead undergoes a reorganization in which a portion of the assistant neutrons and deputy neutrons, exchange places. In fact, governmentium's mass will actually increase over time, since each reorganization causes some morons to become neutrons, forming isodopes.

This characteristic of moron promotion leads some scientists to speculate that governmentium is formed whenever morons reach a certain quantity in concentration. This hypothetical quantity is referred to as "Critical Mess".

What Do You Say When Someone Says The Earth's Flat?

Information Week, Jan. 17, 2003

Experts aim to make technology and science relate more to everyday life.

By Jim Nash

How long does it take the Earth to orbit the sun? Half of U.S. adults don't know, according to a recent National Science Foundation survey. In fact, a 2001 NSF survey found that 42% of adults said they couldn't be bothered with science and technology issues--this at a time when literacy in both have enormous impact on the nation's health and economy.

Joe Schwarcz, director of McGill University's Office for Science and Society in Montreal, says indifference and outright rejection of technology and science are stunting progress in both areas.

Thinking that better communication of the topics might turn things around, the National Institute of Standards and Technology convened a panel of scientists, journalists, educators, and others to coach those in the know on how to effectively communicate with those in the dark. The panel's report has just been published, and it calls for a two-way, all-media push that, among other things, relates science to everyday life and does more than preach to the choir.

"A lot of people feel it's all incomprehensible," says Jesse Gordon, a senior systems analyst with consulting firm Technology Planning & Management. It isn't, he says, "but too often, the people teaching science are so into it that they can't communicate it in a way that people grasp it."

Gordon says there needs to be more "popularizers" of science and technology, perhaps in the mold of Stephen Hawking. Schwarcz, a chemist, is one popularizer: He has a weekly radio show in which he answers listeners' science questions.

"I've learned you can't communicate with those who have very, very strong beliefs, like in astrology or that the moon landings were faked, but you can give education early on," he says. Children and adults need a "vocabulary" for critical thinking.

Both Schwarcz and Gordon acknowledge that the Internet is a major source of bogus information. But, they say, as the world learns how to judge the worthy online information from the worthless, the Internet will be a heavy tool for beating back superstitions and misconceptions.

Gordon says he has talked with people who in the course of a conversation espouse questionable beliefs. He walks the person through the idea, or as he puts it, "I reduce the argument to its absurdity." Were someone to say the world is flat, for example, he might ask that person where people fall to when they go over the edge.

Schwarcz isn't put off by what seems to be an increasing number of dubious alternative beliefs about the world. He says it's likely that the same percentage of people have odd thoughts today as 100 years ago. Communication options have multiplied in the interim, though, giving voice to more people.

Maybe so, but one wonders why that percentage hasn't dropped as fast as the planet's gotten smaller.

Visit http://www.nist.gov/public_affairs/bestpractices/conf_summary.htm for the full panel report.

STUDENTISMS



Ever heard this before?

The dog ate my homework . . . I didn't hear the bell ring . . . Can I go to the rest-room? . . . I left it in my locker . . . I can't until summer vacation . . . Do we have to? . . . I didn't do it! . . . I didn't know we were having a test today! . . . I forgot . . . Can I get a drink of water? . . . When is it due? . . . Who me?! . . . Ooh, ooh, ooh, I know, I know!! . . . Why? . . . Will that be on the test? . . . This is boring . . . I wasn't talking . . . I must have been sick that day . . . Can we get extra credit? . . . Are we supposed to take notes? . . . Could you repeat that? . . . Can we play a game today? . . . Are we almost done? . . . What's for lunch today? . . . I don't get it . . . Am I late? . . . How many more days until school's out? . . . I don't have gum . . . What? . . . Can we have more time? . . . What assignment? . . . It's due today?! . . . Why do we have to learn this? . . . Did I pass? . . . I can't wait to graduate!

Thought for the Day . . .

"When in doubt, make a fool of yourself. There is a microscopically thin line between being brilliantly creative and acting like the most gigantic idiot on earth. So what the heck, LEAP!"

Cynthia Heimel



ANYTHING FOR SCIENCE!!

Dr. Gary Phillips, President of the National School Improvement Project, found that retention of learning depends in large part on the means by which students sense information. The more engaged the learner, the more information he or she can remember and use later. The amount of time spent covering material is not as important to learning as how deeply a student becomes involved with the subject. American schools have certainly reached the point of diminishing returns for conventional lectures and tests. People will retain learned material at the following levels:

10% of what we hear
15% of what we see
20% of what we see and hear
80% of what we experience actively
90% of what we teach others

Implement active student learning . Your students are depending on you to help them achieve success!