District News

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the science reflector
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News from District 2

Director: Barbara Stroud

In Lenoir County, Coach Kimberly Gaskins proudly announces that Frink Middle School Science Olympiad team competed and took third place in its regional Science Olympiad competition at Lenoir Community College. The students have really worked hard to achieve this. The team will be competing at the state level on April 16th. Dorcas Green at Kinston High School is taking a group of students to the NC Student Academy of Science Competition April 29-30. (Good luck to them!)

In Brunswick County, Mary Anne Gore a biology teacher at West Brunswick High School will be starting a new biotechnology class at her school in the fall. Brunswick HS is the first school in the state to be acknowledged by the Department of Public Instruction with an official SIMS number for the teaching of this course through the science department. This course will be funded through two grants that Ms. Gore has received, a $900 Brunswick Electric Bright Ideas Grant and a $5000 North Carolina Biotechnology Center Mini-Grant. Also, a partnership has been established with UNC-Chapel Hill called the Brunswick-DESTINY Partnership which has helped to generate funds to supply this course. The goal of the partnership is to train science-savvy students and to ultimately attract biotechnology businesses to our area. (Keep us posted on the progression of the new course.) Cynthnia Graves at South Brunswick reports that biology and chemistry students will be participating in the Destiny program and doing labs in the Destiny mobile facility on April 26.

Laura Fleming reports that six students from Jones Senior HS in Jones County were busy competing in the Chemathon competition at East Carolina University on March 24th. Based upon the individual exam, 2 students (Jayson Rivera, and Damaris Squires) have been invited back to ECU on April 16th to take the National Chemistry Olympiad Exam. This exam and a lab practical will be used to determine who qualifies for the state National Chemistry Olympiad team. (Good luck!!!!)

In Pamlico County, Christine Wayne and Alison Bennett recently took 40 Science Club students to the Kennedy Space Center, Epcot and Sea World. This was an excellent way for students in all areas of science to experience real world applications of what they had been learning in class. The students had a fantastic experience.

In Wayne County, the students of Marion Carter(Mt. Olive Middle School), John Vause (Norwayne Middle School), John Shirley (Greenwood Middle), and Ralph Smith(Eastern Wayne HS) are participating in a Technology Student Association(TSA) competition in Greensboro. This is a yearly competition that involves students from across the state. The next step will be the nationals in Chicago during the summer. TSA's

mission is to help prepare students for life by promoting technology, leadership, and problem solving. There are 33 events that represent a collaborative effort between science and vocational disciplines. Anyone who would like to get TSA started in your LEA the website is www.tsaweb.org.

In Greene County, Sue Walmsley's AP Environmental class has been visiting wastewater treatment plants throughout the area. One unique plant in Greene County is using Duckweed to treat the wastewater and students are comparing and analyzing the impact that this is making in Greene County. Later in the spring the Lower Neuse River Keeper will take the students canoeing in order to study water quality in Contentnea Creek.

In Jacksonville located in Onslow County Shawn Reintjes, director of the Science House Satellite Office, Progress Energy is funding a workshop entitled "Teacher Pioneers Summer Workshops" June 20-24 and June 27- July 1, 2005. These are technology workshops guaranteed to "bring excitement and enthusiasm in your science classroom. Contact Shawn (shawn_reintjes@ncsu.edu) and see what else is being offered.

Peggy Sloan, Education Curator at the NC Aquarium at Fort Fisher, in New Hanover County is inviting teachers to apply for the National Marine Sanctuaries Field Studies in Hawaii, August 4-9, 2005. NOAA's National Marine Sanctuary Program in partnership with the National Geographic Society promotes the understanding of America's ocean treasures through first hand experiences. These hands-on ocean field studies are based on educational standards, including subject areas such as marine science, water systems, habitat monitoring and exploration. This year teacher/student pairs will be exploring Hawaii's marine environment with the Hawaiian Islands Humpback Whale National Marine Sanctuary while staying on Coconut Island off Oahu, Hawaii. The field study will include snorkeling and fish identification on the coral reefs, studies of the local watershed, environmental monitoring and much more. National Geographic photographers will work with the students on photo documentation of their field experiences and the development of a youth media project. Teachers and students can then share their experiences to local communities and larger audiences using this visual media. For more information, please visit http://sanctuaries.noaa.gov/education or to directly access the online application, please visit http://www.ngsednet.org/workshop_details.cfm?w_id=27.

News From District 3
Director: Mike Talley

EPA and Shaw University Apprenticeship Program
The U.S. EPA's Office of Research and Development in Research Triangle Park and Shaw University cosponsor the apprenticeship Program for high school students who have demonstrated superior ability in math and science. The objective of the program is to encourage culturally diverse students to pursue advanced degrees and careers in math, science, and engineering. Each year, ten Wake Country students who are finishing 8th grade are accepted into this program. From the 9th through 12th grade, students attend Saturday classes at Shaw University during the academic year. In the summers after 8th through 10th grades, the students spend 6 weeks in classes and on field trips organized by Shaw University. In the summer after 11th grade, the student's serve as research apprentices at EPA in RTP.

Middle School and High School Envirothon Teams: Congratulations on your success at the Area 4 Envirothon on March 18th! Your hard work in studying all 5 topics in the huge Envirothon manual and attending study sessions sure paid off! You should be very proud of yourselves! Please know the Wake District Board and staff are very, very proud of you! Thanks to the following teachers: Ms. Brongo, Mrs. Langer, Mrs. Massengill, Mr. Ogren, Mr. Rush and Mr. Smith for going the extra mile to give you a wonderful opportunity to sharpen your environmental science knowledge & skills while challenging yourselves to a higher level of environmental literacy. The following teams: (3 Enloe HS, 1 Raleigh Charter HS, and 2 Magellan Charter MS) that have earned the privilege to advance to the North Carolina Envirothon on April 22-23.NASA/SEMAA Project.

On March 1, 2005 the NASA/SEMAA Robotics Team Challenge was held at the Raleigh Convention Center. Teams from Winston-Salem, Warren County, Livingstone College and Wake County, competed in this competition.

Regional Science Olympiad: On the 5th of February the Garner Regional Science Olympiad was held. Over 50 different teams from 3 different counties competed in 24 different events. The regional winners competed in the State Event a NCSU April 15-16, 2005.

Costa Rica Ecological Study: Ms. Justyn Spencer, of Northern Vance High School led 17 High School students

on an ecological study tour of the island of Costa Rica. Students planted native trees as part of their studies last summer.

News From District 4
Director: Greg Antolak

Greetings from your District 4 Director. Off in the distance I see the summer approaching. I hope your school year has been a successful and productive one. I am sure that you are all very busy with the end of year preparations for testing (our favorite time of the school year!), but it is not too earlier to start planning for a little summer time science professional development. There are several opportunities available for workshops in your areas and I have listed a few at the end of this quarter's update.

Study Grants Still Available
The deadline for study grants was March 1st, however our NCSTA Study Grant Coordinator, Tammy Lee, says she has not received any yet. We all hate to see money go unused! If you have professional development opportunities you want to engage in this summer and need some monies to assist, please apply for a study grant. Applications are available on the website, click on grants from the initial website screen and you will find all the information you need.

Speaking of Grants (A Rerun from the Winter Newsletter)!
As the education dollar gets harder to come by it is important that we as educators look to other resources to implement our ideas. There are literally thousands of grant opportunities available to the science educator that we must take advantage of. If you have a great idea, but do not have the funding to support it, take the time to investigate alternative sources. Every school and school district has personnel trained and ready to assist you in preparing your proposal. The Internet can help you get started in locating those resources and many have information available on how to get started on writing that grant. The following websites are a good place to begin: www.ncsta.org/grant, www.nsta.org/awardcomp, www.dpi.state.nc.us/educators, and www.nsf.gov/home/grants.

Research Opportunity for Secondary Educators in the Coastal Plain of North Carolina
Dr. Chalcraft, a professor in the Department of Biology at East Carolina University, is looking for secondary school educators and students to participate in a research study in the coastal plain of North Carolina. This opportunity would allow educators and a few of their students to participate in a research project that explores the consequences of losing biodiversity from the North Carolina wetlands. The opportunity is contingent upon the funding of a research/education proposal that Dr. Chalcraft is submitting to the National Science Foundation this June. The research opportunity is scheduled to occur in the Summer of 2006. This opportunity should be a very fun, exciting, and informative project for secondary educators and students. Not only would this opportunity lead to greatly needed scientific information, but it would also provide valuable experience for students interested in pursuing science in college. For more information, contact Dr. Chalcraft at 252-328-4178 or http://www.personal.ecu.edu/chalcraftd/.

Cumberland County Schools 'Educators Awarded for Excellence by Wachovia Bank
Two Cumberland County teachers each received a $1,000 grant for professional development and to implement a special educational project at their schools. Elementary winner, Kathy Sovine, a fifth grade teacher at Stoney Point Elementary School, plans to use her grant money to fund Science S.P.I.E.S. (Students Practicing Investigations of Energy Systems). The project is designed to enrich the science curriculum using a hands on approach. According to Kathy, using the selected science modules and kits, students engage in rich and rewarding activities that mirror the goals of the fifth grade science curriculum. "The benefits of using these science kits are many," said Sovine. "Students need to be doing science instead of just reading about science in boring books. They learn best when they are fully engaged and actively participating. These kits involve students in meaningful science activities that encourage cooperation and collaboration and develop critical thinking skills with opportunities to think out of the box." Theresa Clark, the secondary winner, plans to use her money to purchase science kits to supplement the current science program at her school, R. Max Abbot Middle School. Clark, a sixth grade science and social studies teacher, will purchase Shoot for the Stars!, a Planetary Science Kit from FOSS Middle School Science Program. According to Clark, through the use of the kit, students will actively seek solutions, design some of the investigations, and ask new questions relevant to their learning. Congratulations ladies!

The Science House Summer Opportunities
As most of you are know, The Science House is a learning outreach project of NC State University. Their mission is to work in partnership with K-12 teachers to increase the use and impact of hands-on learning technologies in mathematics and science. Many of you may not know, The Science House has several satellite offices located throughout the state, one here in our own backyard.
The Fayetteville satellite office is located at Reid Ross Classical School in the northeastern part of Fayetteville. Mr. Dennis Johnson is assigned as The Science House Outreach Coordinator for the Fayetteville office. The Fayetteville office serves the science and math teachers of Cumberland and surrounding counties, providing them with CBL and MBL technology workshops, CBL/MBL equipment on a loan basis, technical support, and curriculum integration support. The use of such equipment promotes exploration and helps students see technology as a tool for learning.
The Fayetteville satellite office offers several summer workshops for teachers. Listed below are some of the offerings for the Summer of 2005:

Calculator Based Lab (CBL) Workshop June 6-10
Microprocessor Based Lab (MBL) Workshop June 13-17
Countertop Chemistry Workshop August 11
Physics from the Junk Drawer Workshop August 12
Safety in the Science Lab Classroom August 15

For more information on these and other opportunities contact: Outreach Coordinator, Dennis Johnson, Phone: 910-488-8415

Awards Reminder!
Please review the award possibilities at www.ncsta.org/award/. I would like to see YOU win an award.

Finally, please share your accomplishments and news with all of us. We have lots of change coming our way and it is important that we work together as a science education profession to share our accomplishments and events to help others. Please email me as events occur and I will make sure your peers see them here in the future. Have a Great Summer and I hope to see ya at a workshop soon.

News From District 5
Director: Darlene Ryan

Randolph County middle schools chose the Prentice Hall text. They will be conducting training in May on the book and again in August on inquiry science and how to do it. The elementary grades will use the McGraw-Hill text along with the new science reading program that aligns with our SCOS from Scholastic. Again, they will be doing training in May and August.

Three middle school teachers, James Green from Uwharrie Middle School, Jill Kennington from Randleman Middle School and Lynne Jones from Archdale-Trinity Middle School presented at the Middle School Conference along with Lisa Thomas the representative with Scholastic books. Their presentation topic was “How Do I Fit Everything Into One Day: Integrating Science and Reading.” The presentation was to focus deeply on the importance of integrating science and reading. They used Scholastic non-fiction paperbacks and correlated them with the new NC Science SCOS.

Randolph purchased two kits for each grade in middle school and trained on them this year. They are currently looking at elementary school kits. While they want to use them, they are searching for funding. It has proven difficult to provide exemplary instruction to many schools with limited funding.

Currently Chatham teachers are using science kits to engage students in hand-on activities to learn important science skills and concepts. The county has contracted ECA Services to coordinate delivery and refurbishment for the kits. The county is providing one kit to every K-5 teacher and literacy support materials. A group of teachers from the district are in the TASC program for training and a second kit. The teachers have been excited with the activities and student’s enthusiasm toward the science lessons. Students look forward to engaging inquiry-

based science. They are asking questions and want to do more investigations. Overall, it has been a positive experience for everyone.

Chapel Hill/Carrboro City Schools has two teachers that received funding for science research projects through a grant program and a fellowship.

Meg Millard, a fifth grade teacher at Frank Porter Graham Elementary School, was one of 50 teachers across the country to win a $10,000 Toyota TAPESTRY Grant.

Millard's proposal, Using Amateur Radio to Learn about World Wide Weather, integrates weather, geography, reading, writing, word study (spelling), history, art and math as students engage in activities involving amateur (HAM) radios.

Students will focus on observing, measuring and discovering the patterns in local weather and then branch out through the use of HAM radios to learn about the weather worldwide.
The project entails the students setting up and using a weather station at FPG Elementary. They will record observations, which include digital photographs, sketches and data taken from the weather station equipment, into field journals. Students will then communicate their weather findings to other areas of the world.

Two other fifth grade teachers will be working on this project, Kristin Bedell and Pam Webb, as well as Mary Andrews, the school's reading specialist. The Orange County Radio Amateurs have volunteered to help get the project set up and raise the tower/antenna when it is ready.

> Science specialist Erin Denniston has been selected a Kenan Fellow. She will receive $9,000 over the next two years for her work on curriculum for her project entitled, "Design Technology: Children's Engineering."
>
> The Kenan Fellows Program is an innovative model to promote teacher leadership, address teacher retention and advance K-12 science, technology and mathematics education. Kenan Fellows are public school teachers selected through a competitive process to participate in a prestigious two-year fellowship while remaining active in the classroom.
>
> During these two years, Kenan Fellows work in partnership with distinguished scientists, university faculty, and the NC Department of Public Instruction, developing curriculum and teaching resources that bring cutting-edge research into the hands of students. Kenan Fellows are scientists, inventors, authors and leaders in classrooms who bring the curriculum to life.

The Morehead Planetarium began production three months ago of “Extinction!” with a script written by Will Osborne, screenwriter for Magic Tree House® Space Mission, their previous blockbuster show. In ”Extinction!,” narrator William Shatner takes viewers on a journey that began 65 million years ago, stars twinkling at twilight, when dinosaurs roamed the earth. Through exciting dinosaur animations, captivating special effects and leading edge science concepts presented by expert interviews, “Extinction!” reflects the latest thinking in paleontology, astronomy, earth science, biology and chemistry on how life has shaped the history of the Earth. It considers some of the natural forces that have encouraged certain species to flourish and others to perish. After asteroids, comets and death stars hurtle through the night sky and tsunamis rise from the sea, it concludes beneath a peaceful, star filled sky, that humans will shape the history of the earth to ensure its survival

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News From District 6
Director: Debbie Michael

I hope everyone had a wonderful Easter vacation. I hope everyone is rested and ready to finish out the semester. School will soon be over for this year. Where does the time go??? Please take advantage of your long summer break to renew yourself with some of the many staff development opportunities that are available.

Cindy Moss writes that Charlotte Mecklenburg Schools will be training 4000 elementary teachers for 3 days on their McMillan McGraw Hill textbook + kit program, 450 middle school teachers for 3 days on their McDougal Littell textbook series and new EOG tests, 400 high school teachers for 2 days on their

selections. This training is mandatory, but teachers will be paid stipends for their time. All building administrators are required to attend training as well as their teachers. We are also adopting the "Big Ideas of Science" K-12 as our common themes. That means that it doesn't matter if an elementary student is doing magnets, or an 8th grade student, or a physics student they should be able to articulate how the inquiry experience relates to one of the big ideas of science.

We're really excited about the changes in science here. Currently our K-5 teachers have 30 minutes/week to teach science and social studies (if they are finished with the non-negotiable literacy and math). Now with EOGs in science for 5th grade the schedule is changing and all teachers will receive professional development in these areas. We are writing a district level EOG type test for 4th, 5th, 6th, 7th, and 8th grade students for 2005-2006. In the fall of 2006 we will add quarterly assessments for 4th, 5th, and 8th grade students to provide our teachers will data about student mastery of concepts. We are also starting an electronic newsletter for elementary, middle and high school science teachers on a monthly basis with a focus on a "best practices" strategy or a current happening in science. We have joined with the Charlotte Area Science Network to host a "Celebrate Science" day at Discovery Place October 1st for parents. At this event parents will hear from local scientists, see the program offerings, and experience lessons with some of our master teachers K-8. I'm hoping that enlisting the parents' support with ensure that science will occur at all 90 elementary schools and 30 middle schools.

At the high school level the core content specialists have decided to focus on common strategies. With the loss of workdays we are going to a Lead Teacher model. There will be lead teachers for Earth Science, Biology, Chemistry and Physics. Monthly these teachers will have a 2 hour professional development on a particular strategy that is appropriate for the next several weeks of instruction. These Lead Teachers will be paid for the 2 hours of training and then paid for 2 more hours when they provide evidence that they have gone back to their schools and trained their peers on that strategy. We're going to use "Understanding by Design" as our guide. We're also going to examine videotapes of some of our best teachers with these groups to develop a common language about quality lesson plans. Then these same discussions will occur with the administrators because we have discovered that they don't really know what a quality science lesson should be.

The adoption process was tiring to say the least. We used the AIM process (Assessing Inquiry Materials) developed with an NSF grant by BSCS. The central committee had 2 days of training on how people learn, the ways concepts need to conceptualized, and the best types of assessments. Then the central committee saw all the offerings and narrowed the selections to 2-3. These selections on the short list went to all schools and all science teachers received 1 day of training on using the rubric. After we received the teachers' feedback the central committee made a recommendation to the superintendent.

The big issues were in elementary science. CMS has had a science warehouse where we refurbished our own kits for the past 7 years. However, only about 10% of the kits are even opened for a variety of reasons. The supt and assoc supt really wanted a textbook + equipment kit option so that we have a better chance for all elementary students to learn science and that's what we selected.

Congratulations go to Cindy Moss, who just found out that a condensed version of her dissertation is being published in a monograph series "Exemplary Science Monograph Series" by Robert Yager, Editor. It is a collection of 15 essays in which educators describe successful program they've developed to fulfill the National Science Education Standards' vision for the reform of teacher, assessment, professional development, and content at the high school level. It's available through NSTA online at http://store.nsta.org/. Her title is "Sing and dance your way to science success" and it's about taking at risk students in biology and enabling them to perform at level 4 by the end of the year.

Dave Barlow, an Astronomy-Geology Teacher at Mooresville High School offers Opportunities for College and High School Students throughout the State each summer to travel around the American West or to Alaska. This year they are offering the Alaskan Odyssey Expedition. They will be doing a trip through the American West and another to New Zealand next year. This is their 10th Anniversary of offering these opportunities. They charter our group of participants as a BSA Venturing Crew for the sake of insurance, and to help out the numbers with the Scouting program. Their website is: www.americanodyssey.org. They have several slots left for this summer's Alaskan Odyssey. Their Expedition this year is a 36 Day experience. They depart Raleigh Durham on June 11th and Return on July 16th. This is their 3rd Alaskan Odyssey Expedition.

Judy Walker, Coordinator of NC NASA Educator Resource Center would like to remind everyone of the NASA ERC services and materials that are free to teachers. The resource center is located in the J. Murrey Atkins Library at UNC Charlotte. I have visited this great center and would encourage all educators to visit and obtain free classroom materials. You may contact Judy at jwalker@email.uncc.edu.

David Johnson, a math teacher at North Lincoln High School, and I were filmed by DPI using student response systems to instruct students. This program was the math literacy #8 in the "Experience Odyssey" series. I was very pleased with the finished product.

Linda Yoder, a science teach at North Lincoln High School, writes that she was one of 12 participants across the state chosen to experience the Belize Tropical Ecology Institute sponsored by the North Carolina Museum of Natural Sciences. During this 10-day trip, teachers and museum guides visited many habitats throughout the country of Belize and compared these to North Carolina ecology. Areas visited included: a baboon sanctuary where howler monkeys were called from the wild and fed cashew fruit from the hands of teachers; cave exploration, Mayan ruin exploration, canoe trip down the Macal River, a visit to the Belize zoo, overnight spent in Cockscomb Basin Jaguar preserve where they saw a fresh jaguar track and found red-eyed tree frogs in the jungle after dark, snorkeling in both ocean waters and along a mangrove swamp, a visit to Monkey River school where the participants taught lessons to school children of the village, daily early-morning bird walks, late-night tarantula and scorpion hunts, and many more adventures much too numerous to name. During the trek, there was a daily Internet connection with the North Carolina Museum of Natural Sciences through which the team gave daily reports and answered questions submitted by schoolchildren. The most outstanding feature of the trip was the friendships formed by the participants and the opportunity to learn and experience nature outside the comfort zones of the participants.

Morgan Depue, one of my earth/environmental students, won region 3 in the Muddy Waters Essay Contest. She will compete at the state level in mid April.

The 2005 Professional Development Institute will be held November 10-11, 2005. Now is the time to apply to present a concurrent session, workshop or mini session. I would like to see District 6 well represented.

Enjoy what's left of the school year and have a great summer!!

News From District 7
Director: Jane Crosby

Welcome colleagues! I am Jane Crosby, your district director. I teach academic and honors level Earth Science at Statesville High School. This past summer I completed my environmental educator certification. I am a Maury peer trainer and a LIT for DataStreme Oceans. You can contact me with information about you or your colleagues at jwcrosby@iss.k12.nc.us.

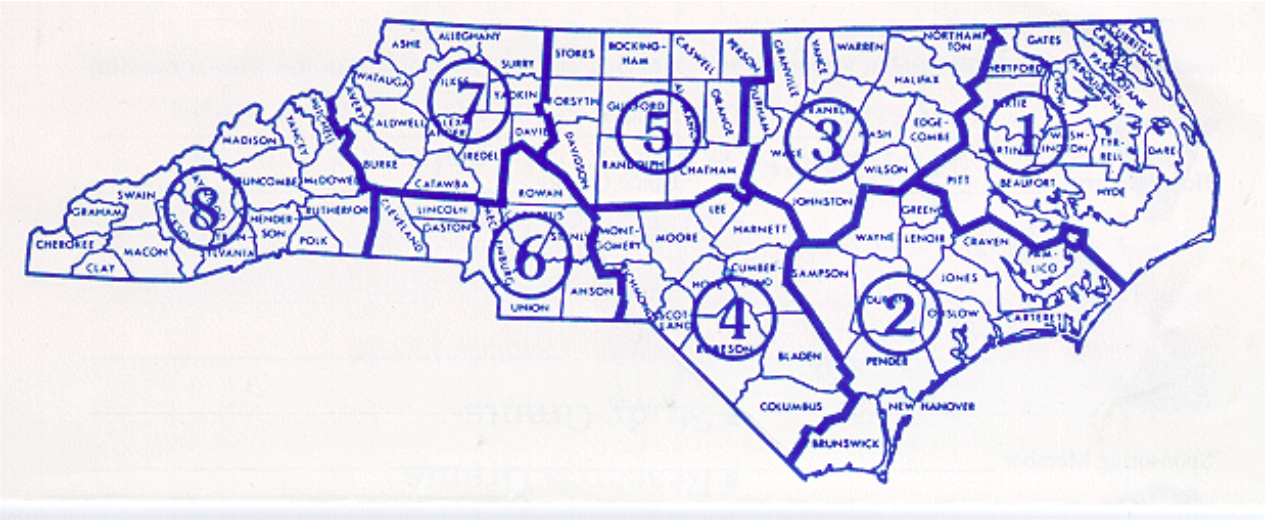
Need renewal credits? American Meteorological Society offers three online courses with FREE graduate credit - DataStreme Atmosphere, DataStreme Water in Earth Systems (WES) and DataStreme Oceans. New courses start at the end of August. For more information email Jane Crosby at jwcrosby@iss.k12.nc.us
If you are working on environmental certification or
need renewal credits, contact Jane or Carolyn Elliott (celliott@iss.k12.nc.us) about a Saturday workshop in May at Allison Woods near Statesville.

News From District 8
Director: Kyle Carver

The winter and spring of 2005 has been an exciting time for science education in Western North Carolina. An example of the excitement was expressed by Taylor Peterman, a sixth grade student from Murphy Middle School who said, "My project makes me more excited about going to science class." Taylor qualified for state science fair in Raleigh. Other regional science fair winners include: Truman Turner and Garren Plemmons from Enka Middle; James Stubblefield and John Hoyt of Brevard Middle; Taylor Peterman of Murphy; Savanna Brown, Skya Diaz and Maggee Anderson of Asheville and Colin Martin of Cullowhee Valley School.

The Regional Science Olympiad Competition was held February 19th at UNC-A. There were several schools entering for the first time including Cane Creek Middle, North Windy Ridge and Macon Middle. Again this year, the competition was very tight. There was a tie for first place between A.C. Reynolds Middle and Polk Central Middle School. Polk Central had one more gold medal than Reynolds therefore Polk Central was declared the first place winner. Harris was third, Charles D. Owen was fourth and Chase Middle was fifth. High School ranking was Carolina Day, first; Mitchell County, second; and Polk County, third.

Any science teacher interested in continuing education courses this summer can contact Beth Allen at the Math/Science Education Center at WCU. b Also, extension courses are offered through the office of Bronwen Sheffield, Director of Off-Campus Services, Distance Education, 1-800-928-4968
or (828) 227 7397. If you go to http://edoutreach.wcu.edu/conted/summer/summer.html and click on 2005 Summer School courses you will find the Highlands Biological Station courses on page 13 of this catalog. Other courses offered this summer are listed in this catalog. You may email Bronwen at bsheffie@email.wcu.edu .



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