From: **Carl Hussey <c.hussey@ieee.org>**
To: **FCIEEE<r3-fl-council@ieee.org>**
Date: **March 24, 2004**
Subject: **Educational Activities Committee Report to the Spring Meeting of the Florida Council of the I.E.E.E. Southeastcon'04, Greensboro Marriott, Greensboro, FL-Friday, Mar. 26,'04.**

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TRIANGLE COALITION ANNUAL CONFERENCE UPDATE

The Triangle Coalition is holding its annual policy conference during the Department of Education's Excellence in Science, Technology, and Mathematics Education(ESTME) Week, on March 15, 2004 at The Capitol Hill Club in Washington, DC. The purpose of the 2004 conference is to inform conference participants about current legislative issues both at a national and state level that are or will be having an effect on their local science, technology, and mathematics education initiatives. The conference will focus on current topics such as No Child Left Behind and the Higher Education Act, and their separate and collective impacts on local school improvement efforts. The goal of the conference is to increase participants' understanding of federal legislation and the legislative process and to improve their ability to inform policy makers of issues key to science, technology, and mathematics education. On March 16, participants are encouraged meet with members of Congress and to join in on the Science Education Summit.

The conference is co-sponsored by Triangle Coalition member organizations: the National Science Teachers Association, the National Council of Teachers of Mathematics, the National Alliance of State Science and Mathematics Coalitions, and the American Chemical Society. Speakers will include members of Congress and representatives from the U.S. Department of Education, the National Science Foundation, and the National Science Board. Register before February 1 to take advantage of discounted registration fees. For a conference registration form and more information about the conference visit www.trianglecoalition.org/conf.htm.

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MARS SCIENTISTS ENCOURAGE STUDENT ROCK SUBMISSIONS

Mars scientists are asking students from around the world to help them understand the red planet. Students or classrooms are encouraged to send in a rock collected from your region of the world which will be examined with the same tool the rover is using to examine Mars rocks. As part of the project, photos will be posted at www.nasa.gov, and students will receive a report on the type of rock submitted, along with an official certificate and Mars sticker. For more details on how to participate, visit http://marsrovers.jpl.nasa.gov/classroom/schoolhouse.

ERIC CLEARINGHOUSES CLOSE; NEW SYSTEM IN WORKS
(Source: Education Week, January 14, 2004)

With little fanfare, the sixteen federally financed clearinghouses that have been the nerve centers for the nation's largest and oldest electronic education library closed last month. The Department

of Education closed the clearinghouses on December 19 as part of an effort to revamp, streamline, and centralize the electronic library system, called the Educational Resources Information Center, or ERIC. The 38 year old system archives more than a million reports, studies, hearing transcripts, and other pieces of education-related information. The clearing-houses, most of them set on university campuses, specialized in subjects ranging from assessment to vocational education. Their staff experts fielded information requests from educators and policymakers, synthesizing research into policy briefs, digests, and reader-friendly reports, and, in some cases, offering personalized question-and-answer services. But Education Department officials, in a decision that generated controversy last spring, said the far-flung system had become creaky and inefficient.

By the end of this month, they hope to name a contractor who will replace the old system with a more centralized one that operates like popular commercial web-search engines such as Yahoo or Google. Late last month, notices reading, "This website is no longer available" quietly popped up on the former websites of all 16 clearinghouses. During the transition, users can still get the documents in the ERIC system through its central online database at www.eric.ed.gov.

(Editor's Note: The following clearinghouse websites may be of interest to Triangle Coalition members: Clearinghouse on Elementary and Early Childhood Education: http://ecap.crc.uiuc.edu/info

Clearinghouse on Science, Mathematics, and Environmental Education: http://stemworks.org

Clearinghouse on Teaching and Teacher Education: www.aacte.org

Clearinghouse on Urban Education: http://iume.tc.columbia.edu

Eisenhower National Clearinghouse for Math and Science Education: www.enc.org)

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NEC PERFECT CLASSROOM COMPETITION

A national competition for middle school science teachers, NEC Perfect Classroom Competition is designed to support teacher's efforts to improve their classrooms and to enhance the learning experience for their students. The competition seeks to acknowledge the creativity of teachers and to help bridge the gap in classroom funding for three prize-winning teachers. The national competition will award three middle-school science teachers a total of $9,000 for classroom improvements. Teachers are encouraged to submit video essays describing a vision for the perfect classroom by February 9, 2004. Winners will be selected and announced in conjunction with National Teacher Appreciation Week, May 2004. *For more information, visit www.sciserv.org/cgi-bin/nec/PerfClassroom.asp.

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ITEA ANNOUNCES TECHNOLOGICAL LITERACY ADDENDA

Triangle Coalition member, The International Technology Education Association(ITEA), has announced a new addenda series to become part of the standards package for technological literacy. These addenda will all have concrete processes or suggestions for incorporating technological literacy in the programs of all students throughout grades K-12. Additionally, all of the documents will contain worksheets for educators to use to make changes specific to their locality and situation. Technology education helped pioneer the standards movement in education when the first set of educational standards for industrial arts were requested by the U.S. Department of Education in 1978. This effort was completed in 1981and revised in 1985 as a result of the discipline changeover from industrial arts to technology education, a shift necessitated by the incredible technological advances of the twentieth century. Educational standards in other disciplines such as math, science, and language arts quickly followed.

Technology education standards were yet again revised and expanded with the document Standards for Technological Literacy: Content for the Study of Technology(ITEA, 2000/2002) and its companion document, Advancing Excellence in Technological Literacy: Student Assessment, Professional Development, and Program Standards(ITEA, 2003). The new addenda series marks another pioneering effort in educational reform, as it provides a supplement to educational standards that focus on the entire picture of program reformation rather than concentrating solely on curricula. Moreover, the addenda call for administrators, teachers, and the community to work together toward developing technologically literate students by forming committees that create realistic action plans for program reform. Four addenda are anticipated in 2004 that focus on programs as a whole, student assessment, professional development, and curricula. ITEA has identified instruction and the learning environment as additional components of program, and addenda are under consideration to cover those topics. For more information, visit www.iteawww.org.

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PRE-COLLEGE ENGINEERING FOR TEACHERS PROGRAM

In December 2000, Massachusetts became the first state in the nation to include engineering in its K-12 curriculum frameworks. The Pre-College Engineering for Teachers(PCET) Program is an engineering and technology professional development program designed to help teachers learn how to include engineering in their classrooms through workshops and a summer institute. PCET is a collaboration between Tufts University and three other schools of engineering in Massachusetts: University of Massachusetts in Amherst, University of Massachusetts in Lowell, and Worcester Polytechnic Institute. The goals of PCET are:

* To strengthen participating teachers' knowledge of engineering concepts and processes;
* To promote the use of the engineering design process in science and technology classes;
* To assist teachers in building engineering networks in their district and across their state;
* To view curriculum as a template for educational projects and innovation;

* To create a cadre of engineering mentors who take leadership with respect to K-12 engineering education in Massachusetts.

PCET is currently accepting applications for Summer 2004 workshops. The deadline for the high school PCET programs is February 1, 2004. For more information, visit the Tufts Center for Engineering Educational Outreach(CEEO) at www.ceeo.tufts.edu/pcet. In addition, CEEO has developed Pre-K Engineering.org (www.prek-12engineering.org), a website with free resources for educators and administrators who are looking to integrate engineering concepts and activities into pre-K-12th grade classrooms. The activities available on the site are linked to the new Massachusetts Science and Technology/Engineering Curriculum Frameworks. Many of the standards in these frameworks are closely related to the nationally recommended standards for technological literacy by Triangle Coalition member, the International Technology Education Association.

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2004 NATIONAL MIDDLE SCHOOL SCIENCE BOWL

The National Middle School Science Bowl will is sponsored by Triangle Coalition member, the U.S. Department of Energy Office of Science, and will be hosted in 2004 by Triangle Coalition member, the U.S. Department of Energy's National Renewable Energy Laboratory(NREL). There are two competitions at the Middle School Science Bowl: an academic math and science competition and a model hydrogen fuel cell car competition. The academic competition is a fast-paced question-and-answer contest where students answer questions about earth science, physical science, life science, math, and general science. The model car competition challenges students to design, build, and race model cars. Teams are given car components to construct their model cars.

Any current public, private, or home school student is welcome to form a team and participate in a regional 2004 Middle School Science Bowl event. Awards are given for both the academic and "hands-on" competitions. The regional champions from participating sites will be invited to an all-expense paid trip to compete in Golden, CO for the national title. In 2003, more than 2,000 students participated in sixteen regional competitions throughout the nation. For more information on National Middle School Science Bowl, regional competition sites, and registration, visit www.scied.science.doe.gov/nmsb.

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NO CHILD LEFT BEHIND SIGNED INTO LAW TWO YEARS AGO

President Bush and U.S. Secretary of Education Rod Paige celebrated the two-year anniversary of the bipartisan No Child Left Behind Act by hailing the law's accomplishments to date during a roundtable discussion at the West View Elementary School in Knoxville, TN. The reforms of No Child Left Behind are designed to change the culture of America's schools by ensuring that all children can read and do math at grade level, closing the achievement gap, offering more flexibility to state and local schools, giving parents more options about their child's education, and teaching students based on what works. During the past two years, the Department of Education has worked aggressively with states to implement the law. "No Child Left Behind

promises a more just, equitable society -- one in which all our nation's students will be given the attention they deserve, regardless of their skin color, accent, or zip code," Secretary Paige said.

Under No Child Left Behind's strong accountability provisions, states must describe how they will close the achievement gap and make sure all students, including those who are disadvantaged, achieve academic proficiency. In addition, they must produce annual state and school district report cards that inform parents and communities about state and school progress. Schools that do not make progress must provide supplemental services, such as free tutoring or after-school assistance; take corrective actions; and, if still not making adequate yearly progress after five years, make dramatic changes to the way the school is run. For more information on No Child Left Behind, visit www.ed.gov/nclb.

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NEW LEARNING RESOURCES ADDED TO FREE

The Federal Resources for Educational Excellence(FREE) website (www.ed.gov/free) makes it easy to find learning resources from more than 40 federal organizations on one centralized and searchable site. The following are several science resources that have been recently added:

"America's Space Program: Exploring a New Frontier" tells the story of America's journey to the moon. The creation of NASA, the Apollo vehicles, and the January 1967 tragedy are part of the story. On July 20, 1969, as the Eagle lunar module approached the moon, it became clear that the computer had chosen an unacceptable landing site -- a boulder-strewn crater. With 114 seconds of fuel left, astronauts Armstrong and Aldrin overrode the computers and manually landed the Eagle. (www.cr.nps.gov/nr/twhp/wwwlps/lessons/101space/101space.htm)

"Galileo's Battle for the Heavens" explains why Galileo is the father of modern science, why Galileo's refractor and Newton's reflector remain the two standard types of optical telescopes today, and Galileo's big mistake. See demonstrations of his experiments, an illustrated chronology of his life, an online pendulum, and an interactive inclined plane. (www.pbs.org/wgbh/nova/Galileo)

"Mars Exploration Rover Mission" provides images and updates on the two Mars rovers, Spirit(which landed January 3, 2004) and Opportunity(which is expected to land January 24, 2004). Videos and text depict the challenges of getting to Mars: testing the rovers on Martian terrain, launching the rovers, navigating their flights, bringing them into the Martian atmosphere, landing them, and getting them out of the lander cocoon. (http://marsrovers.jpl.nasa.gov/home)

"The Secret Life of the Brain" presents a history of efforts to understand the brain, a three-dimensional tour of the brain, optical illusions, and an animation showing how magnetic resonance imaging (MRI) works. Videoclips examine how the brain evolves and differs from infancy to childhood, adolescence, and through adulthood. (www.pbs.org/wnet/brain)

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TCEB Links

The following links may provide more information on articles in this TCEB:

Triangle Coalition Conference - www.trianglecoalition.org/conf.htm

Mars Student Rock Program - http://marsrovers.jpl.nasa.gov/classroom/schoolhouse

Clearinghouse on Elementary and Early Childhood Education - http://ecap.crc.uiuc.edu/info

Clearinghouse on Science, Mathematics, and Environmental Education - http://stemworks.org

Clearinghouse on Teaching and Teacher Education - www.aacte.org

Clearinghouse on Urban Education - http://iume.tc.columbia.edu

Eisenhower National Clearinghouse for Math and Science Education - www.enc.org

NEC Perfect Classroom Competition - www.sciserv.org/cgi-bin/nec/PerfClassroom.asp

International Technology Education Association - www.iteawww.org

Pre-K Engineering.org - www.prek-12engineering.org

Tufts Center for Engineering Educational Outreach (CEEO) - www.ceeo.tufts.edu/pcet

National Middle School Science Bowl - www.scied.science.doe.gov/nmsb

No Child Left Behind - www.ed.gov/nclb

Federal Resources for Educational Excellence(FREE) - www.ed.gov/free

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BUSH OUTLINES "JOBS FOR THE 21ST CENTURY"

In his January 2004 State of the Union Address, President Bush announced "Jobs for the 21st Century," a comprehensive plan to better prepare workers for jobs in the new millennium by strengthening post-secondary education and job training and improving high school education. This plan includes over $500 million in new funding for education and job training programs. The President's plan will expand opportunities for workers to access post-secondary education to get the job training and skills to compete in a changing and dynamic economy. The President's plan also has a goal of improving the quality of education at our nation's high schools and better preparing students for success in higher education and the job market -- including $100 million to help readers and $120 million to improve math education.

According to the Bureau of Labor Statistics 80% of the fastest-growing jobs in the United States require some sort of higher education after high school, and many of these jobs require a strong foundation in math and science. Specifically regarding mathematics, the administration is

proposing a $120 million increase for the Mathematics and Science Partnership program authorized in the No Child Left Behind Act. The increase would support direct federal competitive grants to partnerships to increase achievement in mathematics for secondary students. The new 3-year competitive grants would support projects that have significant potential to accelerate the mathematics achievement of all secondary students, but especially low-achieving students. The initiative would focus on ensuring that states and school districts implement professional development projects for mathematics teachers that are strongly grounded in research and that help mathematics teachers strengthen their skills.

According to the Department of Education's 1999-2000 Schools and Staffing Survey, 52 percent of middle school and 15 percent of high school mathematics teachers did not have a major or minor in mathematics and 40 percent of middle school and 11 percent of high school science teachers did not have a major or minor in science. Many school districts need opportunities and the personnel to strengthen instruction in middle and high schools in the core academic subjects, especially mathematics and science. As part of the "Jobs for the 21st Century" plan, an "Adjunct Teacher Corps" would help alleviate this critical situation by bringing professionals with subject-matter knowledge and experience into the classroom. The administration is proposing a new $40 million initiative to provide competitive grants to partnerships of school districts and public or private institutions to create opportunities for professionals to teach middle and high school courses in the core academic subjects, particularly in mathematics and science.

(Editor's Note: The fact sheet, "Jobs for the 21st Century," may be downloaded at www.whitehouse.gov/news/releases/2004/01/20040121.html.)

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TRIANGLE COALITION MEMBER PROFILE: SCIENCE SERVICE

Triangle Coalition member Science Service, founded in 1921, is a non-profit organization whose mission is to advance the understanding and appreciation of science among people of all ages through publications and educational programs. For more than 80 years, Science Service has published Science News(www.sciencenews.org), an award-winning international weekly magazine that brings news of science to 150,000 subscribers. Recently, Science Service introduced Science News for Kids, a website(www.sciencenewsforkids.org) that makes science news accessible to middle school students and their teachers. It offers timely reports of research that interests kids, recommends references and hands-on activities, and provides science-based puzzles and games. Science Service also administers several programs, including The Intel International Science & Engineering Fair, Intel Science Talent Search, Discovery Channel Young Scientist Challenge, and NEC Extreme Science.

The Science Talent Search(STS) is a science competition created by Science Service in 1942 to encourage talented high school students to pursue a career in science or engineering. Over six decades since its inception, the STS has recognized more than 2,500 finalists with more than $5 million in scholarships. In 1950, winners of local and regional science fairs for high school students attended the first National Science Fair in Philadelphia. This annual fair was nurtured by Science Service into the International Science and Engineering Fair(ISEF). It is the world's largest pre-college celebration of science and the world’s only international science competition

for students in grades 9 through 12. Beginning in 1999, Science Service partnered with Discovery Communications, Inc. to launch the Discovery Channel Young Scientist Challenge (DCYSC). A program that celebrates the abilities of 5th - 8th grade science fair winners, the DCYSC enables middle schoolers to participate in a national science competition that emphasizes the student's ability to communicate about science. In 2003, Science Service partnered with NEC Foundation of America to launch NEC Extreme Science, a program that encourages award-winning scientists to visit middle schools to enlighten students about the world of science, math, and technology. NEC Extreme Science also sponsors the Perfect Classroom Competition, where teachers compete to build their idea of a perfect science classroom. For more information on Science Service and its many programs, visit www.sciserv.org.

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FCC ISSUES NEW E-RATE RULES TO HELP SIMPLIFY THE PROGRAM
(Source: Education Week, January 14, 2004)

In an effort to curb E-rate waste, fraud, and abuse -- as well as simplify the $2.25 billion federal program for applicants -- the Federal Communications Commission has announced a series of new program rules. The rules contained in the FCC's "Third Report and Order," which go into effect January 23, prevent schools from transferring discounted telecommunications equipment to other locations for three years, establish a simpler method for updating the list of eligible E-rate services, and limit financial support for internal telecommunications connections. The FCC also announced that it would allow $420 million in unused E-rate funds left over from previous years to be utilized for the current funding year. The surplus was available because schools didn't use all of their appropriated funds. Established by Congress in 1996, the E-rate program provides discounted telecommunications services for U.S. schools and libraries. However, it is under scrutiny because of criticisms that waste, fraud, and abuse have plagued the program.

Some educators are not happy with the limits that the FCC has placed on financial support for internal connections, including aid for wiring, file servers, and local networks. Under the new rule, applicants will be eligible for discounts on those items only two out of every five years, starting in 2005. Moreover, with the high demand for internal connections, experts say that only extremely poor school districts may end up qualifying for the limited aid.

(Editor's Note: The Federal Communication Commission's new rule, "Third Report and Order" is available as a PDF file at www.sl.universalservice.org/data/pdf/fcc%2003-323.pdf.)

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EXCELLENCE IN SCIENCE, TECHNOLOGY AND MATH EDUCATION WEEK

The US Department of Education and the National Science Foundation(NSF) are partnering with other United States government agencies and scientific societies to sponsor activities for this year’s Excellence in Science, Technology and Math Education Week(ESTME) Week. The activities provide an opportunity for the nation’s schools to focus on improving math and science education. During ESTME Week, scientists, engineers, and mathematicians are standing by to visit classrooms in every community across the nation. Federal agencies, private corporations,

and the scientific community are planning activities nationwide. The US Department of Education and NSF have compiled a directory identifying groups of volunteers ready to visit classrooms and help engage students in the marvels of science, mathematics, and technology. In Washington, DC, President Bush will announce the winners of the Presidential Award for Excellence in Mathematics and Science Teaching, and Education Secretary Rod Paige will preside over the nation's first Science Education Summit on March 16. The week is intended to focus on the No Child Left Behind goal of ensuring that schools use research-based methods to teach science and mathematics and measure results. The ESTME Week website (www.estme.org) offers more information on the week's activities.

Concurrently, On March 15, the Triangle Coalition is sponsoring a conference entitled "Informing Policy in Support of Mathematics, Science, and Technology Education" which will be held at The Capitol Hill Club in Washington, DC. The conference will highlight current state and national legislative issues that will have an impact on local STEM programs. Conference participants will learn more about topics such as No Child Left Behind, the Math and Science Partnerships, and the Higher Education Act from speakers including science and math education champions in the House and Senate(or their staff) and representatives from the U.S. Department of Education, NSF, and the National Science Board. For more information on the Triangle Coalition conference, visit www.trianglecoalition.org/conf.htm.

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NEW BOOK FROM ISTE ANTICIPATES FUTURE TRENDS IN EDUCATIONAL TECHNOLOGY

Planning for the future of education technology can be challenging. For those responsible for training teachers, developing budgets, or assessing programs, the International Society for Technology in Education (ISTE) has published a new book that can help with the project. "We're Getting Wired, We're Going Mobile, What's Next? Fresh Ideas for Educational Technology Planning" provides K–12 and higher education decision makers with a measured and inspiring guide. The book is divided into four main sections: assessing past and current practices, technology trends as they will likely play out in classrooms, related and contextual factors that may affect educational technology, and insight from seasoned practitioners. The book is intended for use by teacher educators, grade K–12 teachers and administrators, and technology coordinators. It will be especially useful for school, district, and statewide technology planning and higher education courses. More information about the new title, including excerpt, table of contents, and ordering information, is available at www.iste.org/Bookstore.

ISTE is an organization that provides leadership and service to improve teaching and learning by advancing the effective use of technology in education. ISTE members include teachers, technology coordinators, library media specialists, teacher educators and administrators as well as representatives from key corporate, governmental, and policy organizations. Home of the National Educational Technology Standards, the Center for Applied Research in Educational Technology, and the National Educational Computing Conference, ISTE meets its mission through knowledge generation, professional development, and advocacy. For additional information, visit www.iste.org.

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TECHNOLOGICAL HUMANIST AWARD PROGRAM RECOGNIZES MASSACHUSETTS TEACHERS

Massachusetts high school students once again have an opportunity to honor special teachers with the 2nd annual Worcester Polytechnic Institute Technological Humanist Award. This award program recognizes teachers who are outstanding educators and technological humanists -- people who demonstrate how science and technology can be used to make the world a better place. Seven Massachusetts high school teachers will be recognized in May with awards of up to $5,000. The deadline for students to nominate teachers is February 14, 2004.

The award was created last year to recognize teachers who have helped students understand how science and technology can address important social issues and concerns, and help solve problems that have the potential to benefit society and help expand our understanding of our world and ourselves. Nominees must be Massachusetts high school teachers who convey passion for their subject and inspire a similar passion in their students. They should also inspire their students to think about how they might use their own knowledge of science, math, and technology to make a difference to the people they know and to society. Nomination forms, instructions, and other information about the awards are also available at www.wpi.edu/+THA.

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TOSHIBA/NSTA EXPLORAVISION AWARDS

The Toshiba/NSTA ExploraVision Awards is a competition for students of all interest, skill, and ability levels in grades K-12. Entrants must be United States or Canadian citizens or legal residents, living within the United States, US Territories, or Canada and enrolled full time in a public, private, or home school. The purpose of the competition is to encourage students to combine their imaginations with the tools of science to create and explore a vision of a future technology. To prepare an entry, students work in groups of two, three, or four, simulating Research and Development(R&D) teams, along with a team coach and an optional mentor. Each team selects a technology, or an aspect of a technology, that is present in the home, school, and/or community or any other technology relevant to their lives. For example, they may choose something as simple as a pencil or as complex as a quantum computer. They will explore what the technology does, how it works, and how, when, and why it was invented. The students must then project into the future what that technology could be like 20 years from now. Finally, they must convey their vision to others through both a written description and five graphics simulating web pages. For more information on the program and entry requirements, visit www.exploravision.org.

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AMERICAN MUSEUM OF NATURAL HISTORY'S SEMINARS ON SCIENCE

In partnership with the NSTA Institute, The American Museum of Natural History will offer Seminars on Science, its award-winning online professional development program. Six-week courses in genetics, earth science, physical science, and ichthyology will be available to K-12

educators. Participation requires Internet access and can occur at any time and at any location. Each course provides participants with unique access to the Museum's scientific research, collections, exhibitions, and laboratories. Facilitated by an instructional team composed of a scientist and an educator, each course highlights the Museum's rich resources through original essays, videos from the field, interactive simulations, and facilitated discussion. Participants receive valuable learning resources that can be used in the classroom. These courses align with the National Science Education Standards. The courses can be taken for up to four graduate credits or 4.5 continuing education units. For more information, visit http://learn.amnh.org. Space is limited, so early registration is advised.

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NATIONAL ENGINEERING DESIGN CHALLENGE

The National Engineering Design Challenge(NEDC) provides high school students with the opportunity to "try on" engineering. NEDC is a program in which student teams design and build a prototype and then demonstrate a working model of a new product before a panel of judges. It challenges teams of students, often working with an engineering adviser, to design, fabricate, and demonstrate a working solution to a social need. NEDC challenges students to apply mathematics, science, and technology. Teams compete for prizes and awards on regional and national levels, with regional winners advancing to the national finals held in Washington, DC. A hands-on national engineering design competition, NEDC is a cooperative program with the National Society of Professional Engineers and the National Talent Network, and is an activity of Triangle Coalition member, the Junior Engineering Technical Society. For more information, visit www.jets.org/programs/nedc.cfm.

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TCEB Links

The following links may provide more information on articles in this TCEB:

"Jobs for the 21st Century" - www.whitehouse.gov/news/releases/2004/01/20040121.html

Science Service - www.sciserv.org

FCC's "Third Report and Order" - www.sl.universalservice.org/data/pdf/fcc%2003-323.pdf

ESTME Week - www.estme.org

Triangle Coalition conference - www.trianglecoalition.org/conf.htm

"We're Getting Wired, We're Going Mobile, What's Next? Fresh Ideas for Educational Technology Planning" - www.iste.org/Bookstore

International Society for Technology in Education - www.iste.org

Worcester Polytechnic Institute Technological Humanist Award -

www.wpi.edu/+THA

Toshiba/NSTA ExploraVision Competition - www.exploravision.org

American Museum of Natural History Seminars on Science - http://learn.amnh.org

National Engineering Design Challenge (NEDC) - www.jets.org/programs/nedc.cfm

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TRIANGLE COALITION'S POSITION ON THE PRESIDENT'S FISCAL YEAR 2005 BUDGET AND THE MATH SCIENCE PARTNERSHIPS

On February 2, 2004, President Bush submitted his budget proposal to the Congress. In that budget, which includes increases totaling more than a billion dollars for education, he has proposed increasing the funding for Title II part B, the Math Science Partnerships at Department of Education, from $149 million in 2004 to $269 million in 2005. We applaud this increase and commend him for his commitment to improved Math and Science education. However, he has proposed restricting the $120 million increase to a competitive grant program controlled by the Secretary of Education to improve secondary school student performance in mathematics. Triangle Coalition encourages Congress to include this $120 million in the block grants given out, under the formula defined in NCLB, to the states to assist in their broader mathematics and science improvement agendas. This will increase the states discretion in usage of these funds and eliminate a requirement to amend NCLB.

The Math and Science Partnerships funded through the National Science Foundation have been eliminated in the President's budget proposal. While there has been some concern about the confusion of the two programs, Triangle Coalition encourages the reinstatement of a program at the National Science Foundation that will not only meet the rigors of peer review, but also focus on the long-term improvement of mathematics and science education at the K-12 level. It should be noted that funds have been proposed under the research budget at NSF to fund only the continuation of previously committed MSP grants. The President's education budget can be found at www.whitehouse.gov/omb/budget/fy2005/pdf/appendix/edu.pdf. We encourage our members to inform their congressional representatives as to their views and/or concerns as the budget moves forward through the appropriations process. Triangle Coalition will continue to follow the budget process and keep you informed on developments.

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TEACHING COMMISSION CALLS FOR OVERHAUL OF TEACHER EDUCATION AND COMPENSATION

The Teaching Commission, a panel of 19 leaders in government, business, philanthropy, and education, has announced a strategy to fundamentally upgrade teaching as a profession by changing the way teachers come into the field, as well as the way they are trained, assessed, supported, and compensated. "The quality of teachers in our schools affects every aspect of our society, from jobs to national security," said Louis V. Gerstner, Jr., former chairman of IBM and chairman of The Teaching Commission. "The nation will not continue to lead or to create new jobs if we persist in viewing teaching -- the profession that makes all other professions possible -

- as a second-rate occupation." While praising the work of the nation's many dedicated teachers, The Teaching Commission report, "Teaching at Risk: A Call to Action," points out that the current system fails both teachers and students. Far too many students, for example, are "taught" math by teachers who don't have a major or minor in that subject, or science by teachers who have not sufficiently demonstrated content knowledge in that area. Worse still, poor and minority students, who are often the most academically needy, tend to get the least experienced or capable teachers.

Meanwhile, the most effective teachers -- those who lead, who successfully raise student achievement, and who have expertise in their subject matter -- are compensated via an antiquated, 80-year-old system that pays them the same as their least effective colleagues. "A system that does not reward excellence cannot inspire it," the report says. The Commission's report offers four closely linked strategies to remedy the problems in the field, including compensating teachers more effectively, bolstering accountability in teacher education, strengthening state teacher licensing and certification requirements, and empowering school leaders as CEOs. The Commission estimates that it would cost about $30 billion -- less than a tenth of what the nation already invests in education -- to give all teachers a 10 percent raise, and the top half of all teachers a 30 percent incentive increase. The Teaching Commission is a three-year effort funded by private donations and headquartered in New York City at the CUNY Graduate Center in Manhattan. For more information, visit www.theteachingcommission.org.

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ACADEMY OF SCIENCE OF ST. LOUIS ANNOUNCES 2004 OUTSTANDING ST. LOUIS SCIENTISTS

Triangle Coalition member, the Academy of Science of St. Louis, has announced the names of the women and men who will be honored at the 2004 Outstanding St. Louis Scientists Awards Dinner on April 1. Among several awards to be presented that day, the Peter H. Raven Lifetime Award will go earthquake seismologist Brian J. Mitchell, Ph.D., professor of geophysics in the department of Earth and Atmospheric Sciences at Saint Louis University, for his studies in measuring the amplitude of earthquakes. Rudolph N. Yurkovich, a senior engineer at The Boeing Company, will receive the James B. Eads Award for leading a team to develop the active aeroelastic wing, an airplane wing that changes its shape in flight. Two honorees will receive the newly-established Science Educator Award to be given for the first time in 2004. The award recognizes a professional scientist or engineer who has made major contributions to science education or outreach. William L. McConnell, professor of science/education at Webster University, will be recognized as a national leader who introduced the textless, hands-on inquiry approach to science education more than 30 years ago. Paul H. Young, M.D., professor of neurosurgery and neuroanatomy at Saint Louis University School of Medicine, will be honored for his work as founder and president of the Practical Anatomy and Surgical Technique Workshop, a hands-on facility that educates medical professionals and reaches over 10,000 middle and high school students each year. James H. Buckley, Ph.D., associate professor of physics at Washington University, will be recognized as a scientist under age 40 who is at the forefront of scientific innovation. He is an astrophysicist responsible for an essential technological breakthrough in the ultra-high-energy domain of the photon spectrum.

The Academy of Science of St. Louis, has over 800 members and 120 elected Fellows, who are internationally-recognized scientists and engineers. Founded in 1856, the Academy carries out its mission to improve scientific literacy in the St. Louis region through several initiatives including the Junior Academy of Science of St. Louis, a metro-wide organization with 700 members in middle and high school that promotes student involvement in science and arranges meetings with professional scientists, often in their labs and places of work. For additional information, visit www.jracademy.com.

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TRIANGLE COALITION MEMBER PROFILE: THE ENTOMOLOGICAL FOUNDATION

Triangle Coalition member, the Entomological Foundation, is a national nonprofit organization governed by a Board of Directors made up of representatives from the public and private sectors including academic institutions, government, and business and industry. Established in 1991, the Foundation develops partnerships that finance and facilitate educating youth about entomology, and this is evidenced in its mission to serve the educational enterprise by leveraging community science resources to educate youth in applying insect science for achieving a healthy environment. The Foundation acts as a bridge in developing partnerships to link the private and public sectors more effectively with communities working for environmental and entomological education. The result, is the formation of new partnerships to increase the capacity of youth and youth educators to integrate entomology programming into current science-based educational programs. The Foundation's goals are to instill in students a life-long appreciation for the biological and ecological diversity of insects and a commitment to use environmentally acceptable means of insect control; and, to expand the pool of scientists with specialties in entomology and related disciplines.

To date, the Foundation has involved more than 50,000 youth in grades K-12 through hands-on educational activities and workshops, which help to enhance the ability of K-12 educators to help youth develop an appreciation for and an interest in entomology. The Foundation also has awarded 40 undergraduate scholarships from $1,500 to $2,000 each for students interested in working toward protecting the environment and restoring threatened habitats. The group has also provided 40 research awards from $500 to $2,000 each to graduate students and professional entomologists in discovering methods to reduce harmful species of insects and develop methods to increase the growth rate and spread of beneficial insects. Special purpose grants are also awarded to assist graduate students in publishing their latest findings in entomology and attend association meetings to report their findings. For more information, visit www.entfdn.org.

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MINORITY SCIENCE AND ENGINEERING IMPROVEMENT PROGRAM

The Minority Science and Engineering Improvement Program(MSEIP) is designed to effect long-range improvement in science and engineering education at predominantly minority institutions and to increase the flow of underrepresented ethnic minorities, particularly minority women, into scientific and technological careers. There are three types of MSEIP projects, each with a different set of eligible applicants. For institutional, design, and special projects, eligible applicants include public and private nonprofit minority institutions of higher education. For

special projects, eligible applicants include nonprofit science-oriented organizations, professional scientific societies, institutions of higher education, and consortia of organizations. For cooperative projects, eligible applicants include groups of nonprofit accredited colleges and universities whose primary fiscal agent is an eligible minority institution. The Department of Education estimates that $4.6 million will be available for new awards under this program for FY 2004. The actual level of funding, if any, depends on final congressional action. Applications are currently available at www.ed.gov/programs/iduesmsi, and have a submission deadline of March 12.

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TRIANGLE COALITION BOARD MEMBER PROFILE: PHYLLIS S. BUCHANAN

Triangle Coalition Vice President, Phyllis S. Buchanan, is the Manager of the Office of Education at the DuPont Center for Collaborative Research and Education(CCRE). During her more than 25+ years of service at DuPont, Ms. Buchanan has overseen DuPont investments in K-12 science education and has funded unrestricted grants at the university level; has identified and contributed to the development of national programs that promote young people's interest in science and engineering; and has repositioned significant Office of Education resources to the support of K-12 science and mathematics education reform in Delaware and in communities where DuPont operates nationwide. Within CCRE, the Office of Education's specific charge is to seek out and support initiatives and programs that will improve the quality of science, mathematics, and engineering education for K-12 and university students, including advanced students. In addition, DuPont provides grants and support for student groups and teachers who have traditionally avoided studies in scientific and technological subjects.

In managing the Office of Education's ambitious agenda, Ms. Buchanan weaves together an extensive network of alliances, partners across all educational levels, and engages DuPont as a catalyst for education reform and improvement.

Ms. Buchanan is a member of the Delaware Valley Science Fairs, Inc., Board of Trustees; the F.I.R.S.T Philadelphia Regional Advisory Board(Drexel University); Widener University Center for Education Advisory Board; and the National Science Resources Center's National LASER Advisory Board. She is a Lead Partner and Corporate Sponsor for the South Carolina, Alabama, and Tri-States Regional LASER sites. In 2002 she acted as a contributing organizer for the Science Olympiad National Tournament hosted by the University of Delaware. A graduate of Widener University, with a B.S. in Management Information Systems and an M.Ed. in Elementary Education, Ms. Buchanan continues to work collaboratively with teachers and educators in a number of states, including Delaware, New Jersey, Pennsylvania, South Carolina, and Alabama, and she actively encourages all DuPont employees to contribute expertise and resources to improve science, mathematics, and engineering education.

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CHEMISTRY 101: THE INTERACTIVE PERIODIC TABLE

Many of us remember our introduction to the periodic table. It was fairly obvious that the light stuff was at the top and the heavy stuff at the bottom. Gradually, we learned more about the

how's and why's of all those rows and columns. Triangle Coalition member, the American Chemical Society, has developed "The Interactive Periodic Table," a website that encourages a "what's this?" approach to exploration. *The site graphically highlights the various relationships among the elements. The periodic table appears courtesy of W. H. Freeman, publisher of Chemistry in the Community(a chemistry course for grades 9–12 developed by ACS) and CADRE design.

The exploration starts at the most basic level, displaying element names spelled out, and expands with a pull-down menu that shows how elements with similar properties appear together on the table. Is an element a metal? Will it float on water? Clicking on each element will bring up a screen called "Element Data" that contains all this information, along with electronic configurations, atomic and ionic radii, and various thermodynamic parameters. A "plot data" tab also offers an overview of how physical and electronic properties vary across the entire range of elements. The interactive periodic table may be found at www.chemistry.org/portal/a/c/s/1/acsdisplay.html?DOC=sitetools%5Cperiodic_table.html.

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NO CHILD LEFT BEHIND LEAVES MILITARY BASE SCHOOLS OUT
(Source: Stateline.org, January 21, 2004)

A select group of schools in seven states is totally financed by federal funds yet is exempt from the requirements of the federal No Child Left Behind law that has riled public school officials and politicians nationwide. The 58 schools are run by the Defense Department at military bases in Alabama, Georgia, Kentucky, New York, North Carolina, South Carolina, and Virginia. Unlike the nation's public schools, the military base schools and their nearly 30,000 children are exempt from the 2002 federal education act, which mandates strict new standards for testing and teacher certification and threatens penalties for schools that don't meet new goals. It's not fair, contends Reginald M. Felton, a lobbyist for the National School Boards Association and school board member in Montgomery County, MD. "We feel very strongly that it's a double standard," Felton said. "If you accept federal dollars, you ought to be governed by [No Child Left Behind Act]."
The law was a centerpiece of President Bush's first year in office and is meant to improve public schools by forcing them to raise standards for all students, especially traditionally underperforming minority groups. But Republicans and Democrats from several states have protested its federal intrusion into the classroom. Six states -- Indiana, Ohio, North Dakota, Minnesota, Utah, and Vermont -- are studying whether the federal dollars they receive are worth the cost of complying with the law. Overall, the nation's public schools receive about 8 percent of their funds from the federal government. The Department of Defense(DoD) schools do not fall under the education law because their money does not come from the Department of Education. "Those schools are controlled by the Department of Defense," said Carlin Hertz, a spokesman for the Department of Education. "[The Department of Education] has no jurisdiction over them and is not responsible for their funding." Douglas Kelsey, Deputy Director of the DoD's domestic schools, said the schools try to live up to the spirit of No Child Left Behind. "We don't actively say we don't comply with No Child Left Behind," he said. "We actively comply with the intent of the law."

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TCEB LINKS

The following links may provide more information on articles in this TCEB:

The President's Education Budget - www.whitehouse.gov/omb/budget/fy2005/pdf/appendix/edu.pdf

The Teaching Commission - www.theteachingcommission.org

The Academy of Science of St. Louis - www.jracademy.com

The Entomological Foundation - www.entfdn.org

Minority Science and Engineering Improvement Program - www.ed.gov/programs/iduesmsi

American Chemical Society's "The Interactive Periodic Table" - www.chemistry.org/portal/a/c/s/1/acsdisplay.html?DOC=sitetools%5Cperiodic_table.html

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STUDENTS ENGINEER FUTURE CITIES

As NASA's six-wheeled rovers prowl the Martian surface and America considers sending manned missions to Mars, some students in the 2004 National Engineers Week Future City Competition are one step ahead: They've laid plans for the planet's first colony. And, if their computer-generated and three-dimensional model is any indication, it just might work. Now in its 12th year, Future City invites seventh and eighth graders to build a city of tomorrow. By giving young people a taste of engineering, the competition lays the foundation for developing workplace skills such as vision and imagination, teamwork, and problem-solving and provides hands-on applications for math and science. The cities are always spectacular, and this year, some are out of this world, with Mars having a particularly auspicious presence.

More than 1,100 middle schools and 30,000 students -- who work with a teacher and a volunteer engineer mentor -- participated in the not-for-profit educational program this year. Winning teams from 33 regional competitions in January meet during National Engineers Week for the finals, where students present and defend their cities before a panel of judges. Future City is sponsored by National Engineers Week(February 22-28, 2004) and co-chaired by Triangle Coalition member, The Institute of Electrical and Electronics Engineers[IEEE], and the Fluor Corporation. National Engineers Week, founded in 1951 by the National Society of Professional Engineers, is dedicated to increasing public awareness and appreciation of the engineering profession and technology and is celebrated by thousands of engineers, engineering students, teachers, and leaders in government and business. For more information, visit www.eweek.org.

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INVENTION-INNOVATION-INQUIRY(I3) PROJECT RELEASE
FIRST TWO INSTRUCTIONAL UNITS

"Invention-Innovation-Inquiry (I3): Units for Technological Literacy, Grades 5-6" has released the first two of ten instructional units. This project, funded by the National Science Foundation and directed by Triangle Coalition member, the International Technology Education Association, is now in the final phase of producing units intended to develop technological literacy in students in grades 5 and 6. The first two units, entitled "Invention: The Invention Crusade" and "Innovation: Inches, Feet, and Hands" both have standards-based content, suggested teaching approaches, and detailed learning activities in which students work through the engineering design process to invent or innovate a product. Units include teacher background information, handouts, transparency masters, and a student packet. Each unit is designed to integrate mathematics and science with technology and take 8 to 10 days to implement.

In the "Invention Crusade" students develop an idea into an invention by designing and constructing a working model or prototype of a gadget that helps a small child to do a household task. "Inches, Feet, and Hands" is about innovation, measurement, and anthropometrics. In this unit students design and develop an improved product that is used by the human hand. Both units have been developed through a rigorous process of writing, review, and revision. In the initial phase, content experts reviewed each unit. The units were also pilot tested by technology education teachers and field tested by 5th and 6th grade teachers. After each review, extensive revisions were made resulting in teacher-friendly units that focus on student learning of technological capabilities and understandings. Units in print and electronic format will be available from ITEA beginning summer 2004. For more information, visit the I3 website: www.iteawww.org/i3.

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NCTM ANNOUNCES RESEARCH COMPANION FOR PRINCIPLES AND STANDARDS FOR SCHOOL MATHEMATICS

A recent publication "A Research Companion to Principles and Standards for School Mathematics" helps anchor the research and theory of "Principles and Standards for School Mathematics," published in 2000 by Triangle Coalition member, the National Council of Teachers of Mathematics. The Research Companion provides a comprehensive analysis of the role that research should play in setting standards for school mathematics. The Research Companion focuses on research in a wide array of subject areas, including professional development of teachers, mathematics assessment, and literature on curriculum topics. Chapters discuss research related to topics in Principles and Standards, and they consider the implementation of the Standards from different perspectives on teaching and learning. Some chapters also use Principles and Standards as an illustrative case to examine the role and value of educational research in establishing policy.

The idea for the book originated in 1996 when members of the Commission on the Future of the Standards of NCTM recognized that a new Standards document would need to give more attention to scholarly literature than previous NCTM Standards documents. Mathematics educators, mathematicians, teachers, and educational theorists and researchers gathered at a small working conference to develop the document that now serves as a companion to Principles and Standards. The Research Companion is available for purchase at www.nctm.org/catalog.

The National Council of Teachers of Mathematics was founded in 1920 and is a nonprofit, nonpartisan education association with nearly 90,000 members and 250 affiliates throughout the United States and Canada. NCTM is the world's largest organization dedicated to improving mathematics education for all students. The Council's Principles and Standards for School Mathematics provides guidelines for excellence in mathematics education.

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TRIANGLE COALITION MEMBER PROFILE: THE ACADEMY OF APPLIED SCIENCE

Triangle Coalition member, the Academy of Applied Science, was incorporated in 1963 and is a private nonprofit, tax-exempt organization, chartered for the purpose of promoting creativity, invention, and scientific achievement. Its President, Robert H. Rines, is concerned with the modern problems of technological innovation, its impact on society, and the plight of the independent inventor, researcher, and entrepreneur in the innovative process. The Academy is recognized nationally as an educational resource center offering enrichment programs and resources for students, and professional development for teachers and educational administrators. The Academy honors learners of all ages, striving to encourage inventive thinking, productive research, and talent development in the disciplines of science, math, engineering, and technology.

The Academy's youth science activities annually reach over 12,000 elementary and high school students nationwide. Some of the Academy’s educational initiatives include: sponsorship of the Young Inventors' Program designed to encourage creativity and inventive/critical thinking skills among K-8 students and reaching 5,000 K-8 school children annually; the administration of the national Junior Science and Humanities Symposia which reaches 3,000 high schools throughout the nation in the promotion of achievement in original student research; and the administration of the Research and Engineering Apprenticeship Program that annually sponsors summer internships for high school students at colleges and universities nationwide. The Academy is currently using its patented technology, The Global School District, to explore the use of technology as a practical live internet tool to level the playing field in education. This exciting technology has now been used successfully in classrooms at MIT, in North Carolina, New Hampshire and the Philippines. Funding for programs is provided through contracts and fees for services, as well as grants from private foundations and contributions from individuals, state, and local federal agencies. For more information, visit www.aas-world.org.

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HELP IEEE RECOGNIZE TEACHER CONTRIBUTIONS IN THE CLASSROOM

The IEEE Educational Activities Board(EAB) is currently accepting nominations for its 2004 Pre-College Educator Award. This award recognizes pre-college classroom teachers who have inspired an appreciation and understanding of mathematics, science, technology, and the engineering process in students and have encouraged students to pursue technical careers. The award consists of $1000 US and a brass and walnut plaque. Nominations are due by April 30, 2004. To learn more about this award or to submit a nomination, visit www.ieee.org/eab/EABAwards/awardprecollege-2004.htm.

Past recipients of the IEEE EAB Pre-College Educator Award include Ervin L. Nevsimal (Tampa, FL), Christine Wutte(Graz, Austria), and Bonnie Porter(Dayton, OH). Nevsimal, who functions as a Technology Resource/Network Administrator and Engineering Coordinator developed a three-year engineering curriculum at Gaither High School. Wutte, a 32-year veteran teacher, was recognized for using hands-on experiments in physics to generate enthusiasm for technology and the sciences in her students. Porter was recognized for her 30 years of inspiring students in science and technology in middle schools. In addition, she has been the principal coordinator for the Fairfield Middle School and Summer Program assistant director of the Wright State University's Science, Technology, and Engineering Preparatory Program(STEPP), a pre-engineering/pre-science course of study from Wright State University.

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EINSTEIN FELLOW PROFILE: RICHARD PIEPER

Richard Pieper, a National Board Certified Teacher, has been teaching mathematics at Cokeville Jr/Sr High School in Wyoming for the past 19 years. Richard began his eleven month Albert Einstein Distinguished Educator Fellowship with the National Science Foundation in September, 2003. He works in the Education and Human Resources directorate with the Elementary, Secondary, and Informal Education division. Richard, who was a Presidential Awardee from Wyoming in 2001, is assisting with the PAEMST (Presidential Awards for Excellence in Mathematics and Science Teaching) program that is administered by this division. He is also involved in a project that is gathering information about the effectiveness of the K-12 standards-based mathematics curricula. "We have been using a couple of the curricula and I am interested to see the results nationwide," says Richard. Richard's assignment has sent him and allowed him to attend several conferences in and around Washington, as well as to other parts of the country.

Richard came to Washington, DC with his wife and seven of his nine children. The other two are married and attending university in the western US. Richard explains his interest in the program, "I learned about the Einstein Fellowship when I was in Washington for the Presidential Awards and thought, "Someday when my children are all out of the house I ought to apply." Then I decided, "Why wait? It will be a great experience for them as well." And it has been a wonderful experience for us all. We have all learned so much. This area has much to offer families. The Einstein Fellowship has been a wonderful professional development opportunity. I have been able to learn about numerous aspects of education from a national perspective. It is something that just cannot be done from the classroom. But I sure miss my kids (students) in the classroom," he adds. The Einstein Fellows Program began in 1990 and was formalized by the Albert Einstein Distinguished Educator Fellowship Act of 1994. The program aims at sharing the expertise of highly accomplished classroom teachers with those planning and implementing national education programs and policies. For more information on the Einstein Fellows Program, visit www.trianglecoalition.org/ein.htm.

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MATH, SCIENCE WHIZZES CONNECT QUICKER AND EASIER WITH TI-89 TITANIUM

Triangle Coalition member, Texas Instruments, has announced the launch of the TI-89 Titanium, the next generation of TI's most powerful educational handheld for use in advanced mathematics

and science courses. The TI-89 Titanium includes a new built-in Universal Serial Bus(USB) port to allow for direct data transfer between computer and handheld, as well as between TI handheld graphing devices. This powerful graphing handheld offers students in high school advanced placement(AP+) and college-level mathematics and science courses the highest level of functionality and applications to meet their specific classroom needs. *With more than 2.5M of available Flash memory and 188K of available RAM, this product is the most powerful TI tool allowed on many AP+ exams, including AP Calculus, Physics, Chemistry, and Statistics.

By connecting a USB cable to the TI-89 Titanium's built-in USB port, users can customize their units by downloading various TI applications from a computer. The unit also comes equipped with a powerful organizer so teens can track and store tasks, class schedules, appointments, phone numbers, and other important information. This portable symbolic graphic unit comes complete with a symbolic Computer Algebra System(CAS), Advanced Mathematics Software, and Flash technology that enable students to perform 3-D rotations, symbolic manipulation, and upgrade the unit's software electronically. For further information, visit http://education.ti.com.

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SCIENCE OLYMPIAD CELEBRATES 20TH ANNIVERSARY

In 2004, Science Olympiad, a forum for elementary and secondary students to showcase their scientific skills and knowledge, will celebrate two decades of national competitions. In conjunction with its 20th anniversary, Science Olympiad is seeking out former participants to learn about their achievements following high school graduation. *Former Science Olympians can access the official web site to add their names to the Alumni Registration at www.soinc.org. Past competitors, many who have gone on to become professors, doctors, engineers, and math teachers, attribute much of their early interest in science to the national competitions. As leaders in both their chosen fields and the academic world, many past competitors claim that Science Olympiad played a prominent role in their career choice.

With more than 5,500 schools actively participating to make it to this year's competition, the 2004 National Science Olympiad is scheduled to commence May 21-22 at Juniata College in Huntingdon, PA. Organizers expect a crowd of nearly 4,000 people, comprised of the top teams from each state, coaches, parents, and scores of volunteers. The 23 individual and team events in the national tournament are balanced between the disciplines of biology, earth science, chemistry, physics, computers, astronomy, engineering, and technology, and are designed to encourage a wide cross-section of students to participate. Triangle Coalition member, Science Olympiad, is an international nonprofit organization devoted to improving the quality of science education; increasing male, female, and minority student interest in science; and providing recognition for outstanding achievement in science education by both students and teachers. To learn more about Science Olympiad or to register for the alumni database, visit www.soinc.org.

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EARTHQUAKES FOR TEACHERS

The Earthquakes for Teachers website (http://earthquake.usgs.gov/4teachers) provides resources for teachers on the topics of earth structure, earthquakes, plate tectonics, and earthquake

preparedness. It includes basic information in the form of text, graphics, and animations; lesson plans and activities; and online interactive activities for learning that were developed especially for students. Earthquake information for teacher education or for general earthquake education is also included, along with earthquake photos, a PowerPoint presentation, and educational materials and maps from the U.S. Geological Survey.

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TCEB LINKS

The following links may provide more information on articles in this TCEB:

National Engineers Week - www.eweek.org

Invention, Innovation, and Inquiry (I3) - www.iteawww.org/i3

NCTM's "A Research Companion to Principles and Standards for School Mathematics" - www.nctm.org/catalog

Academy of Applied Science - www.aas-world.org

IEEE 2004 Pre-College Educator Award - www.ieee.org/eab/EABAwards/awardprecollege-2004.htm

Einstein Fellows Program - www.trianglecoalition.org/ein.htm

Texas Instruments Educational Resources - http://education.ti.com
Science Olympiad - www.soinc.org

Earthquakes for Teachers - http://earthquake.usgs.gov/4teachers

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EDUCATIONAL PUBLISHERS ANNOUNCE EXCELLENCE IN SCIENCE TEACHING AWARDS

Delta Education, LLC, its subsidiary CPO Science, and the National Science Teachers Association(NSTA) have announced Peggy Carlisle, Maureen Barrett, and Margaret Holzer as recipients of the first-annual 2004 Delta Education/CPO Science Awards for Excellence in Inquiry-based Science Teaching. Both Delta Education and NSTA are members of the Triangle Coalition. Full-time, K-12 science teachers who successfully use inquiry-based science to enhance teaching and learning in their classrooms submitted applications for one of three categories: elementary(Pre-k-5), middle level(6-8), and high school(9-12). judging committee chosen by the NSTA reviewed submissions and selected the winners.

Peggy Carlisle is a teacher of 3rd and 4th grade science in Jackson, MS. She has been teaching science for 22 years and helped lead the Jackson Public School District in the implementation of Project SEED(Science Enhances Educational Development). Maureen Barrett has been teaching

science for 8 years and presently teaches 8th grade science in Mt. Laurel, NJ. She and her students are raising close to 500 Monarch butterflies as part of their science project "Monarch Watch." Margaret Holzer has been teaching science for 17 years and is presently an earth science teacher in Chatham, NJ. Ms. Holzer's projects focus on the development of science process and inquiry skills to prepare students for any situation that requires critical thinking to solve problems. Inquiry-methods they use include long-range data collection, student designed laboratories, and field studies. "I want to congratulate the winners and all of the talented educators who submitted applications," said Gary Facente, President, Delta Education, LLC. "Their dedication to inquiry-based science underscores its power as a teaching tool for today's students." Additional information about the 2004 Delta Education/CPO Science Awards for Excellence in Inquiry-based Science Teaching can be found at www.nsta.org/565.

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TRIANGLE COALITION MEMBER PROFILE: THE CENTER FOR EDUCATIONAL TECHNOLOGIES

Triangle Coalition member, the Center for Educational Technologies(CET), is located on the campus of Wheeling Jesuit University in Wheeling, WV. It is the home of the NASA-funded Classroom of the Future(COTF) program and several other initiatives funded through sources such as the National Science Foundation and the U.S. Department of Education. The mission of the CET is to enhance lifelong learning and teaching through the effective use of technology. Since its founding in 1990, the CET has helped to bridge the scientific gap between NASA scientists, mathematicians, and engineers and the educational community. In addition, the CET focuses on narrowing the instructional gap in the areas of mathematics, science, geography, and technology education as identified in national and international performance assessments. Recently, the CET developed and has delivered Project InSTEP – Integrating Strategies and Technology in Education Practice, an intensive problem-based learning opportunity for K-16 teachers. In addition, the CET has developed several high-interest, interactive video-conferencing activities for students and is developing an additional five “e-missions” specifically for the NASA Explorer Schools program. The CET also is conducting the evaluation of the NASA Explorer Schools program, and has created “Foundations of Freedom,” a DVD project focusing on the history of the US Constitution and slated for national distribution in the spring of 2004. The CET serves as the Mid-Atlantic Region Space Science Broker for the NASA Office of Space Science, increasing awareness of NASA space science and building connections between educators and the scientific community. The Center is also developing a Virtual Design Center for Education Products to be used by NASA developers and mission Principal Investigators. The CET also currently sponsors an opportunity for grades 6-8 life science teachers to improve student performance on state-mandated ecology assessments. The Journey to El Yunque project uses a case study approach in the same four-week time frame suggested by traditional textbooks. For more information about the Center for Educational Technologies and its programs, visit www.cet.edu.

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MAX'S SANDBOX SOFTWARE HELPS K-5 STUDENTS USE MICROSOFT OFFICE

Tom Snyder Productions, a publisher of educational software for K-12 classrooms, has

announced a partnership with eWord Technologies, the Australian-based software developer, to distribute Max's Sandbox software program throughout the United States and Canada. An upgraded version of the program, renamed Scholastic Keys, will be released in Spring 2004. The program features a child-friendly interface for Microsoft Word, Excel, and PowerPoint, including learning activities based on three programs:

MaxWrite helps students create their own Microsoft Word documents with easy-to-use icons and tools; MaxShow assists students in creating PowerPoint presentations with pictures, animations, and movies; and MaxCount helps students create charts, graphs, and tables with Microsoft Excel.

Max's Sandbox comes with a teacher's guide, a Windows CD-ROM of 3 programs and costs $46 for a one-computer license. Customers who purchase the current version of Max's Sandbox after January 1, 2004 will receive a free upgrade to Scholastic Keys when it is released. For more information, visit www.tomsnyder.com.

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NMSA DISTINGUISHED EDUCATOR AWARD

The National Middle School Association(NMSA) is pleased to announce the NMSA Distinguished Educator Award. Launched in November 2003, this award recognizes outstanding practitioners in middle level education -- those who have made a significant impact on the lives of young adolescents through leadership, vision, and advocacy. Candidates may nominate themselves, or they may be nominated by colleagues or members of the community. The deadline for nominations is April 15, 2004. Candidates must have 10 or more years of practical application, implementation, influence, or involvement in middle level education. They must also be employed in the field of middle level education on a full-time basis.

Since its inception in 1973, NMSA has been a voice for those committed to the educational and developmental needs of young adolescents. NMSA is the only national education association dedicated exclusively to the growth of middle level education. More details on the award may be found at www.nmsa.org/about/awards/distinguished_winners.htm.

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US DEPARTMENT OF EDUCATION TO STUDY TECHNOLOGY'S ROLE
IN RAISING STUDENT ACHIEVEMENT

In an effort to help determine the effectiveness of educational technology for learning reading and math, the US Department of Education will fund a study of 16 computer-based reading and math products. The products, from 12 different companies, were developed to enhance the learning of reading in grade one, reading comprehension in grade four, pre-algebra in grade six, and algebra in grade nine. They were chosen in a peer-review process from a pool of 163 applications. "The Effectiveness of Educational Technology" study will provide information for policymakers and educators on how educational technology can improve student achievement in reading and math, as well as on the conditions and practices under which the technologies are most effective.

The selection of the products is part of a $10-million, congressionally-mandated study funded by the Department's Institute of Education Sciences(IES) in collaboration with the Office of Educational Technology(OET). Mathematica Policy Research of Princeton, NJ, and its subcontractor, SRI International of Menlo Park, CA, will conduct the study. Teachers will be trained to use the products, which will be demonstrated in schools during the 2004-05 school year. Student achievement gains will be assessed at the end of the school year. Mathematica and SRI International will measure the impact of using the technologies on achievement gains using a random-assignment study design. More information about the study's design can be found at www.mathematica-mpr.com/PDFs/edtechrec.pdf.

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US DEPARTMENT OF ENERGY'S OFFICE OF SCIENCE UNVEILS
20-YEAR VISION FOR THE FUTURE OF BASIC RESEARCH

Triangle Coalition member, the US Department of Energy's(DOE) Office of Science, has unveiled its Strategic Plan, which charts a course for science over the next two decades that promises dramatic increases in knowledge and scientific achievements. The plan sets seven short-term(5-10 year) scientific priorities: the ITER fusion science experiment, scientific discovery through advanced scientific computing, using nanoscale science for new materials and processes, microbial genomics, physics to explore the basic forces of creation, exploring new forms of nuclear matter, and developing the facilities for the future of science. The plan also sets seven long-term(10-20 year) scientific goals in the areas of: science for energy; harnessing biology for energy and environment; fusion; fundamentals of energy, matter, and time; nuclear physics research from quarks to the stars; computation for the frontiers of science; and building resource foundations for new science.

The Office of Science Strategic Plan is a companion to the previously released document, Facilities for the Future of Science: A Twenty-Year Outlook. Both documents look ahead to the needs of the US scientific community over the next two decades and identify the steps that the DOE's Office of Science must take to ensure that the US scientific enterprise remains at the forefront of innovation and discovery, and that DOE's vital missions are accomplished. Both the Office of Science Strategic Plan and the Facilities for the Future of Science: A Twenty-Year Outlook are available on compact disk, in printed versions, or can be downloaded at the Office of Science website at www.science.doe.gov. DOE's Office of Science manages 10 world-class national laboratories with unmatched capabilities for solving complex interdisciplinary problems. It also builds and operates some of the nation's most advanced R&D user facilities, located at national laboratories and universities. These facilities are used by more than 19,000 researchers from universities, other government agencies, and private industry each year.

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CARNEGIE LEARNING TO STUDY WEB-BASED COGNITIVE ASSESSMENT SYSTEMS
FOR STANDARDIZED MATH TEST PREP

Carnegie Learning, in collaboration with Carnegie Mellon University and Worchester Polytechnic Institute, received a $1.4 million grant from the Institute for Education Sciences(IES) of the US Department of Education. The companies are joining together to study

a web-based computer tutor "Assistment" system that will help students prepare for standardized mathematics tests. Carnegie Learning captured the only I.E.S. grant awarded to mathematics education this year. The grant provides funds for these institutions to answer a pressing question: how to satisfy the No Child Left Behind mandate to keep schools accountable for student test scores without taking away valuable instruction time to administer exams. The proposed solution: to use the dynamic assessment capability of "Cognitive Tutors" to gauge students as they learn. The system goes beyond a normal assessment in that it not only predicts a student's score on a standardized test; it also provides feedback to teachers about how they can adapt lessons to address gaps in students' knowledge. The work will focus on targeting "Cognitive Tutor" materials towards Massachusetts' MCAS exam and on developing new statistical methods for predicting state exam performance, based on the detailed data on student performance available from the Tutors.

Carnegie Learning is the developer of the "Cognitive Tutor" comprehensive curricula for secondary mathematics. Established in 1998 by researchers, teachers, and scholars from Carnegie Mellon University, Carnegie Learning was founded to apply and extend more than 20 years of award-winning research in cognitive science to mathematics instruction. Headquartered in Pittsburgh, Carnegie Learning's mathematics courses now serve more than 150,000 students in 46 of the nation's largest school districts. *Available courses currently include Algebra I, Geometry, Algebra II, and Integrated Math. *For more information about Carnegie Learning, visit www.carnegielearning.com.

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MIDDLE SCHOOL STUDENTS GRADUATE FROM DELL TECHKNOW PROGRAM

In Chicago, 22 sixth-graders who never thought they'd have a computer of their own now do. They are among the 287 middle school students from 12 districts across the United States who this year have earned a free Dell desktop computer they refurbished themselves by completing the fall semester of the Dell TechKnow program. The program is a 40-hour, self paced, hands-on course where low-income middle school students work on a free Dell refurbished desktop computer in teams to learn computer basics. Upon completion of the program, students take home the computer if they can demonstrate competencies in taking apart and reassembling the computer, performing basic hardware upgrades, loading and working through software applications and tutorials provided by Microsoft, demonstrating a working knowledge of the Internet, and practicing teamwork and collaboration skills. In addition, students sign a contract committing to good school attendance, a demonstrated improvement in grades, and good citizenship.

The program enables low-income middle school students to earn a free refurbished home computer and learn technology skills that promote self-esteem and academic success. The program also helps prepare students for opportunities in today's technology-driven world. Nearly 2,000 students from US school districts have completed the Dell TechKnow program since July 2001. More information about the Dell TechKnow program can be found at www.dell.com/k12/techknow.

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MATHCOUNTS IN A NUTSHELL

MATHCOUNTS is a national math coaching and competition program that promotes middle school mathematics achievement through grassroots involvement in each US state and territory. With over 20 years of experience, MATHCOUNTS partners volunteers, educators, industry sponsors, and students with a goal of raising student interest in mathematics by making math achievement as challenging, exciting, and prestigious as a school sport. At the beginning of each school year, the MATHCOUNTS Foundation provides a copy of its school handbook to every middle school across the country. Teachers and volunteers use these 300 problems and activities to coach student "Mathletes" as part of in-class instruction or as an extracurricular activity.

After several months of coaching, participating schools select students to compete individually or as part of a team in one of more than 500 written and oral competitions held nationwide and in US schools overseas. The first competitions are held at the local level in February with winners progressing to state competitions in March. Results at the state level determine the top four individuals and top coach who earn the honor of representing their state or overseas team at the national finals. At all levels, MATHCOUNTS challenges students' math skills, develops their self-confidence, and rewards them for their achievements. Business and industry partners provide schools with coaches for the "Mathletes" and assist in coordinating competitions. They also host local activities, such as workshops for teachers, minority outreach programs, and public awareness events to encourage participation and promote the importance of mathematics. For more information, visit www.mathcounts.org.

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TCEB LINKS

The following links may provide more information on articles in this TCEB:

2004 Delta Education/CPO Science Awards for Excellence in Inquiry-based Science Teaching - www.nsta.org/565

Center for Educational Technologies (CET) - www.cet.edu

Tom Snyder Productions - www.tomsnyder.com

NMSA Distinguished Educator Award - www.nmsa.org/about/awards/distinguished_winners.htm

"The Effectiveness of Educational Technology" - www.mathematica-mpr.com/PDFs/edtechrec.pdf

US Department of Energy's (DOE) Office of Science - www.science.doe.gov

Carnegie Learning - www.carnegielearning.com

Dell TechKnow Program - www.dell.com/k12/techknow

MATHCOUNTS - www.mathcounts.org

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NASSP REPORT OUTLINES "HANDS-ON" APPROACH TO
IMPROVING STUDENT PERFORMANCE

The National Association of Secondary School Principals(NASSP) has released a new report entitled "Breaking Ranks II: Strategies for Leading High School Reform." With the education landscape so tightly focused on academic outcomes, school leaders have been confronted with questions about their school's success. Breaking Ranks II challenges high school principals to take responsibility for increasing the academic achievement of all students and for ensuring that every student has the opportunity to meet his or her dream for success. The report notes that while many high schools and their principals have undertaken various reforms to improve student achievement -- demonstrating for policymakers that success is possible -- many schools have not undertaken reforms that have resulted in student achievement.

The report makes two critical points concerning systemically reforming high schools. First, all high school principals, not just a few "early reformers," must accept responsibility for ensuring that all students meet high standards and for taking the steps to make it happen. Second, relying exclusively on principals -- no matter their commitment to or capacity for reform -- will only lead to the creation of a few high-performing schools within systems that allow and even perpetuate mediocrity. Breaking Ranks II proposes strategies that are easily replicable to all types of schools: big, small, urban, suburban, or rural. It incorporates strategies for collaborative leadership that distributes responsibility for school improvement efforts throughout school leadership teams. Moving from several isolated high-performing schools to a system of excellent schools benefiting all students is the ultimate goal of this handbook. The National Association of Secondary School Principals serves as a national voice for middle level and high school principals, assistant principals, and aspiring school leaders. For additional information, visit www.nassp.org.

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INTEL HONORS 40 OF AMERICA'S FUTURE SCIENTISTS

Intel Corporation has announced the 40 finalists in the Intel Science Talent Search(Intel STS). The finalists will be in Washington, DC in mid-March to compete for $530,000 in scholarships. Often considered the "Junior Nobel Prize," the Intel STS challenges young scientists to look beyond the classroom and begin harnessing their true passion for science, often leading to ground-breaking, post-graduate level research. Past finalists in the program hold more than 100 of the world's most coveted science and math honors, including five Nobel Prizes. The Intel STS encourages and rewards excellence in science and math, and inspires young people to pursue science in their secondary education and careers.

The Intel STS finalists hail from 14 states and Washington, DC. In addition to a pursuit of scientific excellence, 80 percent play a musical instrument, 70 percent are fluent in a language other than English, and 47 percent volunteer in their community. This year's diverse group of Intel STS finalists includes a critically acclaimed classical Indian dancer, a published poet, a

storytelling champion, and a competitive rock climber. The most popular categories for this year's finalists are behavioral sciences, biochemistry, earth and space sciences, mathematics, and medicine. Administering the program since its inception in 1942 is Triangle Coalition member, Science Service, a nonprofit organization whose mission is to advance the understanding and appreciation of science among people of all ages through publications and educational programs. Over the years, the competition has recognized more than 2,500 finalists with more than $5 million in scholarships. Visit www.sciserv.org or www.intel.com/education for more information.

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KENNEDY HINTS AT AMENDING 'NO CHILD' LAW
(Source: Education Week, February 25, 2004)

Citing frustration with how the Bush administration has implemented the No Child Left Behind Act, one of the law's chief congressional architects is suggesting for the first time that "corrective legislation" may be needed. While the law has increasingly come under fire, including from the leading Democratic presidential candidates, the so-called Big Four lawmakers who took the lead in writing it -- the chairmen and the ranking minority members on the House and Senate education committees -- have resisted calls to amend the bipartisan legislation. Now, however, one of those four, Senator Edward M. Kennedy(D-MA), is suggesting he may well push to change the law. "He feels that corrective legislation may be needed if the administration fails to begin implementing this law correctly," said Jim Manley, a spokesman for Senator Kennedy. Senator Kennedy and nine other Democrats sent Secretary of Education Rod Paige a letter January 8 --exactly two years after President Bush signed the law -- that contained a lengthy list of misgivings with how implementation has proceeded.

The senator requested a meeting with Mr. Paige, which was scheduled for this week, to discuss the Democrats' concerns. Mr. Manley said that any final decisions about introducing legislation would come after the meeting. "[Senator Kennedy] feels we're at a crossroads with No Child Left Behind," Mr. Manley said. "He's detected a lot of confusion and frustration around the country." Asked to comment, Susan Aspey, an Education Department spokeswoman, said: "Secretary Paige looks forward to sitting down with the Senator to discuss No Child Left Behind. The secretary is very much committed to implementing this bipartisan law." Department officials have consistently said they oppose legislative changes to the No Child Left Behind Act. (Editor's Note: For more information on the No Child Left Behind Act, visit www.ed.gov/nclb.)

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METLIFE SURVEY OF THE AMERICAN TEACHER 2003

MetLife has released The MetLife Survey of the American Teacher: An Examination of School Leadership. The survey, the latest in MetLife's annual series conducted by Harris Interactive since 1984, examines the attitudes and opinions of teachers, principals, parents, and students regarding school leadership. The survey found that principals, teachers, and parents agree that the primary goal of school leadership is motivating students and teachers to achieve. The survey also reveals a disconnect between this goal and reality. Principals have a more positive view of school atmosphere and relationships than do parents, teachers, and students.

The survey examines these differences in perception. Key findings include:

Eighty-nine percent of principals say their school is welcoming to parents. But only 61% of parents describe their school in this way.

Nearly all principals(97%) believe that their school shows concern for students. This view is less commonly held by teachers(83%) and parents(66%).

Ninety-one percent of principals say their school has open communication, yet only 58% of teachers and 58% of parents say this about their school.

Ninety-three percent of principals are satisfied with their relationship with students' parents, but only 64% of parents report this level of satisfaction. Teachers' and parents' assessments are similar. Seventy-eight percent of parents and 78% of teachers are satisfied with their relationship with each other.

Of all the members of the school community, students are the least likely to describe their school as safe. While most principals(89%), teachers(67%), and parents(57%) say their school is safe, less than half of students(46%) describe their school this way.

Teachers believe that test scores are what's most important to principals, but principals report that motivating students and faculty to achieve is most important to them -- the same goal that teachers report most important to themselves.

Teachers believe that principals spend 37% of their time on reporting and compliance, and 24% of time on guiding and motivating teachers. But principals report the reverse, saying they spend 35% of their time on guiding and motivating teachers and 24% of their time on reporting and compliance.

Teachers and principals perceive their relationship with each other in strikingly different ways. Nearly all principals (97%) are satisfied with their relationship with the teachers in their school, compared to 71% of teachers who are satisfied with their relationship with the principal.

Fewer teachers than principals describe the teacher-principal relationship in their school as open(50% v. 84%), collaborative(54% v. 89%), friendly (57% v. 84%), mutually respectful (58% v. 89%), and supportive(60% v. 86%).

Harris Interactive conducted the survey between May 14, 2003 and September 22, 2003 with nationally representative samples of public school principals, teachers, parents, and students. An Examination of School Leadership is the latest in a series of teacher surveys sponsored annually by MetLife. The surveys are designed to bring the voices of teachers and students to the attention of policymakers and the American public. Survey topics change each year to address key issues -- from reform to violence --but the premise remains the same: to give voice to those

closest to the classroom. Full survey reports can be downloaded at www.metlife.com/teachersurvey.

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MIDDLE SCHOOL TEACHERS NEEDED FOR FIELD TEST OF AGI EARTH SYSTEMS SCIENCE TEXTBOOK

Triangle Coalition member, the American Geological Institute(AGI), seeks 36 middle school science teachers(grades 6-8) to field test an Earth systems science textbook during the 2004-2005 school year. Project CUES (Constructing Understandings of Earth Systems) is a comprehensive Earth systems science program developed by AGI through funding from the National Science Foundation(Grant No. ESI-0095938). CUES has been pilot tested nationally twice with 25 master teachers and the field test edition is under development. Additional information about the CUES program and an application for the 2004-2005 national field test can be found by visiting the CUES website at www.agiweb.org/education/cues/teachers/fieldtest.html. Applications must be received by April 15, 2004. AGI will notify applicants about acceptance no later than May 1, 2004.

Founded in 1948, AGI serves its member societies and the geoscience community of more than 120,000 geologists, geophysicists, and other earth and environmental scientists. AGI provides information services, serves as a voice of shared interests in the geosciences profession, plays a major role in strengthening geoscience education, and strives to increase public understanding of the vital role the geosciences play in society's use of resources and interaction with the environment.

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SUPER SCIENCE FAIR PROJECTS WEBSITE

"Super Science Fair Projects"(www.super-science-fair-projects.com) is a new website that offers step-by-step guidance in science fair projects for middle and high school students. With the aid of a timeline, students are guided through the process of showing how to keep a science log, choose a category or topic, research a project, complete all six steps of the scientific method, write a project report and abstract, make a display board, and give an oral presentation of the project. Students also learn how judges evaluate a project. The "Secret Files" area includes projects, topics, ideas, experiments, and other resources.

The site also includes a parent guide that explains how to coach a child during this process and avoid the temptation of doing the project for their children. A teacher resource page is rich with links to classroom ideas, materials, and free classroom resources; internet science fair project sites for kids; free science newsletters for the classroom; and worldwide science fair competitions.

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COOPERATIVE PROFESSIONAL DEVELOPMENT OPPORTUNITIES AVAILABLE FOR MATH CONNECTIONS SCHOOLS

Triangle Coalition member, the MATH Connections Implementation Center, has limited resources to provide additional support for professional development programs for teachers of MATH Connections that refresh and expand upon the usual Summer and Academic Leadership Institutes offered by the publisher of MATH Connections. Each program will be designed to meet the individual needs of the applying school(s) or organization(s). The MATH Connections Implementation Center will provide certified teacher workshop leaders, their expenses, and their stipends. Institutions requesting support will be responsible for providing physical space and any participant expenses for their staff. To apply for this professional development, schools must guarantee attendance for a minimum of one day by 10 to 20 MATH Connections teachers. Schools with fewer teachers are encouraged to join with others to meet the minimum attendance requirements. Additional information is available at www.mathconnections.com.

MATH Connections - A Secondary Mathematics Core Curriculum, was developed with a five-year National Science Foundation grant awarded in 1992 to the Connecticut Business and Industry Association(CBIA) Education Foundation. The result of the project is a core curriculum for grades 9-12 that opens the concepts of higher mathematics to all students and inspires new interest and excitement in mathematics for both students and faculty. Following four years of intensive field-testing, MATH Connections is in publication and is being implemented throughout the country and internationally.

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SURVEY FINDS MANY EDUCATORS EXPERIENCE LITTLE POSITIVE NCLB IMPACT ON PROFESSIONAL DEVELOPMENT

Forty-seven percent of more than 2,000 educators responding to an online survey of the No Child Left Behind Act's(NCLB) impact on professional development believe the law is "having no discernable effect." Only 14% believe NCLB-funded professional development is "improving the quality of teaching." The survey was conducted between December 2003 and February 2004 by the NCLB Task Force of the National Staff Development Council. Respondents were from all regions of the United States, with 78% working in urban, suburban, and rural schools. Sixty-three percent of the educators were teachers. Title II requires school systems to involve "teachers, paraprofessionals, principals, other relevant school personnel, and parents" in preparing Title II applications and planning professional development activities, but the results are mixed. Thirty-five percent of respondents indicated this involvement has occurred, but 27% said it has not, and 33% of the educators replied that they had not even heard of this Title II requirement.

While the NCLB definition of professional development discourages "1-day or short-term workshops or conferences," 34% of the respondents indicated such activities "are about the same frequency as two years ago," 11% said there are more such activities, and another 34% said the survey question "is the first time I have heard of this NCLB provision." On the other hand, 22% of the educators said there are "significantly fewer" one-day or short-term workshops or conferences than two years ago. Half of the educators reported that school systems or schools are providing "about the same amount of professional development as in 2002" while 30% said there is "significantly more" or "somewhat more" professional development as a result of the NCLB. For more information about the survey, visit

www.nsdc.org/library/policy/nclbsurvey2_04.cfm.

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TCEB LINKS - The following links may provide more information on articles in this TCEB:

National Association of Secondary School Principals - www.nassp.org

Intel Science Talent Search - www.intel.com/education

Science Service- www.sciserv.org

No Child Left Behind Act - www.ed.gov/nclb

The MetLife Survey of the American Teacher: An Examination of School Leadership - www.metlife.com/teachersurvey

Project CUES(Constructing Understandings of Earth Systems) - www.agiweb.org/education/cues/teachers/fieldtest.html

"Super Science Fair Projects" - www.super-science-fair-projects.com

MATH Connections - www.mathconnections.com

NCLB Task Force of the National Staff Development Council Survey - www.nsdc.org/library/policy/nclbsurvey2_04.cfm

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TALENTED, YOUNG, AND CHANGING THE WORLD:
2004 NEW FACES OF ENGINEERING ANNOUNCED

The 2004 New Faces of Engineering is a group of young professionals who were honored during National Engineers Week, February 22-28, 2004. Now in its second year, the New Faces program aims to boost public awareness of the role of engineering while giving a much deserved tip of the hat to some outstanding newcomers to the field. It's a group that represents the bright future of engineering in America, and underscores the fact that the engineers of today hail from backgrounds as diverse as the nation itself. The 2004 New Faces were chosen from nominations submitted through engineering societies by corporations, academia, and engineering professionals. To qualify, engineers must have worked in the field from two to five years and have demonstrated outstanding abilities in their chosen area of engineering. The program is sponsored by 2004 National Engineers Week co-chairs, The Institute of Electrical and Electronics Engineers(IEEE)/IEEE-USA and the Fluor Corporation. IEEE is a member of the Triangle Coalition.

"Each of these young people has their own unique talents and they've all worked hard to establish themselves as professionals who deserve recognition," says Joseph V. Lillie, chair of National Engineers Week 2004 and the IEEE's lead EWeek volunteer. "But, it's also important

to recognize that it is the profession of engineering itself that allows such a diverse group of people to excel at such a diverse range of accomplishments." For more information on 2004 New Faces of Engineering and National Engineers Week, visit www.eweek.org.

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TOP NASA ADVISOR JOINS NATIONAL SCIENCE TEACHERS ASSOCIATION

Frank Owens, Senior Executive and Education Policy Advisor for NASA, has joined the National Science Teachers Association(NSTA) as a Visiting Associate Executive Director. Owens, who will be on loan from NASA for a one- to two-year period, will help NSTA design and implement a strategic plan for international engagement of science educators and will support the organization's industry outreach efforts. Owens most recently served as Senior Policy Advisor to the Associate Administrator in NASA's Office of Education. He was responsible for analyzing and guiding educational programs, identifying and addressing key issues affecting education policy, and developing and implementing policies affecting NASA education programs. A NASA employee for more than 25 years, Owens is credited for successfully directing many of NASA's national education programs and for leading the effort to develop NASA's Education Strategy.

Over the years, NASA has been an important NSTA partner, helping to inspire a new generation of explorers and provide support to K-12 science educators. The newest joint venture is the NASA Explorer Schools(NES) program, which establishes partnerships between NASA and school teams to enhance science, math, and technology education. NASA and NSTA also collaborated on the development of SciLinks, a powerful tool that connects science textbooks to the Internet. Both NASA and NSTA are both members of the Triangle Coalition.

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TRIANGLE COALITION BOARD MEMBER PROFILE: M. SUZANNE MITCHELL

Suzanne Mitchell is President of the Triangle Coalition, and is currently Project Director at the Arkansas Department of Higher Education for teacher quality initiatives, which include the higher education portion of the No Child Left Behind Grant from the U.S. Department of Education. These funds are used to improve teacher quality in Arkansas in the areas of teacher preparation and professional development in the core content disciplines. From 1993-1999, she was the Project Director for Arkansas' ten million dollar Statewide Systemic Initiative grant to improve mathematics and science. At the same time, she directed the higher education portion of the Dwight D. Eisenhower Professional Development Program from 1991-2003 which provided funds to institutions of higher education to create graduate courses, workshops, and institutes to improve the content and pedagogy of K-12 teachers in mathematics and science. From 1999-2003 she was the Project Director for a three million dollar Teacher Quality Enhancement grant from the U.S. Department of Education. This grant provided funds to Arkansas to make significant and systemic statewide changes in policy in regards to teacher licensure, teacher preparation, teacher recruitment and retention, and professional development.

Dr. Mitchell has served for the past 8 years on the Board of Trustees of the Arkansas School for Mathematics, Sciences and the Arts, a residential high school for talented eleventh and twelfth

graders. The school is located in Hot Springs, Arkansas. Dr. Mitchell has recently been appointed Chair of a new Task Force on Mathematics Teacher Preparation, Certification and Shortages created by the National Council of Teachers of Mathematics Board of Directors. The Task Force will study current trends and issues concerning mathematics teacher preparation particularly in regards to shortages in the field and submit a report and recommendations to the Board of Directors in the spring 2005. She has been a secondary mathematics teacher for grades 7-12 for 10 years, a curriculum coordinator for mathematics and science for 10 years, and an administrator at the state level for 13 years. She has a Doctorate from the University of Missouri at Kansas City in Education and Leadership and Urban Policy Studies in Education. She also is an Assistant Professor of Mathematics at Arkansas State University in Jonesboro, Arkansas.

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IP OVER SATELLITE TECHNOLOGY PROVIDES 1.7 MILLION MIDDLE SCHOOL STUDENTS ACCESS TO VIRTUAL FIELD TRIP

An emerging technology, two-way Internet Protocol(IP), transmitted via satellite, is being used for the first time, by a leading distance learning provider, to bring a live, interactive scientific expedition from the middle of a Panamanian rainforest to the classrooms of middle school students across the globe. This cutting-edge converged network services platform, developed and managed by EDS, a global IT services outsourcing company, is being used by JASON XV: Rainforests at the Crossroads. Using a variety of media, including live television broadcasts and fully interactive Internet programming like digital labs, JASON takes yearly expeditions to remote locations worldwide. *It brings real science to the classroom to excite and engage students in science, math, and technology. Previously, the JASON technical team had to send voice, video, and data across separate channels. Using the innovative IP over satellite technology, JASON sends the same voice, video, and data, as well as internal intercom and all other communication needs, over a single, more efficient stream -- reducing costs and complexity, enhancing reliability, and expanding capabilities.

The JASON expedition is focusing on the research, monitoring, and management of the Panama region to better understand how it functions and how it changes through time. The expedition also examines how human technology has influenced the geography, hydrology, and biology of Panama; and how technology is used in scientific research. The JASON Foundation for Education is a provider of experience-based science and math curriculum and professional learning for grades 4-9. JASON uses multi-media tools and access to scientists to combine genuine scientific expeditions around the world, standards-based classroom curriculum and accredited professional learning for teachers to deliver real adventures in learning and measurable gains in student achievement. For more information, visit www.jason.org.

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FIVE STATES WANT OUT OF EDUCATION LAW
(Source: The Detroit News, February 29, 2004)

The No Child Left Behind Act is only 2 years old, but the federal education law is already

sparking a mini-revolt from some states. Outraged by the law's perceived intrusiveness, unfunded requirements, and infringement on local control, at least five states, including Virginia, Arizona, Maine, Vermont, and Minnesota, have either passed resolutions or are considering ones that rebuke the education law. Michigan, however, remains committed to holding schools accountable under the reform. No state has officially opted out of the law, which would force them to forfeit millions of dollars in federal money for disadvantaged students. But several are taking steps to get out or calling on Congress to exempt them, arguing the law will cost far more to implement than they receive in federal funds.

Utah's House of Representatives passed a bill early this month that would have allowed the state to only implement the law where there is adequate funding. The state Senate has since put that on hold. Pulling out altogether would have cost the state $106 million in federal funds, said Utah Rep. Margaret Dayton. "What we have not been told is how much it will cost us to implement all of the requirements of No Child Left Behind if we choose to opt out," said Dayton in a written statement. "That is a serious question that has plagued all states."

Sandy Kress, a Texas attorney who helped construct the law as former senior education adviser to President Bush, thinks most states are committed to No Child Left Behind. But the federal government could do a better job of pointing out ways the law could be more flexible, such as providing different ways to test special education and English as a second language students, he said. In the end, he doesn't expect many states to pull out.

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SCHOOLS, FACING TIGHT BUDGETS, LEAVE GIFTED PROGRAMS BEHIND
(Source: New York Times, March 2, 2004)

Before her second birthday, Audrey Walker recognized sequences of five colors. When she was 6, her father, Michael, overheard her telling a little boy: "No, no, no, Hunter, you don't understand. What you were seeing was a flashback." At school, Audrey quickly grew bored as the teacher drilled letters and syllables until her classmates caught on. She flourished, instead, in a once-a-week class for gifted and talented children where she could learn as fast as her nimble brain could take her. But in September, Mountain Grove, a remote rural community in the Ozarks where nearly three in four students live in poverty, eliminated all of its programs for the district's 50 or so gifted children like Audrey, who is 8 now. Struggling with shrinking revenues and new federal mandates that focus on improving the test scores of the lowest-achieving pupils, Mountain Grove and many other school districts across the country have turned to cutting programs for their most promising students.

"Rural districts like us, we've been literally bleeding to death," said Gary Tyrrell, assistant superintendent of the Mountain Grove School District, which has 1,550 students. The formula for cutting back in hard times was straightforward, if painful, Mr. Tyrrell said: Satisfy federal and state requirements first. Then, "Do as much as we can for the majority and work on down." Under that kind of a formula, programs for gifted and talented children have become especially vulnerable. Unlike services for disabled children, programs for gifted children have no single federal agency to track them. A survey by the National Association for Gifted Children found that 22 states did not contribute toward the costs of programs for gifted children, and five other

states spent less than $250,000. Since that survey, released in 2002, the outlook for programs for the gifted has grown harsher. The new federal education law, known as No Child Left Behind, "has almost taken gifted off the radar screen in terms of people being worried about that group of learners," said Joyce L. Vantassel-Baska, executive director of the Center for Gifted Education at the College of William and Mary.

(Editor's Note: For more information on the National Association for Gifted Children, visit www.nagc.org.)

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HIGH SCHOOL FORENSIC SCIENCE CURRICULUM

With the continued success of such television programs as CSI and CSI: Miami, the Forensic Science field has never received more attention. This fascination extends to high school students, creating an opportunity for science educators to attract the interest of even the most science-resistant student with science lessons that employ forensics. To aid educators in this, Science Kit has joined forces with forensic science expert Marty Ludas to create a new high school forensic science curriculum known as FoCus. The labs teach real crime scene investigation techniques as used by crime scene investigators and forensic scientists. Activities include specialized instructor guides and forensic proficiency tests that can be used in existing and new forensic curriculum. All materials used in the kits are the same as those used by professionals and include many Sirchie products. Sirchie is a provider of equipment and supplies to law enforcement agencies around the world.

Labs cover Inked Fingerprint Comparison, Latent Print Development with Magnetic Powder, Latent Print Development with Ninhydrin, Cyanoacrylate Fuming, 2D & 3D Footwear Analysis, and a Crime Scene Evidence Collection lab in which students apply everything learned in the previous labs to secure and use proper collection, labeling, and preservation of forensic evidence techniques at a mock crime scene. *For more information on the FoCuS Forensic Science Curriculum, visit http://sciencekit.com/category.asp?c=427225&sid=forensicpr.

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CONGRESS ORDERS THOROUGH STUDY OF TEACHER EDUCATION PROGRAMS
(Source: Education Week, March 3, 2004)

For the first time since 1933, Congress has mandated a wholesale cataloging of the work done by the nation's teacher-preparation programs, to understand better the academic content and field experiences provided to prospective teachers. *"It is intended to be an advisory report on the quality of preparation," said Grover J. "Russ" Whitehurst, the director of the Institute of Education Sciences, the arm of the US Department of Education charged with conducting the data collection. "People will read it at the state and federal levels and figure out what we're doing well, and what needs to be changed." The study, tucked into a fiscal 2004 appropriations bill, will seek to answer several questions, Mr. Whitehurst said. Congress intends for existing data to be synthesized on the consistency of required coursework, how reading and math are taught, and the degree to which programs are aligned with scientific evidence on the subjects, he said. If information does not exist, the institute has been directed to gather it. The institute has

allocated $1.5 million for the venture, which will take several years to complete, Mr. Whitehurst said. The project will more than likely be undertaken by the National Research Council.

The study comes as traditional teacher-training programs have come under new fire. *Critics, including the Bush administration, contend they do not provide aspiring teachers with rigorous academic-content knowledge or practical skills, yet generally take four years to produce teachers. Meanwhile, new, faster models of certification are proliferating that take only a short time to complete. Only last month, Georgia adopted a rule allowing teachers to bypass any pedagogical training whatsoever. Many experts welcome the study, saying it will provide objective information about a field that has been inadequately documented. *Although teacher-preparation programs and the states that license their graduates must report some information about their work as part of both the federal Higher Education Act and the Elementary and Secondary Education Act, there is no requirement that they compile and make public data about many aspects of their efforts.

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PROJECT PROBASE SEEKS HIGH SCHOOL TEACHERS

Project Probase, an NSF-funded Advanced Technological Education project in the Department of Technology at Illinois State University, seeks twelve experienced high school teachers to assist in writing innovative, standards-based, technology education curriculum materials. Writers with technology education, science, agriculture, and/or mathematics expertise are especially encouraged to apply ASAP at www.probase.ilstu.edu.

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TCEB LINKS

The following links may provide more information on articles in this TCEB:

2004 New Faces of Engineering - www.eweek.org

National Science Teachers Association - www.nsta.org

NASA - www.nasa.gov

JASON XV: Rainforests at the Crossroads - www.jason.org

National Association for Gifted Children - www.nagc.org

FoCuS Forensic Science Curriculum - http://sciencekit.com/category.asp?c=427225&sid=forensicpr

Project Probase - www.probase.ilstu.edu

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TRIANGLE COALITION HOLDS ANNUAL CONFERENCE: "INFORMING POLICY IN

SUPPORT OF MATHEMATICS, SCIENCE, AND TECHNOLOGY EDUCATION"

Triangle Coalition held its annual Legislative Conference, "Informing Policy in Support of Mathematics, Science, and Technology Education," on March 15-16 in Washington, DC. The nearly 150 people attending this year's conference were given updates on current legislative issues affecting science, math, and technology education including the proposed funding impacts in the FY05 Federal Budget. Dr. Joanne Vasquez, the first K-12 educator appointed to the National Science Board, delivered the opening address, entitled "Teaching Science to the Sound Bite Generation."

Dr. Susan Sclafani, Counselor to the Secretary of Education and the Deputy Secretary Education for Vocational and Adult Education, delivered the luncheon keynote address. During her remarks, Dr. Sclafani shared with those attending the conference the changes announced March 15 by U.S. Secretary of Education Rod Paige to assist rural and heavily urban school districts meet the No Child Left Behind requirements for Highly Qualified Teachers. On Tuesday, conference attendees were invited to participate in the Secretary of Education's Science Summit. Many participants also met with their Congressional Representatives following the Summit. Appointments for visits were arranged in advance for those attending the Triangle Coalition conference as part of the registration process. The conference included a presentation with tips for meeting with legislators, including talking points and leave behind messages to help maximize the impact of each visit. For additional information, visit www.trianglecoalition.org.

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NEW, FLEXIBLE POLICIES HELP TEACHERS BECOME HIGHLY QUALIFIED

U.S. Secretary of Education Rod Paige has announced three new policies giving teachers greater flexibility in demonstrating that they are highly qualified under the No Child Left Behind Act(NCLB) while also ensuring that every child in America is taught by a teacher who knows his or her subject. These new policies, which take effect immediately, will address the particular challenges of teachers who teach more than one subject, especially those in rural districts and science teachers. Under the No Child Left Behind Act, highly qualified teachers must hold at least a bachelor's degree, have full state certification or licensure, and have demonstrated competence in their subject areas. The law calls for all teachers of core academic subjects to be highly qualified by the end of the 2005-06 school year. It also requires that all newly hired teachers in Title I schools or programs for economically disadvantaged students be highly qualified immediately.

One of the new flexibility provisions recognizes that teachers in small, rural, and isolated areas -- about one-third of the nation's school districts -- are often assigned to teach multiple subjects, face unique challenges in meeting the highly qualified provisions in all subjects they teach, and may need additional time to meet the requirements in all subjects they teach. As long as teachers in eligible districts are highly qualified in at least one subject, they will have three more years to become highly qualified in the additional subjects they teach; newly hired teachers would have until their third year of teaching. For science teachers, the Department's guidance will allow

states the flexibility to use their own certification standards to determine subject-matter competency, rather than requiring it for each science subject. For example, if a state certifies teachers in the general field of science, a science teacher may demonstrate subject-matter competency through a "broad field" test or major. If a state requires certification or licensure in the specific science subjects, such as chemistry, biology or physics, the teacher would be required to demonstrate competency in each of the subjects.

The third new provision assists current teachers who teach multiple subjects, particularly teachers in middle schools and those teaching students with special needs. Under the law, current teachers have the option -- instead of taking a test or going back to school -- to demonstrate subject-matter competency through a process called HOUSSE(high objective uniform state standard of evaluation). The HOUSSE may include a teacher's years of experience, high-quality professional development success as measured by a teacher's students' test scores, continuing education, and other objective evaluations. The change streamlines the HOUSSE process by allowing teachers to demonstrate subject-matter knowledge through one procedure for all the subjects they teach while maintaining the same high standard for subject-matter mastery. Secretary Paige said he will soon be unveiling additional efforts to support America's teachers and the implementation of the highly qualified teacher provisions. These will include a new website(www.teacherquality.us) to share information about initiatives at the state and local levels, summer institutes for teachers to be held across the country, and a National Teacher Summit later this year.

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PARENTS UNDERSTAND IMPORTANCE OF SCIENCE BUT STUDENT ACHIEVEMENT LAGS PARENTAL EXPECTATIONS

Parents are overwhelmingly interested in their children's science education and understand its importance; yet American performance in the sciences does not meet most parental expectations, according to a poll released by U.S. Secretary of Education Rod Paige at the nation's first Summit on Science. An overwhelming majority of parents polled(94 percent) feel that a science education is important, and 85 percent of parents are also proactive about encouraging their children to take science classes. In addition, 72 percent of parents reported feeling comfortable helping their children with their science homework, and just over half (51 percent) of parents feel that they have more science education than their children, the poll of 1,000 parents with children between the ages of 13 and 17 found. "This poll shows that parents understand the importance of science in today's world and have a real enthusiasm for high-quality science instruction," Paige said. "Unfortunately, American academic performance in science is not matching up with parents' goals, as can be evidenced by the most recent science scores on the Nation's Report Card -- the National Assessment of Educational Progress or NAEP -- where fewer than one-third of fourth-graders scored at or above proficient, scores for fourth- and eighth-graders have not improved, and scores for seniors are declining. This Summit on Science will set the stage for improving science instruction so that we can close the gap between expectations at home and execution at school."

The Science Summit was attended by over 700 educators, researchers, scientists, and business leaders. Participants of the Triangle Coalition Legislative Conference, "Informing Policy in

Support of Mathematics, Science, and Technology Education," were also invited to attend. Experts at the Summit, a part of the No Child Left Behind bipartisan education reform, discussed the latest science education trends, methods and best practices, and ways to improve public understanding of the sciences. It also highlighted future challenges and laid the groundwork for creating solutions for more effective science teaching and learning. Joining Paige at the Summit were National Aeronautics and Space Administration(NASA) Administrator Sean O'Keefe, Director of the White House's Office of Science and Technology Policy John Marburger, Acting Director of the National Science Foundation(NSF) Arden L. Bement, Jr., President of the National Academies of Science Bruce Alberts and Nobel Laureate Carl Wieman, among others. The Summit on Science is part of a multi-pronged effort to improve science education in the nation. It follows upon the work of the Mathematics Summit, held last year. Both Summits are part of the president's Mathematics and Science Initiative, which are being developed and implemented by the Department of Education, NASA, NSF, as well as other federal agencies involved in education and workforce development. For further information on the Science Summit and the U.S. Department of Education's Mathematics and Science Initiative, visit www.ed.gov/rschstat/research/progs/mathscience.

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STATE OKS CURRICULUM INVOLVING CREATIONISM
(Source: The Columbus Dispatch, March 10, 2004)

The Ohio Board of Education yesterday adopted a lesson plan for 10th-grade science that opponents predicted will prompt a lawsuit because it allows creationism into public classrooms. "Ohio is now ground zero for the explosion of creationism that is sure to follow," said Patricia Princehouse, who teaches evolutionary biology at Case Western Reserve University in Cleveland. "This is religious propaganda masquerading as science." But after eight hours of impassioned testimony from science teachers, professors, lawyers, and parents, the state board rejected the concerns, voting 13-5 to adopt the plan which includes "a critical analysis of evolution." Ohio once again is the focus of a national debate over what students should be taught about life on Earth. At odds are supporters of Darwin's theory of evolution and backers of intelligent design who argue that some life forms are too complex to be explained; therefore an unnamed higher power must have been involved.

The Ohio Academy of Science and numerous scientists charge that the lesson plan includes language from Jonathan Wells' Icons of Evolution, a leading book in the intelligent design movement. Although the belief is not mentioned by name, and references to Wells' book along with web sites supportive of intelligent design were removed from the plan, critics contend that "the imprint of religious belief" remains. "As a scientist and a religious person, I am both befuddled and incensed that the Board of Education has allowed one particular brand of religion to creep into a lesson plan that should be covering only science," Scott Moody, an associate professor of biology at Ohio University, told the board. The Rev. George Murphy of St. Paul's Episcopal Church in Akron, a former college physics professor, testified that the guidelines cater to those who oppose evolution on religious grounds. "The lesson plan leaves the impression that the arguments against evolution are just as good as the arguments for evolution, and that just doesn't reflect the preponderance of evidence," he said. But supporters say the plan for all 12 grades reflects the science standards adopted by the board more than a year ago which call for

the critical analysis of evolution and included a disclaimer that the standards do not "mandate the teaching of intelligent design."

(Editor's Note: For additional information, visit the Ohio Citizens for Science website at http://ecology.cwru.edu/ohioscience.)

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TRIANGLE COALITION BOARD MEMBER PROFILE: JAMES H. STITH

James H. Stith is Secretary-Treasurer of the Triangle Coalition and Vice President, Physics Resources Center for the American Institute of Physics. His Doctorate in Physics was earned from The Pennsylvania State University, and his Master's and Bachelor's degrees in Physics were received from Virginia State University. A Physics education researcher, his primary interests are in Program Evaluation and Teacher Preparation and Enhancement. His strong belief is that all students can learn science and he has devoted a lifetime working on programs that aim to increase the number of underrepresented minority students who elect science as an avocation. He was formerly a Professor of Physics at The Ohio State University and Professor of Physics at the United States Military Academy at West Point. He has also been a visiting Associate Professor at the
United Air Force Academy, a Visiting Scientist at the Lawrence Livermore National Laboratory, a Visiting Scientist at the University of Washington, and an Associate Engineer at the Radio Cooperation of America. He is a past president of the American Association of Physics Teachers, past president of the National Society of Black Physicists, a Fellow of the American Association for the Advancement of Science, a Fellow of the American Physical Society, a Chartered Fellow of the National Society of Black Physicists, and a member of Sigma XI and the Ohio Academy of Science. Additionally, he serves on a number of national and international Advisory Boards and has been awarded a Doctor of Humane Letters by his alma mater, Virginia State University.

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GREENSPAN: RAISING EDUCATION STANDARDS,
TRAINING WORKERS KEY TO CREATING AMERICAN JOBS

In an appearance before the U.S. House Committee on Education & the Workforce, Federal Reserve Chairman Alan Greenspan said strengthening the nation’s education and worker training systems and supporting innovation are essential to creating jobs and sustained economic growth for American families. “Equal opportunity requires equal access to knowledge,” Greenspan said, warning at one point about studies that show that the U.S. appears to be lagging seriously behind other nations in terms of the quality of education being provided to students at the K-12 level. “The hypothesis that we should be able to improve upon the knowledge that our students acquire as they move from kindergarten to twelfth grade gains some support from international comparisons,” Greenspan said. “A study conducted in 1995(The Third International Math and Science Study, a project of the International Study Center, Lynch School of Education, Boston College) revealed that, although our fourth-grade students were above average in both math and science, by the time they reached their last year of high school they had fallen well below the international average. Accordingly, we apparently have quite a distance to go before we catch

up."

Greenspan appeared to reject suggestions that the quality of America's education system is directly linked to how much government spends on schools, warning against "over-committing" to certain levels of expenditure. "Putting money in is not necessarily an accurate measure of the output. We are falling behind by any measure in our secondary schools," Greenspan said, warning it's not enough to simply raise standards and meet them once. "We have to increase the skills every year or we will fall behind."

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EDUCATION TRUST REPORT ENCOURAGES IMPROVED
MATCHING OF TEACHER STRENGTHS AND STUDENT NEEDS

Today, schools, districts, and states are under increasing pressure both to raise overall student achievement and to close historic gaps separating poor and minority students from others. A new report released by the Education Trust argues that those twin goals are achievable, but only if states act immediately to put into place comprehensive systems to measure and improve teacher quality, and to get the match between teachers and students right. The paper, "The Real Value of Teachers: Using New Information about Teacher Effectiveness to Close the Achievement Gap," lays out an ambitious policy agenda, premised on an exhaustive review of the existing research on teacher effectiveness -- often referred to as "value-added." That research, which has been conducted over the past decade in Tennessee, Texas, and several large city school districts, confirms what parents have always known: teachers have the biggest impact on student achievement.

According to Kati Haycock, Director of the Education Trust, "Teacher effectiveness data systems are an essential and powerful tool in the effort to raise achievement and close the achievement gap. These systems allow us to find out which teachers are the most effective and match them with the students who need them the most. We can also find out which teachers need help and what types of professional development are most effective in helping them grow." But this message is tempered by two stark realities documented in the report. First, teacher effectiveness varies significantly. Value-added research shows that some teachers stimulate more than twice as much learning as the average teacher, while some teachers are teaching their students very little. Second, low-income students -- the very students who are most dependent on their teachers for academic learning -- are much less likely to get effective teachers in their classrooms than more affluent students. An appendix to the paper, entitled "The Opportunity Gap," surveys the latest research to document that, by every available measure, low-income and minority students have fewer good teachers. The report explains how policymakers and education leaders can move past the politically charged and ideologically driven debates over certification, pedagogy, and how to define a "highly qualified" teacher. By focusing on teachers' demonstrated ability to help children learn, value-added systems allow us to learn about what makes good teachers good. For more information, visit www.edtrust.org.

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TCEB LINKS

The following links may provide more information on articles in this TCEB:

Triangle Coalition Legislative Conference - www.trianglecoalition.org/conf.htm

Teacher Quality - www.teacherquality.us

US Department of Education's Mathematics and Science Initiative and
Science Summit - www.ed.gov/rschstat/research/progs/mathscience

Ohio Citizens for Science - http://ecology.cwru.edu/ohioscience
Education Trust - www.edtrust.org

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