

THE ARSI ARROW

AIMED AT THE  OF APPALACHIA

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WHO'S WHO AND WHO'S NEW?



John Putnam, one of our new Teacher Partners from Roane County, has been a 7th and 8th grade science teacher at Geary School for five years.

John graduated from Glenville State College in 1995 after completing undergraduate degrees in Chemistry and Education. His education degree enabled him to be certified to teach General Science 5-12 and Chemistry/Physics 9-12. In 1997, John also received his Master's Degree from Marshall University in the field of Science Education.

Aside from being an ARSI Teacher Partner, John has also been selected as a Coordinated and Thematic Science (CATS) Mentor Teacher. He's a chair member of the Student Assistance Program (SAP) whose aim is to help at risk teens, and a selection officer for the National Junior Honor Society. John has been a basketball coach at Geary School for three years.

On a more personal note, John is the husband of Andrea Putnam and a new father of baby Caroline. They reside in Leatherbark, WV and attend Millfork Community Church. Andrea and John spend many weekends singing and playing acoustic music as part of the Putnam Family, a bluegrass gospel quartet. You can reach John at jjputnam@access.k12.wv.us. You can also see pictures of his family at <http://www.marshall.edu/arsi/tpoct99.html>. We believe we'll be hearing a lot more from and about John. Stay tuned.

*True education is to learn HOW to think,
not WHAT to think.*

—Krishnamurti



Capitalizing on Science

Because attendance at professional meetings is so valuable and time out of the classroom is so precious, the October Teacher Partner meeting was held in conjunction with the WV State Science Teacher Association Conference in Charleston, WV.

Curriculum alignment is critical to a successful instructional program. Teacher Partners analyzed curriculums from other districts and used those as a springboard to discussing what components were critical for successful curriculum design.

Project CATS invited Teacher Partners to attend their pre-conference sessions on instructional materials evaluation and model science modules. Four ARSI Teacher Partners are also CATS (Coordinated and Thematic Science) members.

Teacher Partners shared their expertise during the conference in a variety of ways. Some presented individual sessions. Many of the Teacher Partners shared activities in a share-a-thon. Teacher Partner **Rick Willis** and his wife **Cindy** (former Teacher Partner) were site coordinators. Teacher Partner **Jo Hendricks** was on the conference committee.

Over 1000 educators participated in the WVSTA Conference. From over 100 sessions, Teacher Partners chose workshops based on their school and personal goals for the year. More than 70 exhibitors had materials on display.

The National Science Center Mobile Discovery Van was on site. There were also numerous tour opportunities that highlighted local science resources such as the WV Nature Conservancy, Union Carbide Technical Center and State Police Forensics Lab.

WVSTA always has nationally recognized speakers. This year was no exception. WV native, Homer Hickam, author of *Rocket Boys*, (re-released as *October Sky*), spoke at the opening session. Renowned ethnobotanist, Dr. Mark J. Plotkin, was the presenter at the Grand Banquet. Dr. Plotkin has worked with the ancient shamans of Central and South America to learn about healing plants in the tropical rain forest.

At the Grand Banquet, Clay County Teacher Partner, **Rick Willis**, was honored as 1999 Outstanding Biology Teacher by NABT. Fayette County Teacher Partner, **Wayne Yonkelowitz**, received the State Level 1999 Presidential Award for Excellence in Science Teaching in Secondary Schools AND the Milken Family Foundation National Educator Award for West Virginia.

To see pictures from the conference, visit <http://www.marshall.edu/arsi/tpoct99.html>.



Curriculum Development Meeting

Mathematics and science curricula aligned to the state standards and sequenced across grade levels is an ARSI indicator of a high quality school district. Several MU catalyst districts targeted development of such a curriculum as a major goal for this school year.

In support of that goal, ARSI MU Resource Collaborative sponsored a curriculum development training, facilitated by ARSI Project Director Dr. Stephan Henderson.

ARSI will assist districts in developing a written curriculum that is available to all teachers and used regularly in planning instruction and assessment.

Thank You

Thank you so much to all of our Teacher Partners who presented at the WVSTA Conference. You always do a great job.

Thank you also goes to **Rick and Cindy Willis**, from Clay County, who were site coordinators this year. TP **Jo Hendricks**, from Boone County, was on the committee.



Want a Tip?

To help teachers accept change, ask them to identify at least one benefit they'll get as a result of the proposed change.

Why? This gives each teacher a stake in the new venture!

From *Entrepreneur*, Entrepreneur Media Inc.

How Does Your Classroom Measure Up In the Real World?

Try this Checklist:

- Do you support the learning styles of the different ethnic and cultural groups in your classroom through your teaching styles?
- Do you provide students with situations that enable them to learn about the contributions that a diversity of groups and individuals have made to humanity and popular culture?
- Do you demand rigorous and equal academic performance from all students?
- Does your question-and-answer practice encourage participation by female and minority students?
- Do you provide situations that help students to draw connections between new ideas and personal experience?
- Do you encourage small cooperative groups to include students of mixed abilities and cultures?
- Do you choose curricula that depict women and different minority groups in positions of authority and in science-related careers and activities?
- Do you ensure that all students actively participate in hands-on activities?
- Do you provide meaningful and fair comments when interacting verbally with students?
- Do you infuse cultural diversity throughout all aspects of the curriculum rather than throughout one specific topic or unit?
- Do you provide situations for students, even those students who differ from their classmates, to feel they have a right to be themselves?
- Do you search out teacher-training opportunities that deepen your understanding of diversity issues?
- Do you read current literature and professional journals that provide thoughtful commentary on equity and suggest useful activities for the classroom?

From *Science Scope*, January 1999, pg. 27



Puzzler

No one sent in an answer to last month's puzzler. "How many "bones" will the outfielder have to glue back together?" Answer: The human skull comprises **22** bones.

This month's puzzler is: Find the up/down/diagonal path to a 25-letter answer. Use each letter once.

Clue: Maybe love is in bloom.

S	O	R	H	S		
E	S	I	L	T		M
T	N	E	W	I		
H	I	P	N	E		S
E	R	L	A	M		

WHERE TO GO AND WHERE TO LOOK

MATH & SCIENCE WEBSITES

Nearctica is an excellent supplement for classes teaching middle to high school natural science or environmental science. Focusing on the North American wildlife, it can serve as an out of class research activity aid or a tool used by the educator to demonstrate a lesson. This site has facts, pictures, and resources for further learning. <http://www.nearctica.com/>

Relevant (High School) Chemistry Resources on the Web is a chemistry student's dream. It can be used as supplemental text for students with information on various aspects of high school chemistry class curricula. Or, it can be used by educators to quickly acquire accurate and simple resource material. <http://3w.nai.net/~bobsalsa/high.htm>

Astronomy Village: Investigating the Universe is 10 complete investigations, including Hubble images, for 9-10th grades that are aligned to the National Standards. (For purchase) <http://www.cotf.edu/AV/av1.htm>. **Astronomy Village: Investigating the Solar System** is a planned extension of this and is being tested. For information see <http://www.cet.edu/av2>

Bio Blast: Better Learning through Adventure, Simulation, & Telecommunications is a high school, research based on NASA Advanced Life Support Research Program, hands-on labs, computer simulations, etc. Students work to make space habitable. <http://www.cotf.edu/BioBLAST>

Exploring the Environment is a high school program that uses real situations and problem solving skills with 14 modules and activities that include teacher pages. <http://www.cotf.edu/ete>. For middle schools, they have the earth science part that uses the 5 phases of research in 2 week blocks and uses inquiry and scientific investigation. <http://www.cotf.edu/ete/modules/mese/explorer.html>

Center for Educational Technologies & Classroom of the Future provides web resources for the classroom. <http://www.cet.edu>

Learning Technologies Project Classroom links resources such as movies and stories by topics to web sites. <http://learn.ivv.nasa.gov>

Remote Sensing Public Access Center. The NASA Observatorium provides public access to earth and space data. It has many topics. <http://rspac.ivv.nasa.gov>

NASA Quest has a number of opportunities for classes to get involved in NASA projects. <http://quest.arc.nasa.gov>

The Metropolitan Regional Career and Technical Center in Providence, Rhode Island, provides an overview of its progress in personalized learning and teaching. Includes information on "Learning Through Real Work", "Assessment", "Creating Physical Learning Environments", and many other topics including family engagement. <http://bigpicture.org/metport9798coverpage.htm>

*Limited expectations yield only limited results.
—Susan Laurson Willig*

Phi Delta Kappa
INTERNATIONAL

Kentucky Team Chosen

ARSI was able to select a team from Kentucky to represent us at last year's **Woodrow Wilson Leadership Institute** for teachers. The team was from Johnson County, Kentucky and the Institute was held in Costa Rica. Each of the three teachers has a web site documenting their experience. The pictures are incredible. What a lifetime opportunity for three rural teachers.

If you have an opportunity to look at their websites, it is worth it, go to:

<http://www.woodrow.org/teachers/esi/1999/costarica/>

Once you are on the site, click on the Teachers' names: Marsha Colvin, Tracy Runyon, and Patty Marshall.

Hands-On Equations: Making Algebra Child's Play!® Conducted by Borenson & Associates

This one-day workshop is sponsored by **Phi Delta Kappa** and you can receive graduate credit. Empowers teachers to understand and use the visual and kinesthetic Hands-On Equations patented teaching methodology in grades 3 – adult. Two dates left: **December 2**, in Lexington, KY and **December 3**, in Huntington, WV from 9:00 – 4:00. Recommended for upper elementary/middle/junior high teachers, math coordinators, principals, curriculum directors, gifted (grades 2-6) and teachers of LD (grades 4-12). For more information see: <http://www.pdkintl.org/profdev/institutes/ihandson.htm>.

And the Winners Are...

Winners of the 1999 Presidential Awards for Excellence in Science Teaching—Secondary Teachers at the state level, were **Sonya Picklesimer**, Williamson High School, Mingo County and **Wayne Yonkelowitz**, a Teacher Partner from Fayetteville Middle School, Fayette County.

The winner of the 1999 National Association of Biology Teachers Award for WV, was **Rick Willis**, a Teacher Partner from Clay County High School, Clay County.

Winners of the Milken Family Foundation National Educator Award for WV, were **Nancy Moore** from Walton Middle School, Roane County and **Wayne Yonkelowitz**, a Teacher Partner from Fayetteville Middle School, Fayette County.



Calendar

Nov. 4-5	TP Meeting, Ramada Inn, So. Charleston
Nov. 16	Program Improvement Review Pilot
Nov. 17	Program Improvement Review Pilot
Dec. 9-10	TP Meeting, Huntington Best Western
Jan. 6	TP Meeting, Ramada Inn, So. Charleston
Feb. 3-4	TP Meeting, Marshall COE Computer Lab
Mar. 16-18	WVCTM, Flatwoods, WV
Mar. 31	Marshall Math Competition, Huntington
Apr. 1	WV State Science & Engineering Fair
Apr. 17-18	TP Meeting, Ohio
May 10-11	Camp Virgil Tate, Cross Lanes, WV
July 10-13	Summer Academy, Cincinnati, OH



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A teacher affects eternity; he can never tell where his influence stops.

—Henry Brooks Adams