



The ReSET Report

Retired Scientists, Engineers & Technicians

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ReSET Volunteer a Real Gem

Wayne Sukow's professional path to becoming a ReSET volunteer began in the classroom, as a physics instructor at the University of Wisconsin-River Falls, and culminated at the National Science Foundation (NSF), where he retired as Program Director for the Division of Elementary, Secondary and Informal Education (ESIE) in 2004.

Along the way, the gem and mineral expert, who holds a master's degree in nuclear physics and a doctorate in chemical physics, founded an interactive science learning center—the Exploreum—at UW-River Falls. He also implemented the prestigious Teachers Experiencing the Antarctica program at NSF and embraced hands-on teaching principles with his own kids who loved experimenting with their Dad's mineral collection.

For Sukow, re-entering the classroom—first as a co-

volunteer in 2008 and now solo in Brittany Roman's 4th grade class at Washington, DC's



ReSET volunteer Wayne Sukow discusses his indoor Solar System experiment as CEO Harold Sharlin looks on.

Capitol Hill Campus of Center City Public Charter Schools—has been a rewarding chapter of a life spent in education. “The kids are so enthusiastic and full of happy chatter,” says Sukow. “They ask an unbelievable number of questions and some are very perceptive.”

In his geology session this past fall, Sukow guided the kids through mineral identification,

helping them perform streak and hardness tests and take data using simple bar charts. “Taking a streak was tough,” admits Sukow, “But it gave us a chance to talk about repetition, confidence in data when results are repeated—it's about learning scientific processes .”

And it's about sharing what he loves. Sukow hopes to motivate by introducing some fun and flashy things

about science—like the purplish garnet crystals from Emerald Creek, Idaho. The stones, which serve as Earth in his Solar System experiment, display a star when cut and polished about 25% of the time. At the end of the session, Sukow gives students two garnets to take home—one to keep, and one to give to somebody else. “Sharing,” says Sukow, “That's a great way to learn, too.”

Remake for No Child Left Behind

President Obama's proposed overhaul of the No Child Left Behind law would place more importance on academic growth than the current pass-fail approach to judging schools. The proposal also calls for states to verify that all students by 2020 are on a path

toward “college and career readiness.”

Given the complexities of such a task, ReSET CEO Harold Sharlin believes the volunteer's role in the classroom must expand and shift, too. Traditionally, ReSET volunteers have excelled at making

science fun and interesting for students, but they now must provide closer support to the teacher in achieving his or her goals, particularly in STEM subjects. “Our role ought to be more that of lab instructor to that of the teacher as lecturer,” says Sharlin.

Behind the curve...

Q: What percentage of U.S. college students major in engineering?

Science Quiz Answer:

A: According to a recent article in *The Chronicle of Higher Education*, just 4% of U.S. college graduates have a major in engineering, compared with 13% of European students and 20% of Asian students.

“We cannot tackle the immense challenges the nation faces without training and inspiring more students to pursue these academic disciplines and enter Science, Technology, Engineering and Mathematics (STEM) careers—and we must do this before they leave the K-12 education pipeline.”

~Sen. Ted Kaufman



New Data Highlight ReSET's Positive Impact on Students

The first results using a new student assessment tool approved by ReSET's Board of Directors are in—and the picture is promising. The questions asked of students, which are used by the National Center for Education Statistics (NCES) in preparing "The Nation's Report Card," measure attitudes toward science and aptly reflect ReSET's mission to show students that science learning is exciting and fun.

Some 145 ReSET students submitted their responses at the end of the Fall 2009 term. The results then were compared with those of the 7,305 fourth grade students nationwide who have completed the NCES assessment.

Responses to three questions that most directly correlate with ReSET's goal showed the positive impact that ReSET volunteers have on students. Nationally, 67% of students

Other Student Assessment Results

Percent of Students Responding "Agree"	National Survey	ReSET Students
"Science is useful for solving everyday problems"	35%	51%
"Science is a hard subject"	27%	16%
"Everyone can do well in science if they try"	84%	94%

agree with the statement "I like science," whereas 90% of ReSET students agree. In the Nation's Report Card, 70% of students disagree with the statement "Science is boring;" 87% of ReSET students disagree.

More ReSET students (80%) disagree with the statement "If I had a choice I would not study any more science in school" than the nationwide sam-

ple of students (64%). ReSET Executive Director John Meagher said that by 8th grade only 48% of students in the NCES assessment disagree with that statement. "This disappointing level of interest in studying science in high school is a problem for the future of the U.S.," said Meagher. "The positive impact of a ReSET volunteer in the early years of a student's science education can make a big difference."

ReSET's student assessment includes two unique questions. When asked if they enjoyed the classes, 99% of students responded positively. In response to the question of which experiment they liked the best, students identified volunteer Beverly Yett's potato face with Play-Doh muscles, Bill Lake's magnetic poles, Jim Cline's rainbow prism, Roberta Goren's microscope, Mike Fitzmaurice's outdoor solar system and Rich Repplier's encryption device.



Wishing you had more tax deductions?

It's time to plan ahead for next year!

Use the enclosed envelope to make a contribution to ReSET.

Long-standing ReSET funding organizations have been affected by the economy;

One folded entirely and others have reduced their level of support.

Please help if you can. Your generosity is much appreciated. Thanks!



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