

**Marsh White Award Final Report - *Science Club***  
Ohio University Chapter  
*Report completed by Daniel Hoy, Rick Bond and David McCowan*

We began *Science Club* last year as a five session after-school program designed to show first and second graders at West Elementary School (Athens, Ohio) the exciting side of science through hands-on experiments and demonstrations. By introducing these children to science at an early age, we hoped to inspire them and spark further interest in the subject. In our first year, we used demonstrations that could easily be done with everyday items or materials already possessed by our Department of Physics and Astronomy. The program was well received by students and parents and the school's principal invited us to return this year.

In order to purchase new, dramatic demonstrations and hands-on activities more suitable for first and second grade students to use in our second annual program, we applied for and received a Marsh White Award in the amount of \$300. While we were thrilled about using these funds to purchase exciting new demos and hands-on activities, we did not anticipate the excitement that winning this award would generate within the university; department faculty, the department chair, the dean of the Honors Tutorial College, the university Provost and the university President all sent their congratulations, excited about the potential of *Science Club* in the community. President Roderick McDavis said, "I am very proud of them for developing such a wonderful community outreach project," and Honors Tutorial College Dean Ann Fidler said, "It is nice to see the work that you have done be both recognized and facilitated." Our receipt of the award also generated a lot of interest at West Elementary. Principal Joan Linscott said, "I cannot think of more deserving recipients. We cannot thank you enough." Ms. Linscott also informed us that an enthusiastic parent of one of the students involved last year had donated \$200 explicitly for expanding *Science Club*.

We used the Marsh White funds to purchase the following items:

Snap Circuit, Jr.® kits (3)	\$90
Black light with fluorescent minerals	\$30
Propane Torch	\$25
Hot air balloons, 6' (2)	\$25
Neodymium magnets (2)	\$20
Batteries	\$10
Hot and cold packs	\$10
Drinking birds (2)	\$10
Assorted magnets	\$5
Heated ball and ring	\$5
Assorted household items	\$50
Shipping charges	\$20
<b>TOTAL:</b>	<b>\$300</b>

These items, along with those provided with the *SPS Outreach Catalyst Kit (SOCK)* which we received in fall 2006, helped make the second year of *Science Club* more exciting and provide a stockpile of resources for years to come.

This year's program ran from April 11 to May 9, 2007. We again met weekly for one-hour sessions covering electricity, magnetism, light, temperature and chemistry and had 21 first and second grade students participate. In total, 12 SPS members helped with planning and implementation with (on average) 8 attending each session. We also received substantial help from chapter advisor Alexander Neiman, department professor Mark Lucas and department laboratory director Steven Goss.

To give a taste of the benefits that the Marsh White Award enables, we present some first-hand, positive reactions from this year's *Science Club* program:

- At our first meeting of the year, we asked the group to name something that they knew about science. A student who had participated last year piped up, saying, "Science class is boring, but *Science Club* is fun!"
- After we had finished each week, students would hang around to show their parents what they had done. One student's father routinely stayed after to pick our brains with questions about such things as holograms, cryogenic freezing and revival, and mirrors.

- One of the students particularly loved our rock salt cold pack experiment and he wanted to take the supplies with him when he left. His mother promised him that they had some at home that he could use
- At the final session, a student told us (while jumping up and down), “I love *Science Club!* I love you guys! I want to be a scientist!”
- After the liquid nitrogen demonstrations where we froze and broke flowers, many students lined up to take frozen, flowers back to their waiting moms. (If you don’t break them right away though, they just wilt. Good thing moms love their kids regardless!)

We’ve enclosed several additional things with this report. On the following page is the Ohio University news release about our award as was published on the school’s web site, *Outlook*. After that, we’ve enclosed a copy of the very nice thank you note that several students left for us on the last day, and finally, some pictures from the outreach event itself.

## **Society of Physics Students recognized for service to elementary school**

### ***After-school Science Club wins national award***

ATHENS, Ohio (Feb. 20, 2007) -- The Ohio University chapter of the Society of Physics Students has received national recognition for its educational program to teach science fundamentals to elementary school students.

With funds from Sigma Pi Sigma, the national physics honor society, The National Society of Physics Students awarded the chapter with the \$300 Marsh White Award for the SPS After-school science club at West Elementary in Athens.

Advised by Ohio University Professor Alexander Neiman, SPS volunteers engaged students through demonstrations and hands-on experiments. The program covered myriad topics such as electricity, magnetism, light, chemistry and temperature, with more than 20 students in the first and second grades participating.

"Our hope with the project was to get students excited and curious about science and to give them an opportunity to do something fun while still learning," SPS President David McCowan said. "Elementary school students are still impressionable and it's important to show them that science isn't just dusty textbooks and boring equations."

The chapter plans to repeat its program at West again this coming year to a new group of eager and excited students. Successful programs and demonstrations will be repeated, but the organization is planning new activities, some of which will be funded by the Marsh White Award.

The SPS chapter is also considering expanding the program to include a one or two-day outreach event at Athens Middle School. The program would mostly draw on materials provided by the National Society of Physics Students for temperature outreach in conjunction with the PBS television program "Absolute Zero and the Conquest of Cold" that will air later this year.

"Receiving this award allows us to purchase materials that are not available from the Department of Physics and Astronomy," said McCowan, who wrote the proposal for the award with members Rick Bond and Daniel Hoy. "We are quite excited because this money will help us purchase new equipment that will benefit the project greatly."

The Society of Physics Students is a national organization that is part of the American Institute of Physics. Throughout the United States, approximately 5,000 students are members at more than 700 schools. The Ohio University chapter is open to any students interested in physics - whether they are a major or not - and provides a forum for interaction with others sharing that interest.

From: <http://www.ohio.edu/outlook/06-07/February/361n-067.cfm>





Rick Bond working with students on electromagnetism.



Daniel Hoy working with students on a laser light obstacle course.



David McCowan preparing a baking soda volcano.



Greg Rosen and Claire Chen helping students with their Snap Circuits.