

Physics Fun Day

May 16, 2009

As recipients of the Marsh White Outreach Award, we would like to express our thanks to the Society of Physics Students for giving us the opportunity to go beyond the normal scope of outreach and to make possible the discovery of the physical world possible to curious little children for a day.

The Physics Fun Day was hosted at the Marv Nelson Science Learning Center at Green River Community College (GRCC) on May 16, 2009. Although support from our staff and our chapter was amazing, the response from the community was a bit underwhelming: about twenty small children attended the event in the company of their parents. We underestimated the attention span of the little ones however and so we were actually pretty happy with the group that we received. There were three rooms that were set up: mechanics, thermodynamics and oscillations and waves (illustrating sound and light waves). Each set of people that poured in for the four hour event spent an average of one hour or so in each room. They enjoyed glass shattering with sound, a vacuum cannon, liquid nitrogen demonstrations and other toys. At the same time they learned a little about the physics concepts behind these phenomena through explanations and illustrations provided by us. The children were excited to understand why the balloon got so small in the liquid nitrogen and how the rainbow glasses worked.

While the piece de résistance was the liquid nitrogen depth charge that blew up the trash can filled with water, we also gave away our little kits and books of experiments to further the curiosity of the children (and maybe even their parents). The book is contained in the report, and the kit contained a pair of rainbow glasses, straws, balloons, magnets, and color changing beads. Many of the students in our chapter contributed their printing budgets and hours and hours of work in order to make the booklets possible. Without the time and efforts of my peers and the staff at GRCC the kits and booklets would not have been completed in time. Chapter members also sacrificed their printing budgets in order to print and distribute 4000 fliers for the event. We focused on elementary schools to distribute the fliers but we also distributed at local libraries and grocery stores.

In reflection maybe if concentrated our efforts on childcare centers and places with more younger children we might have had a bigger response but then we would have had less time to concentrate on the booklets and kits that we gave out so finding the balance will be most important in the future. Calling in to radio stations to publicize the event was suggested. There were suggestions to make the fliers more interesting and add a secondary attraction not

related to our talks (like a bounce house), but we were trying to entice a crowd that was more interested in what we were trying to show them than bouncing themselves silly. Another reason for the low attendance was possibly the weather. Leading in to the event we had a week of bad weather but Saturday, May 16 was a gorgeous day. We think people probably chose to do things outdoors. Another outreach event organized by GRCC's technology club for high school students attracted only one participant!

We prepared 100 bags and accompanying booklets. We plan to use these in our future outreach efforts. We also hope to continue adding to the booklets to provide more avenues for discovery. The next three pages show a few pictures from the event. More can be found at the following link: <http://picasaweb.google.com/SPSAdvisor/PhysicsFunDay>

Once again we thank the SPS for the opportunity and learning experience you have allowed us through the gracious gift of the Marsh White Outreach award.

Submitted by: Breiannan Way on behalf of the Green River Community College SPS Chapter

Expenditure:

Item	Cost
Liquid nitrogen 5 gallons at \$10 a gallon + \$20 filling fee	\$70
Marshmallows and other edible supplies for liquid nitrogen experiments	\$30
Hundred goody bags: Cost includes the price of balloons, straws, ceramic magnets, color changing beads and diffraction glasses. Cost also includes the price of paper sacks and warning labels. The color changing UV beads were donated by the physics department.	\$200

By using printing budgets of chapter members to make flyers and booklets, we were able to use the money allocated for flyers to purchase ceramic magnets (a pair for each bag) and diffraction glasses which were not mentioned in our proposal. We were also able to increase the number of bags from the thirty proposed to a hundred.

As explained in the report above, we have a number of these bags left due to poor attendance. We plan to hand these out during future outreach events.



Children making smoke rings under the direction of our chapter members



Physics Instructor Keith clay lecturing future students on buoyancy



Children enjoying a batch of liquid nitrogen marshmallows.



Andrew Adams and Terry Thompson explaining how a ring launcher works



Preparing the liquid nitrogen depth charge.



Kaboom!