



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Future Faces of Physics Award Report

Project Proposal Title	Future Faces of Physics with CSM SPS
Name of School	Colorado School of Mines
SPS Chapter Number	1287
Project Lead (name and email address)	Dylan Honors dhonors@mymail.mines.edu
Total Amount Received from SPS	\$250
Total Amount Expended from SPS	\$250

Summary of Award Activity

The Society of Physics Students at Mines visited Fox Ridge Middle School on April 18th. We set up a variety of physics demonstrations in their library, and students were able to come in during their science classes and learn about physics. The middle schoolers got to participate in hands on activities related to electricity and magnetism, optics, space, fluids, waves, and mechanics. Between 100 and 200 students participated in the event.

Statement of Activity

Overview of Award Activity

Our SPS chapter brought our physics demonstrations to Fox Ridge Middle School, and lead the students in hands on physics activities throughout the day. Demos were divided into categories and one SPS member was responsible for organizing and knowing the demos in their category. Students came to the library during their science class and learned about physics.

The event gave the middle school students an opportunity to learn about physics concepts outside of a traditional classroom environment. SPS members were able to practice explaining physics to children. We also showed some of their teachers how to make a few physics demonstrations.

The audience was middle school students, and we estimate that between 100 and 200 (5 periods of around 40 students, some repeated) participated in the event.

Our SPS chapter puts on other physics outreach events, and FFOP is the largest one we do all year. For example, we do a "Haunted Physics Lab" around halloween time, and participate in local elementary school science nights.

It was really cool to see the natural curiosity of the students. I think the most liked demos were things that did unexpected stuff, like the spouting bowl and the brachistochrone ramp.

Impact Assesment: How the Project/Activity/Event Promoted Physics across Cultures

The goal of this event was to promote physics to middle school students. I believe this goal was achieved. Over 100 middle school students were inspired by our physics demos, and many of them chose to come back later in the day because they enjoyed it so much. There was no formal assessment for the event like a survey, but our volunteers and the participants had fun learning about physics, and the teachers at Fox Ridge said we did a good job, and invited us back.

Impact Assesment: How the Project/Activity/Event Influenced your Chapter

This section should discuss how the project/activity/event influenced the SPS members that participated and your SPS chapter in general. For example, were attitudes changed? Relationships strengthened? Priorities changed? Skills developed?

This event allowed SPS members to do physics in a completely different context than their classes and other on campus activities. Teaching physics to middle school students is a very different exercise than completing a problem set or a lab report. I think the event also strengthened the friendships in our chapter, since we spend the day together being excited about physics.

Key Metrics and Reflection

<p>The Future Faces of Physics Award is designed to promote projects that cross cultures. What cultures did your project attempt to bring together? (Please be as specific as possible.)</p>	<p>Middle school science courses are usually don't show off how interesting and useful physics is. We were able to show them that physics (and science in general) isn't only about tests and homework.</p>
<p>How many attendees/participants were directly impacted by your project? Please describe them (for example "50 third grade students" or "10 high school volunteers").</p>	<p>between 100 and 200 middle schoolers (number is an estimate, it may be inaccurate because some students came during multiple periods)</p>
<p>How many students from your SPS chapter were involved in the activity, and in what capacity?</p>	<p>26 SPS members volunteered. They showed the demos and answered questions.</p>
<p>Was the amount of money you received from SPS sufficient to carry out the activities outlined in your proposal? Could you have used additional funding? If yes, how much would you have liked? How would the additional funding have augmented your activity?</p>	<p>The funding from SPS was sufficient. It was used to repair/upgrade our demo library, and provide food for volunteers.</p>
<p>Do you anticipate repeating this project/activity/event in the future, or having a follow-up project/activity/event? If yes, please describe.</p>	<p>Yes, we will do a similar event at a different school next year.</p>
<p>What new relationships did you build through this project?</p>	<p>A science teacher at Fox Ridge is interested in doing future events with us.</p>
<p>If you were to do your project again, what would you do differently?</p>	<p>Start looking for volunteers earlier.</p>

Press Coverage (if applicable)

N/A

Expenditures

The SPS funds were primarily used to repair and upgrade our demo library, along with providing food for volunteers. When the remaining \$250 is received we will use it to purchase and repair more physics demonstrations.

Expenditure Table

Item	Please explain how this expense relates to your project as outlined in your proposal.	Cost
Ferrofluid	demonstrates magnetism	\$40
Assorted Batteries	Demos need power	\$20
Cinder Blocks	for the bed of nails demo (see picture)	\$20
Tarps	Many demos are messy	\$20
Bagels for Volunteers	Physicists need energy	\$30
Modular Bins	makes demos organized and easy to transport	\$50
Spouting Bowl	shows vibrational modes	\$70
Total of Expenses		\$250

Activity Photos



SPS member Bri Treffner smashes a cinder block on science teacher Mr. Breiding while he lays on a bed of nails
(credit: Tara Braden)



Students play with vortex rings at the fluids station
(credit: Tara Braden)



If you have any questions, please contact the SPS National Office Staff
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