



# SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

## Future Faces of Physics Award Proposal

Project Proposal Title	Future Faces of Physics with CSM SPS
Name of School	Colorado School of Mines
SPS Chapter Number	Chapter 1287
Total Amount Requested	\$500.00

### Abstract

To promote future generations to pursue science Colorado School of Mines travels to a diverse and underprivileged school in Colorado to teach science for a day. The chapter creates worksheets to go along with hands-on demonstrations to provide science education in a manner different than the typical classroom setting.

## Proposal Statement

The entire Proposal Statement should be no more than 2 pages, and organized as follows.

### **Overview of Proposed Project/Activity/Event**

This project is a repeat of what we performed last year. Many schools in the area ask for the chapter to come and show science to the children. We choose the school with the most need for our huge FFOP event. We carpool or rent a bus to take 20+ chapter members and demonstrations to the school. We then set up for a full day of teaching the children science in a fun and engaging way. We make worksheets to guide the students through the demonstrations, so that they can learn in a hands-on setting. This allows students to get away from the standard classroom lecture, and become more engaged in the science they are learning. We also have the ability to show more interesting phenomena since the school usually has a very small budget and cannot buy science equipment. We usually choose a middle school for this event, as the students are old enough to really learn from science, yet young enough that they can still choose a career path in science.

### **How Proposed Activity Promotes Physics Across Cultures**

Choosing an underprivileged school allows us to diversify interest in physics. The students we teach are generally minorities in this field and need a push to show them they are capable of becoming a physicist. We also know that the community is strengthened by our event since we are often requested to come and fill a gap in science. The last few events we have performed like this have also been greatly praised by the teachers of the children.

### **Plan for Carrying Out Proposed Project/Activity/Event**

- The event is planned by the VP of Outreach of the Chapter and the corresponding school that will host the event.
- We don't need to market for the event as it occurs during school hours, so students will already be present
- We tend to have 20-30 CSM SPS members as volunteers to host various "booths" at the school.
- These "booths" are stations with demonstrations on topics throughout physics such as optics and electricity.
- Most of the SPS members are juniors and seniors in physics and can explain simple topics to the middle school students.
- Each "booth" has a corresponding worksheet for the student to interact and ask questions about the science of the demonstration.

## **Project/Activity/Event Timeline**

While the actual date of the project has not yet been planned we choose a time around April. This is because we host a large event called Haunted Physics Lab in late October. This event draws hundreds of people and leads to many requests from schools for our FFOP event. In January or February, the school is chosen and a date in April planned for the event. March is the chapter's prep time to make new demonstrations, repair old ones, and make the worksheets. When the date of the event arrives the SPS members meet on campus early and travel to the school. We host the event throughout the school day and then travel home.

## **Activity Evaluation Plan**

We evaluate our success based upon the school's evaluation of our event. We ask that the school hosting the event tells us of anything we could have done better or different. This feedback from the science teachers gives us insight to the impact our event has upon the students. In addition, we often receive emails from parents telling us that their child loved the event. This feedback allows us to tailor our presentations for the next year, so we are constantly in a state of refining how we perform outreach.

## **Budget Justification**

The money from this grant is split between the costs of demos, transportation, and food for the volunteers. Some of our most-used demonstrations are often in need of repair. Our example, we have a Jacob's Ladder demonstration for our electricity booth that needs a tube of safety glass to prevent students or volunteers getting shocked by high-voltage electricity. We also often add new demonstrations to our repertoire as chapter members come forth with new suggestions, so a portion of our outreach budget goes towards purchasing those. We provide a small breakfast to volunteers, and rent a bus to transport everybody to the school, which is the bulk of the cost of this event. Transportation is the largest expense for the event, costing around \$1500 to get the demos and volunteers to the school. Some of the funds for this event are provided by our physics department, but most of it is from our chapter's fundraising efforts.