PHYSICS IS PHANTASTIC
PHUNSHOP 2013

PRESENTED BY THE
UNIVERSITY OF WISCONSIN PLATTEVILLE
SOCIETY OF PHYSICS STUDENTS - CHAPTER 8316

MARSH WHITE AWARD

PREPARED BY

HOLLY SCHOENBERG, PRESIDENT _____

DUANE FOUST, ADVISOR _____

REQUESTED AMOUNT: $300

SUBMITTED: 20 NOV 2012

PROGRAM ABSTRACT

The UW-Platteville Society of Physics Students is hosting our 13th Annual Physics is Phantastic Phunshop. This event will take place early November and invites 5th and 6th grade students from 25 area schools to spend a day participating in physics workshops and demonstrations. This coming year we plan to incorporate stored energy and the conversions of energy into our event.

Although we have almost a year before we host our annual Physics Phunshop, we have already created a budget for what we need, and inventoried the supplies that we currently have. We have decided that we want to teach them about different types of stored energy, how energy is converted, and how it can be applied.

Due to the high participation we have received at past Phunshops, we are planning on there being 50 or more students attending. Due to the large audience, it's essential to have demos and activities that can keep their attention. During the event, we make sure to focus on asking for volunteers and encouraging the students to ask questions when we are performing demonstrations. Both of these help stimulate interest and increase retention of the ideas and concepts described.

The tentative Phunshop 2012 is as follows:

8:00 AM	**Registration (1 hr min)**
9:00 AM	First Physics Demos (1 hr)
10:00 AM	Break/Snacks (15 min)
10:15 AM	Construct Rubber Band Cars (1 hr 15 min)
11:30 AM	Pizza Lunch (45 min)
12:15 PM	Second Physics Demos (1 hr 15 min)
1:30 PM	Construct CO_2 Cars (1 hr 15 min)
2:45 PM	Rocket Car Finale (approx 1 hr)
3:00 PM	Dismissal

As you can see, we have two demo sessions and two workshops. This allows for the students to apply the concepts learned in the demonstration portions to the construction and design of their cars. The variety also helps keep the students interested while yet keeping them from getting too rowdy. For many of the demos, we borrow the Engineering Physics department's materials as well as some of our own SPS Chapter items. All of our demonstrations are chosen so that the entire theme of the event is stored energy. The reason for this is by having

an overlying theme it is more likely that the students retain the importance of all the sub portions.

The first portion of the demonstrations will begin with trying to get the students to think of what physics means to them. This question and answer session gets the students involved and gets their brains focused on physics. Our first demonstration session will introduce what stored energy is and will segue to an evaluation of Newton's three laws. Demonstrations such as Newton's Cradle and Euler's Disk will help show the students how Newton's laws can be applied. We will then tie in Newton's laws and stored energy to show demonstrations centered around center of mass and rotational inertia. We will end the first demonstration session with demonstrations of potential energy and transfer of energy.

The second demonstration section will begin with some demonstrations based on more complex forms of stored energy. We will incorporate different forms of matter such as dry ice and liquid nitrogen and show how these materials can be used as stored energy. One demonstration that we plan to perform is making CO_2 bubbles using dry ice. We will then apply these ideas of stored energy using pressure to launch a ping pong ball through an aluminum pop can using a vacuum cannon.

The construction times are meant to get the students active and applying the concepts brought to them in the demonstration portions. Each demo will be run by two college students minimum, and each workshop will be run by eight college students minimum.

In September of 2012, one SPS student representative, Jon Tegeler, approached UW-Platteville's Segregated University Fee Allocation Commission (SUFAC) with our estimated yearly budget of which included our expected expenses for the 2012 SPS Physics Phunshop. We have not 'officially' heard back from SUFAC, although we do have tentative approval numbers of the funds being allocated for Phunshop, of which we are granted a total of zero dollars. This has come to be the standard at UW-Platteville as it was brought up in SUFAC by one of its

commissioners that the money they allocate is from college students, and most college students wouldn't like that they pay money just to be spent on 6th graders; they don't get their money back. During the year, our SPS chapter is continuously fundraising by selling t-shirts and by having brat sales in order to attain enough funds to host a successful and 'phun' event for the next generation of physics enthusiasts.

Our proposed budget is as follows:

Phunshop 2012 Budget				
Item	Price	Amount Per Pack	Amount Needed	Cost
Rubber Band Car Supplies	$1	1	75	$75.00
CO2 Car Supplies	$50	100	1	$50.00
Pizza	$8	1	15	$120.00
Milk	$3	gallon	5 gallons	$15.00
9oz Cups	$1	12	240	$20.00
Pop	$2	2 liter bottles	30 bottles	$60.00
Juice	$1.50	46oz bottle	20 bottles	$30.00
Napkins	$1	100ct	500ct	$5.00
Plates	$1	50ct	200ct	$4.00
Cookies	$3	12	240	$60.00
Printing	$.10	1 pg	525 pgs	$52.50
Mailing	$1.50	1 school	25 schools	$37.50
			Total Funds Supplied by Chapter	$229.00
			Total Requested:	$300.00
			Total needed to run Phunshop:	$529.00

Also, we give each 5th and 6th grader a T-shirt to promote our program and give them something to take home. This has been excluded from the budget as we strive to encourage students to enjoy physics and spread the word using our own funds.