



# SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

## Marsh White Award Report Template

**\*\*Note: I (Maxine Brandt) am the incoming student president of this organization, so I do not have full access to our records yet. The other incoming officers are in a similar position. I reached out to both of our faculty advisors several times to get the information necessary to complete this report, but nobody answered me so I did my best to complete this without proper knowledge of our financial records or how this process with the award worked. Thank you for your consideration.\*\***

Project Proposal Title	IUP Physics Olympics
Name of School	Indiana University of Pennsylvania
SPS Chapter Number	3138
Project Lead (name then email address)	David Lane, <a href="mailto:ckhcc@iup.edu">ckhcc@iup.edu</a> (Note: David has since graduated, new primary contact is Maxine Brandt, <a href="mailto:dvvw@iup.edu">dvvw@iup.edu</a> )
Total Amount Received from SPS	\$500
Total Amount Expended from SPS	\$500

## Summary of Award Activities

Each spring, Indiana University of Pennsylvania's Physics Club invites students from high schools in the area to compete in the Physics Olympics. The event consists of 5 different physics-based activities (varying from year to year), and students work in teams to complete each task to the best of their ability and receive points based on how they perform. The members of the team with the highest score at the end of the day each receive a prize and certificate.

## Statement of Activity

### **Overview of Award Activity**

The IUP Physics Olympics is an annual event hosted by the Physics Club on campus to promote interest in physics/STEM among high school students. Students compete in small teams (3-4 members) to complete 5 activities that require elementary physics knowledge: building mousetrap cars, assembling bridges with popsicle sticks and glue to hold weight, designing a mechanism for an egg to survive a drop test with limited supplies, building towers with spaghetti noodles and mini marshmallows, and testing their theoretical knowledge with Physics Jeopardy. This year, over 100 students from 9 local high schools participated in the event. Students and their chaperones arrived at 8:00 to check in and the event started at 8:30, with students rotating through activities in their groups until 12:00. Lunch was served while the club members calculated the teams' scores, and winners were announced at the conclusion of the event around 1:00.

### **Impact Assessment: How the Project/Activity/Event Promoted Interest in Physics**

Our initial proposal was to host the Physics Olympics for local high schoolers, which is an annual event for our organization. We were able to guide teams of students through all 5 activities (listed above) that tested their knowledge of general physics while letting them have fun and engage in some friendly competition. Overall the goals were met for our proposal. We were able to use the funding to buy some supplies necessary to run the stations, as well as t-shirts the students took home with them. All of the stations went as planned, and each group was able to get their scores and feedback from each task. We were also surprised by the performance of some groups; the strongest popsicle stick bridge held over two hundred pounds! Several high schoolers came up to our volunteers and club members and asked them questions about their majors and experiences studying physics in college. Club officers and faculty advisors were also approached by several of the chaperoning teachers, who let them know that their students look forward to coming up and competing in the Olympics every year.

### **Key Metrics and Reflection**

Who was the target audience of your project?	Local high school students taking physics courses
How many attendees/participants were directly impacted by your project? Please describe them (for example "50 third grade students" or "25 families").	100-125 students from 9 high schools in the area

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How many students from your SPS chapter were involved in the activity, and in what capacity?	10 chapter/club members were involved in the planning, preparation, and execution of the event. The officers led the process.
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 and how would the additional funding have augmented your activity?	Our event could have used more funding because this year had a bigger turnout than we initially anticipated when we submitted our first proposal. Another \$250 may have been sufficient, however the incoming club officers do not have access to the organization's financial records yet.
Do you anticipate repeating this project/activity/event in the future, or having a follow-up project/activity/event? If yes, please describe.	Yes, our organization repeats the Physics Olympics every year.
What new relationships did you build through this project?	Teachers and students from local schools, event planning staff at the university
If you were to do your project again, what would you do differently?	Invite more schools/students to attend, streamline planning and organization

### Press Coverage (if applicable)

If your project received press coverage, please include references or URLs to the coverage. When possible, attach copies of articles to this report.

N/A

### Expenditures

The expenses for the Physics Olympics included supplies for event activities, t-shirts for participants and club members hosting, and lunch for everyone the day of the event. We used SPS funding for some activity supplies and part of the cost of t-shirts, and other funding was used for the rest of the supplies, shirts, and food.

### Expenditure Table

Item	Please explain how this expense relates to your project as outlined in your proposal.	Cost
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Hot glue sticks	Used for mousetrap cars and bridge building	\$21.26
Tarp	For testing area of egg drop activity	\$4.66
Bathroom scale	Measuring amount of weight bridges were able to hold	\$10.97
T-shirts	Each student and club member received a t-shirt to commemorate the event	\$463.11
<b>Total of Expenses</b>		<b>\$500</b>

Activity Photos



Egg Drop Experiment  
Credits: Dr. Andrew Zhou



Physics Jeopardy Game

Credits: Dr. Andrew Zhou



Building Mousetrap Cars

Credits: Riley Sullivan



If you have any questions, please contact the SPS National Office Staff  
Tel: (301) 209-3007; Fax: (301) 209-0839; E-mail: [sps-programs@aip.org](mailto:sps-programs@aip.org)