



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Future Faces of Physics Award Proposal

Project Proposal Title	Smashing Stereotypes: Egg Drop for Memphis Girls
Name of School	Rhodes College
SPS Chapter Number	5940
Total Amount Requested	\$480.50

Abstract

The Rhodes College chapter of SPS will use the Future Face of Physics Award to host an egg drop for girls ages eight to thirteen from the Memphis area. Through this project, they hope to encourage the next generation of female scientists and emphasize the power of innovation.

Proposal Statement

Overview of Proposed Project/Activity/Event

We intend to host an egg drop on campus with approximately 50 participants. We will specifically market this as an event for science-minded Memphis girls (ages 8 to 13) to practice their engineering and design skills. The first hour of the event will be devoted to designing and constructing the egg containers from the materials provided (see proposed budget for complete list). We will also ask each participant to fill out a brief “project proposal”: a sketch of her design and a one-sentence explanation of how it will protect the egg upon impact. This portion will take place either in classrooms on campus or outdoors where the eggs will be dropped, depending on the number of participants and weather.

The second part of the event will take place outside, at the base of Rhodes Tower (the physics building at Rhodes). SPS member judges will first score each container based on the size and weight of the design, with the possibility of bonus points for innovation or creativity. Next, an MC will announce the name of each participant as her egg is dropped from the sixth floor of Rhodes Tower. We will keep a leaderboard of all the eggs that do not break, and winners will be announced on the basis of egg breakage and overall scores. We plan to give out t-shirts (“I survived the Rhodes SPS Egg Drop!”) to those whose eggs survive. We will also hold a drawing for a Snap Circuits kit.

How Proposed Activity Promotes Physics Across Cultures

As indicated by many of the discussions at PhysCon this year, the problem of gender stereotypes persists in STEM fields and tends to dissuade girls and young women from pursuing their interest in science. Through this project, we hope to encourage the next generation of female scientists by showing them that anyone can succeed in physics and that they don’t have to consider themselves “science nerds” to excel in that area. Through their interactions with one another and our SPS chapter members, they will begin to develop the support network that is so critical for young women in science and meet people of all backgrounds with interests similar to their own.

Plan for Carrying Out Proposed Project/Activity/Event

- Personnel
 - **Eleanor Hook**—event organizer/project manager
 - **Peyton Marshall**—Rhodes SPS President, who will be responsible for checking in and making sure we are working within our timeline
 - **Matthew Huber**— Rhodes SPS Vice-President, responsible for coordinating event volunteers and reserving/preparing locations of egg drop activities

- **Abel Diaz**—Rhodes SPS Secretary, who will be responsible for the logistics of the egg drop, especially with regards to announcements during the event
- **Phoebe Sharp**—Public Relations Officer, who will work with James Stuckey to publicize the event
- **James Stuckey**— Outreach Officer, who will help will event publicity
- **Thomas Cullom**—SPS Treasurer, who will take care of purchasing supplies
- Marketing
 - We will work directly with local schools for girls and girls-oriented organizations to promote the event within their communities. If teachers are willing to give extra credit to students who participate, we will offer that as an option as well.
 - We have included in our budget a set of prizes intended to attract more participants.
- SPS member participation
 - The number of volunteers required will depend largely on the number of participants. We aim to have at least one volunteer for every ten girls competing, as well as a core group of four to five SPS members who will be responsible for dropping the eggs and coordinating with the “ground crew”. Additionally, one or two volunteers will make announcements about the event and play music.
 - All in all, assuming our projected turnout of 50 participants, we should have at least twelve SPS members volunteering. This is a reasonable expectation for our chapter given the number of volunteers at past events, and we may also invite other women-oriented STEM clubs (such as Women in Computer Science) to help out.
- Expertise
 - Eleanor Hook, the event’s primary coordinator, was responsible for planning our 2016 Pumpkin Drop, so she has experience organizing large on-campus events and coordinating with college administration and campus safety. She has also previously served as our Outreach Officer.
 - Phoebe Sharp has also organized Pumpkin Drop and has extensive experience with this type of event.
 - James Stuckey is our current Outreach Officer; he will be able to contact schools that we have ties with and encourage their participation as well.
 - Dr. Brent Hoffmeister (chapter advisor) and Dr. Ann Viano (department chair) will advise us as they have helped coordinate egg drops at Rhodes in past years.

Project/Activity/Event Timeline

Dates	Goals	Officer(s) responsible
January 11- February 8	Contact local organizations; set a date (for early April); determine approximate number of participants	Eleanor Hook; James Stuckey; Phoebe Sharp
February 1-15	Clear event with college administration; finalize list of	Eleanor Hook

	material required	
February 15- March 1	Order supplies; coordinate event details; find volunteers	Thomas Cullom; Eleanor Hook; Abel Diaz; Matthew Huber
March 1-31	Finalize event details; continue communication with participating organizations	Eleanor Hook; Phoebe Sharp
Early April	Egg drop!	All officers
April 16-29	Evaluation of the event at officer meetings	All officers
April 30- May 31	Compilation and submission of final report	Eleanor Hook

Activity Evaluation Plan

To evaluate the effectiveness of this project, we will first look at participation: how many girls showed up? How hard did we have to market for this turnout? Was there more or less interest than we were expecting? We will also take into account the way that the participants interacted with each other and SPS members, how engaged they appeared, and what sorts of designs were created. Since the event has the proximate goal of encouraging girls to foster innovation rather than teaching specific concepts, we will not consider the number of eggs that remain intact so much as the thought processes behind the designs. Based on the “project proposals” we will try to get a sense of how involved the participants were and how deeply they thought about their projects.

Although much of this evaluation is qualitative, we will keep accurate records of the number of participants and egg drop designs as part of our evaluation plan. The rest of the evaluation will be discussed in-depth at the officer meeting after the event, as well as with the rest of the chapter members and especially everyone involved in the egg drop.

Budget Justification

Most of the items in the budget are for supplies that are immediately necessary for the egg drop event (cardboard, scissors, tape, etc.). We have included t-shirts as we plan to give out shirts to any participants whose eggs do not break, as well as to the volunteers. This will provide some incentive to put reasonable effort into the designs but it will avoid creating an environment that is overly competitive as a larger prize might—after all, the goal of this project is to bring girls closer, not pit them against each other! Additionally, since there will be a large number of girls, parents, teachers, and volunteers present, we would like to have volunteers in coordinating shirts so that the event will be less chaotic.

We also budgeted for a Snap Circuits kit that we will give away in a drawing. This will help from the marketing standpoint, but it also demonstrates our hope that each girl will go continue to pursue her interest in science after she returns home.