



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Future Faces of Physics Award Report

Project Proposal Title	Rhodes College Egg Drop
Name of School	Rhodes College
SPS Chapter Number	5940
Project Lead (name and email address)	Grace Nehring nehgi-25@rhodes.edu
Total Amount Received from SPS	\$500.00
Total Amount Expended from SPS	\$491.94

Summary of Award Activity

At the Rhodes College Egg Drop, local children were provided supplies and assisted by students to creatively design and build a contraption to protect an egg. The completed contraptions were weighed and dropped from the roof of our five-story tall physics building to test them. Most of the eggs did not crack, and the lightest contraption whose egg survived won. This year, we were able to provide a one-to-one ratio of child to volunteer leading to high engagement, and the children had fun drawing with chalk and building towers from marshmallows and spaghetti noodles after the eggs were dropped.

Statement of Activity

Overview of Award Activity

The Rhodes College Egg Drop is an annual spring outreach event intended to be a fun and creative way for local elementary age children to engage with physics. The event is held on the lawn outside of the physics building, Rhodes Tower, on the Rhodes College campus. Tables were set up with various materials, and children in attendance were guided by a student volunteer to design and build a contraption to protect their egg. Provided supplies ranged from practical items like cotton balls and rubber bands to more fun and creative items such as glitter glue. Children were encouraged to make both a functional and creative contraption, including coming up with a name.

After the contraptions were built, they were weighed and tested by being dropped from the roof of the five-story tall Rhodes Tower. We counted down each drop, and all the participants were very engaged in watching them drop and waiting for the eggs to be checked. Only two of the eggs cracked overall, and all the contraptions looked great! The surviving contraption that weighed the least was announced as the winner. The kids also were provided with mini marshmallows and spaghetti noodles to build towers and sidewalk chalk to creatively play with after the festivities. Overall, all of the children were very engaged throughout and even after the event, and they all left a little more curious about physics in the form of how things work!

The target audience for the event was primarily elementary school age children who are members of underrepresented groups in physics. We planned to invite the Refugee Empowerment Program (REP), an organization for which our students regularly tutor, and the Kroc Center, associated with the Salvation Army, to accomplish this. Unfortunately, both organizations had mandatory staff training or other events on the day of the event and were unable to bring young students. Due to this and other conflicting events in the community for local elementary schools, only local families associated with Rhodes were able to attend. We had a much lower attendance than in previous years because of this with only seven families in attendance. Although we were disappointed at the low number of participants able to attend, it did allow for each child to receive far more individualized attention from our student volunteers, and all attendees had a very positive experience!

The Egg Drop has been an annual occurrence at Rhodes College for several years and is a spring play on our large fall outreach event, Pumpkin Drop. Pumpkin Drop is an event open to both Rhodes students and community members to come see fun physics demos and watch pumpkins dropped from Rhodes Tower! Egg Drop is a fun way to make this type of event more interactive for and directly targeted to local children. Additionally, it provides an additional space for our SPS students to interact more with the elementary age range through outreach.

A highlight of this event was how excited all the participating children were to watch the eggs drop and check to see if they survived the fall. The children would enthusiastically count down before each drop and several ran to their contraption to watch the egg being checked. And, of course, there was lots of cheering every time an egg was announced to not be cracked!

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

The goal of Egg Drop was to excite diverse groups of children about physics and engineering by entreating them to a contest in which they must create a contraption which protects an egg from a fall

with the goal of using as little material as possible, by weight. Egg Drop was to involve children from the Refugee Empowerment Program (REP) of Memphis, as well as the children of faculty. REP involves many children of refugees, mainly from Africa, in educational and recreational programming.

Ultimately, due to a scheduling mishap, the event failed to engage the children of REP. While 2022's Egg Drop was a success, 2023's Egg Drop was scheduled near the end of the school year. This was not expected to be an issue, but REP had a conflict that was only known to them after we scheduled the event. Given the late-semester nature of the event, we were unable to reschedule. As such, REP was unable to attend, and only the children of faculty were able to attend, so Egg Drop failed to promote physics across cultures.

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

Egg Drop was still enjoyable for us and for the children who attended. Our chapter remains convinced that Egg Drop is a good event for promoting physics to children, but that the only issues were logistical.

This year's Egg Drop has convinced the chapter to schedule all future outreach events earlier in the semester, so that there is at least one week of buffer for them to be rescheduled if need be. Additionally, checking with target organizations such as REP prior to choosing a date may be an important step in the future. This year's Egg Drop was a lesson in building in flexibility, even if it not expected to be required.

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>The Egg Drop event attempted to bring together members of the Refugee Empowerment Program (REP) in Memphis, TN, most of whom are children of African immigrants, with the children of various faculty of Rhodes College, most of whom are white Americans.</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>About 10 elementary school aged kids attended. Unfortunately, due to an unforeseen conflict, the children from REP were unable to attend.</p>
<p>How many students from your SPS chapter were involved in the activity, and in what capacity?</p>	<p>About 10 SPS students were involved. They set up and ran the event, weighed and dropped the contraptions, helped children assemble their contraptions, and entertained the children when they were not building</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 amount of money received was sufficient. Additional funding would not be necessary.</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>We plan to hold this same event next spring. Additionally, we are considering holding a similar function at other locations for certain organizations, such as REP, to ensure they can have as many students in attendance as possible.</p>
<p>What new relationships did you build through this project?</p>	<p>No new relationships were formed; we already work with both faculty and REP in physics education.</p>
<p>If you were to do your project again, what would you do differently?</p>	<p>The biggest area for improvements is to ensure that REP can attend. When we set up the event, we did not know that REP could not attend, and due to hosting the Zone X meeting and other obligations, we did not host Egg Drop until late in the semester, so we could not reschedule it upon learning of their conflict. Moving the event up in order to have more flexibility or checking with REP before setting a date are both potential ways we are thinking about improving this for next year.</p>

Press Coverage (if applicable)

N/A

Expenditures

All of the expenses followed those on the proposal and were integral to the event. Eggs were purchased to be dropped, and a tarp to place at the landing site for easy clean up. Cotton balls, straws, masking tape, balloons, glue, scissors, and cardboard were all purchased to functionally assist in the building of the contraptions. Glitter, markers, colored pencils, and chalk were purchased for the children to decorate contraptions and otherwise creatively express themselves at the event. Lastly, spaghetti noodles and marshmallows were purchased for children to build towers, and bottled water was provided for all participants.

Expenditure Table

Item	Please explain how this expense relates to your project as outlined in your proposal.	Cost
Eggs	To be protected by different contraptions and then dropped from the roof	\$17.50
Cotton Balls	For egg contraptions	\$44.00
Straws	For egg contraptions	\$17.90
Masking Tape	For egg contraptions	\$60.00
Balloons	For egg contraptions	\$18.60
Ribbon	For egg contraptions	\$13.50
Glue	For egg contraptions	\$50.00
Scissors	For egg contraptions	\$20.00
Cardboard	For egg contraptions	\$40.00
Glitter	For egg contraption decoration	\$26.00
Crayola Products (markers, colored pencils, chalk)	For egg contraption decoration	\$120.00
Tarp	Egg landing zone + easy cleanup	\$32.98
Marshmallows	For spaghetti tower building (alternate activity)	\$10.00
Spaghetti	For spaghetti tower building (alternate activity)	\$7.50
Water	For drinking	\$13.96
Total of Expenses		\$491.94

Activity Photos

Please include captions and credits for each photo. By including photos below, you are giving SPS and the American Institute of Physics permission to use these photos in their online and printed publications.

Note that you will be encouraged to upload high resolution copies of your best photos directly to SPS via the FluidReview site when you submit your report.



Rhodes SPS volunteer assists a child participant at Egg Drop event in building a contraption to protect his egg.

Credit: Jessica Hamer



Rhodes College Egg Drop participant draws on her egg-protecting contraption for decoration.
Credit: Jessica Hamer



Local child at Rhodes College Egg Drop event builds a tower from spaghetti noodles and mini marshmallows, testing his engineering abilities.
Credit: Jessica Hamer



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