



# SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

## Marsh W. White Award Proposal

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<b>Project Proposal Title</b>	Rhodes College Rites to Play
<b>Name of School</b>	Rhodes College
<b>SPS Chapter Number</b>	5940
<b>Total Amount Requested</b>	\$456.00

### Abstract

Rites to Play is an event where everyone from the Memphis community can come together to enjoy amazing physics demonstrations. Rhodes College SPS hopes to highlight how exciting physics can be to inspire the community and fill them with a sense of wonder.

## Proposal Statement

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

### Overview of Proposed Project/Activity/Event

Rites to Play is an annual Rhodes College event intended to engage the Memphis community and provide local children with a fun and educational day. At the event, various Rhodes organizations and departments provide activities for attendees. Rhodes SPS seeks to provide fun programming to engage kids in physics. This year, Rhodes SPS is planning to show demonstrations of elephant toothpaste and crushing a barrel using pressure and the ideal gas law. It is also planned to include the interactive activities of freezing candy and creating ice cream with liquid nitrogen and melting pennies through magnification of the sun. Children will be free to wander and explore with their families/chaperones to see and have demonstrations explained to them.

The target audience will be kids in the local Memphis community, in addition to the families of Rhodes' faculty and alumni. Rhodes SPS will partner with the Rhodes College Kinney Program for most planning and marketing. The event will be advertised primarily to local elementary and middle schools, and about 150 children are expected to be reached.

The Rhodes SPS chapter has participated in this event previously, but the pandemic has prevented this event from occurring for the past several years. As a result, none of the current Rhodes SPS officers have experience planning for the event, but the chapter is planning to work closely with a faculty advisor who has planned and attended the event in the past. All the Rhodes SPS officers are excited to bring back this event and look forward to physics being shown to local kids in such a fun environment!

### How Proposed Activity Promotes Interest in Physics

The proposed activity of the annual Rhodes College "Rites to Play" will inspire an interest in physics among students and the local community through fun and interactive demonstrations. By placing the concepts of physics in such an exciting environment, the event will build a sense of curiosity in science and how things work. Additionally, this event will be a highly memorable experience and associate positive memories with physics for children. Rites to Play will reach a wide audience through the partnership with Rhodes College and positive reputation of the large-scale event. Rhodes SPS hopes to promote an interest in physics among local children and the overall community with this event.

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

- **Personnel - Who will be in charge of planning the event and how will progress be monitored?**
  - Grace Nehring: SPS Outreach Chair and Sophomore Physics major, will be one of the primary people planning the event. She will be involved in the planning and in particular the marketing to the Memphis community. She was a contributor to this proposal.
  - Loyd Templeton: SPS On-Campus Programmer and Senior Physics major, will be the other primary person planning the event. He was a contributor to this proposal.
  - Jess Hamer: SPS Demos Chair and Senior Physics major, will be involved in the planning and will be responsible for any physics demos we show.
  - Shona Harbert: SPS Membership Chair and Senior Physics major will also be involved in the planning and marketing. She was a contributor to this proposal.
  - Lily Whitesell: SPS Social Media Chair and Senior Physics major will be involved in spreading awareness about the event and covering the event on our Instagram. She was a contributor to this proposal.

- Keith Hoffmeister: Aerospace Engineering Club President, SPS member, and Sophomore Physics major. He was a contributor to this proposal.
- Other key personnel include: Olivia Kaufmann (SPS President, Physics '23), Gia Pirro (SPS Treasurer), Nolan Brown (SPS Vice-President, Physics '23), Sam Lippe (SPS Demos Apprentice)
- **Marketing - How the project will be marketed to the target audience to ensure satisfactory participation?**
  - The project will be marketed to Rhodes College students and faculty as well as the local Memphis community through flyers and social media presence.
  - The event will also be marketed through the use of Rhodes SPS social media accounts which are followed by some members of the Memphis community
  - Being diligent and starting advertisements early will increase the amount of people that are likely to attend.
- **SPS member participation - How many SPS members or volunteers are likely to participate and in what capacity? Will volunteers be recruited from other groups as well?**
  - Volunteers that get recruited will be primarily SPS members. It is expected that at least 25 students will be able to volunteer. The volunteers will mainly be manning physics demos.
  - Volunteering will be open to anybody who has an interest in helping with the event. It is important that this event stays true to the SPS goal of increasing interest and accessibility to physics, so that anyone who is interested feels comfortable getting involved.
- **Expertise - Are there SPS members or others with special expertise that will help to ensure success?**
  - Current Demo Chair, Jess Hamer has been working closely with our demos for the last year and a half and has helped train volunteers for multiple events that ran smoothly. She will be a vital part of testing the demos and facilitating the training of the volunteers.
  - While none of our current officers were a part of SPS the last time this event was put on, faculty advisor Dr. Brent Hoffmeister was involved the last time this event was held and will be able to provide guidance in the planning and execution. Furthermore, our senior officers have put on similar events with great success and will be able to carry that experience into this event.

### Project/Activity/Event Timeline

By end of February	Organize volunteers for event, both from inside and outside our SPS chapter and order necessary materials for demos.
First week of March	Collect/organize necessary materials (tables, parts etc).
Mid-March	Allow time for ordered parts to arrive.
By March 20	Receive all ordered parts and materials.
By April 1	Map out location of demos and tables at event, finalize volunteers, perform necessary trainings for volunteers.
Week of Event	Set up tables, demos, and equipment at planned locations
Early April	Rites to Play
Mid-April - Early May	Construct Final Report

## Activity Evaluation Plan

The primary measure of Rites to Play's success will be attendance numbers. Having a high number of attendees will show the community interest in this event as well confirm the success of our marketing strategies. We will also obtain qualitative data about the participants. A portion of the volunteers for this event will be instructed to check in with participants and conduct a brief verbal survey. This survey will assess the participant's enjoyment, suggestions, and likeliness of participating next year. This will help us determine how well this event has helped foster curiosity in science and build relationships with the Memphis community. Volunteers running demos will be asked to monitor participants reactions and engagement. This will help us evaluate the accessibility and excitement of our demos, as well as general interest in physics. We will record the survey responses and demo volunteers' assessments for later discussion in the officer meeting following the event. In this meeting, we will also consider how well we felt the event was implemented and what areas need improvement.

## Budget Justification

The supplies Rhodes SPS requests are intended to be used in the execution of the demonstrations and activities that we wish to facilitate during Rites to Play. For the elephant toothpaste demo: 16 oz plastic bottles, hydrogen peroxide, dry yeast, dish soap, food coloring, plastic cups, funnels, and safety goggles are all required in its implementation. For the Liquid Nitrogen sweets: Liquid Nitrogen, Candy, a mixing bowl, bamboo skewers, and ingredients to make ice-cream (milk, cream, vanilla extract, sugar, measuring cup) are necessary for a successful demonstration. A steel barrel is needed to do the "crush a barrel" demonstration. 100 pennies are required to demonstrate how pennies melt.