

Science is a BLAST – Henderson State University Society of Physics Students

Overview of Proposed Project/Activity/Event

Henderson State University's Science is a BLAST project will bring rocket-themed physics demonstrations to local elementary, middle, and high schools. The purpose of this project is to inspire curiosity and enthusiasm for physics by showing students that science is not only educational but also exciting and fun. During each visit, members of the Society of Physics Students (SPS) and Reddie Rockets will lead students in hands-on rocket demonstrations. With high school students, we will build and launch model rockets together, explaining concepts such as thrust, gravity, and conservation of momentum as we prepare and launch. For younger grades, we will demonstrate launches and explain the same concepts at an introductory level, focusing on observation and engagement. The project will promote both the Reddie Rockets and SPS chapters at Henderson State University, while encouraging students to pursue higher education in STEM. We plan to reach approximately 35–40 students per visit, with two outreach sessions each semester starting in Spring 2026. This initiative builds upon past outreach efforts by our SPS chapter, which has successfully conducted small-scale rocket launches in local schools. The idea for this project came from the inspiration and mentorship of Dr. Clardy, who has long encouraged student involvement in physics outreach. As the current SPS president, I aim to expand and organize these efforts into a sustained, semester-based outreach program that shares the joy of scientific discovery with our community.

How the Proposed Activity Promotes Interest in Physics

This project directly supports the Marsh W. White Award's mission by promoting interest in physics through hands-on, exciting demonstrations. Rocket launches are visually engaging and naturally spark curiosity about motion, forces, and energy. By connecting these concepts to real-world applications like space exploration, we show that physics is both approachable and relevant. Younger students will gain exposure to scientific thinking and problem-solving, while older students will gain practical understanding of physics principles through rocket construction and testing. Demonstrations like this foster early interest in science, particularly among students who might not otherwise see physics as exciting or accessible. By linking classroom learning to real experiences, this project provides a fun, memorable way for students to visualize physics in action. The program also strengthens the community connection between Henderson State University and local schools, demonstrating the university's commitment to education and outreach.

Plan for Carrying Out Proposed Project/Activity/Event

The project will be led by SPS President Dustin Krisell and SPS Faculty Advisor Dr. Clardy. Progress will be monitored through regular SPS meetings, where outreach goals, safety planning, and logistics will be reviewed. We will coordinate with local schools through email and district outreach to schedule visits and promote events. Flyers and social media posts from the Henderson SPS chapter will be used to raise awareness. All active SPS members are encouraged to participate. Typically, 5–8 members will assist with preparation, safety supervision, and explaining physics concepts to students. Dr. Clardy and the Reddie Rockets team bring years of experience with model rocket safety and educational demonstrations, ensuring that all launches follow safety regulations and provide meaningful educational content.

Project/Activity/Event Timeline

The timeline for these outreaches are as follows:

- December 2025: Plan spring outreach schedule with local schools; order rocket kits and motors.
- February 2026: Conduct first school visit (elementary/middle school).
- April 2026: Conduct second school visit (high school with rocket building).
- May 2026: Evaluate outreach results and plan improvements for Fall 2026.

Activity Evaluation Plan

To evaluate the project's success, we will track attendance numbers and school engagement (aiming for 35–40 students per event). Feedback will be conducted through short surveys for teachers and students to measure interest in physics before and after the event. Chapter members will record observations about student engagement and improvements for future visits. Finally, success will be measured by increased student interest in physics topics, teacher requests for repeat visits, and the number of schools reached per semester.

Budget Justification

We are requesting \$600 from the Marsh W. White Award to purchase three bulk model rocket kits, three bulk engines, and related launch supplies. Each rocket kit has 12 rockets in it and will allow three students to build and decorate a rocket, promoting teamwork and creativity alongside scientific understanding to give or take 100 students

and these materials are essential for student participation and for creating an engaging, hands-on learning experience. Additional support will come from Henderson State University's Reddie Rockets program, which will provide reusable launch equipment and supervision expertise. SPS members will volunteer their time to run the events. The requested funds will make it possible to expand outreach to multiple schools and provide each student group with a complete and safe rocket-building experience.