

Marsh W. White Award Report

Scouting the Stars at the Truman State University Observatory

Truman State University Society of Physics Students, Kirksville, MO

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Report Abstract

We contacted Boy Scout and Girl Scout troops in northeast Missouri and invited them to the Truman State University observatory to teach them some elementary astronomy. Several Girl Scout groups responded, and we scheduled a meeting with them on April 28, 2011 for roughly two hours at the Truman State University Observatory. There, we discussed the history of space exploration, the use of star charts for identifying constellations and stars, and we demonstrated the use of a telescope in a robotic dome to view astronomical objects. We believe the activity left a strong positive impression of science and astronomy on the participants.

Introduction

Our Society of Physics Students observed a good opportunity for an outreach project through the Truman State University observatory (<http://observatory.truman.edu/>). Truman's Astronomy Club, the Stargazers (<http://stargazers.truman.edu/>), routinely holds open house events at the observatory where anyone is welcome to come learn about astronomy. We sought, through the Marsh W. White Award, to actively reach out to a specific group to bring them to the observatory for a special interactive event.



Photograph of Truman State University observatory, including the robotic dome to the left. Credit Professor Matthew Beaky (<http://www2.truman.edu/~beaky>).

In this case, we chose scouting organizations because science education is an important part of scouting programs. This implied that scouts would be particularly interested in learning and participating. At the same time, we are able to reach a younger audience (10-17 years old) to help invigorate their interest in pursuing science in higher education and as a career. Moreover, specifically reaching out to the Girl Scouts will encourage participation and interest in physics and astronomy among young women.

Planning

We contacted leaders in several Boy Scout and Girl Scout troops in northeast Missouri informing them of the event we were putting on and asking for their involvement. Unfortunately, no Boy Scout groups responded. We did receive a response from several Girl Scout troops; we worked with their schedules and came to a time that could accommodate three Girl Scout troops. We established a primary time and a backup time in case of poor weather.

We sought to accomplish some badge and rank requirements for the scouts at the event. This gives the scouts a sense of accomplishment and gives them something to show for their attendance. Further, since we couldn't finish every requirement at the observatory, this encouraged the scouts to continue work with astronomy. In planning the event, we asked the troop leaders if there were some requirements we could fulfill. We incorporated requirements such as the "Sky Search" badge and the "Space Exploration" badge.

We planned the remainder of the curriculum for the evening over the course of several SPS chapter meetings. Collaboration with the Stargazers was very helpful in planning discussion topics, operation of the robotic dome and telescope, and acquiring star charts. We used free downloadable star charts from skymaps.com. We printed out a copy for each participant and brought pens for the scouts to take notes and draw with. On hand at the observatory, we had a laser pointer for pointing out objects of interest. We also obtained snacks.

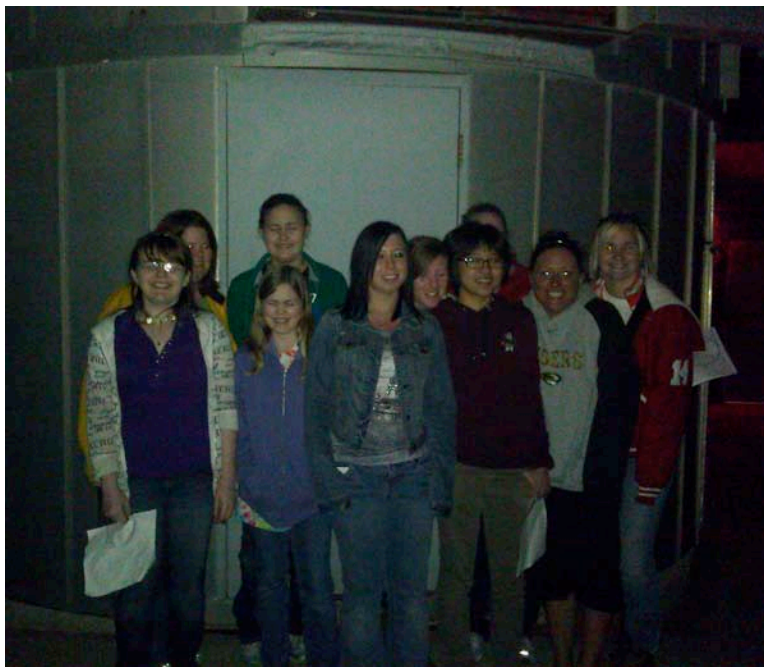
The Event

Due to inclement weather, we moved to our backup date, April 28, 2011, from 8:30-10:30pm. Fortunately, we had clear skies then. Many constellations were visible, and Saturn was also clearly visible with the naked eye. While waiting for it to get darker, we took the scouts on a tour of the observatory. We also briefly discussed the history of astronomy and discussed the history of spaceflight in more detail, in a guided question-and-answer format. As it became dark, astronomical features became visible, and we passed out star charts and pens to the participants. We went over how to read star charts and identified several constellations, stars, and other objects. The scouts were then given some time to stargaze amongst themselves. We then split the scouts into two groups, with half going into the robotic dome and half continuing to stargaze, with the groups switching after about 20 minutes. In the robotic dome, we showed the scouts several astronomical features up close. Some scouts said they were most amazed by Saturn, which was very clearly visible in the telescope with rings and cloud bands, though to the naked eye it looked like a point of light.

18 Girl Scouts participated, along with 3 group leaders, with 9 SPS members running the event. Responsibilities for SPS members included obtaining supplies, setting up the observatory, discussing history and astronomy with the scouts, working with the scouts with observing stars and planets using star charts, and demonstrating the telescope and robotic dome.



Several of the SPS members who participated in planning and executing the event. Left to right: Adam Schmid, Justin Baraboo, Anne Ahlvers, Evan Mirts, Kevin Satzinger, Tim Sullivan, Zach Haralson.



Half of the Girl Scout participants after they had visited the robotic dome.

Budgeting

Overall, we came in under budget. In planning, it was difficult to guess actual expenses because the attendance numbers were unknown. Purchases were tailored to the number of scouts in attendance.

	Proposed Budget	Actual Expenditures
Sketching supplies	\$15	\$4.36
Star chart printing	\$1	\$2.00
Snacks and drinks	\$50	\$19.19
<i>Total</i>	<i>\$66</i>	<i>\$25.55</i>

Conclusion

The event was very successful. The scouts remained engaged in astronomy for the full duration of the event, and they enjoyed themselves. The scout leaders were very glad their scouts had the opportunity to participate. The scouts seemed meaningfully interested in science, and hopefully the event will spur further interest in the future. We successfully completed several badge requirements, and the scouts expressed interest in using their star charts in future nights to continue stargazing.

We are very thankful to the Society of Physics Students for awarding our chapter the Marsh W. White Award. It gave a great opportunity for our members to be more involved in the organization and actively participate in an outreach activity.