

TRAINING INFORMAL EDUCATORS PROVIDES LEVERAGE FOR SPACE SCIENCE EDUCATION AND PUBLIC OUTREACH.

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Introduction: How do we reach the public with the exciting story of Solar System Exploration? How do we encourage girls to think about careers in science, math, engineering and technology? Why should NASA scientists make an effort to reach the public and informal education settings to tell the Solar System Exploration story? These are questions that the Solar System Exploration Forum, a part of the NASA Office of Space Science Education (SSE) and Public Outreach network, has tackled over the past few years. The SSE Forum is a group of education teams and scientists who work to share the excitement of solar system exploration with colleagues, formal educators, and informal educators like museums and youth groups. One major area of the SSE Forum outreach supports the training of Girl Scouts of the USA (GS) leaders and trainers in a suite of activities that reflect NASA missions and science research. Youth groups like Girl Scouts structure their activities as informal education.

Training Styles: Two major styles of trainings have been conducted for GS trainers and leaders. The first is an intensive four-day training that immerses the participants in thematic activities that focus on exploration and science concepts or questions. Most of the activities use simple, inexpensive techniques that help participants understand the how and why of what scientists are learning about comets, asteroids, meteorites, moons and planets. Creative, active activities are mixed with content presentations by SSE scientists thus the participants gain information in an experiential context that often involves all the senses and sometimes the entire body. The participants at these trainings are usually from around the country and are exceptionally creative, experienced adult volunteer trainers who have been certified to train other adults as well as lead group events. The second style of training is shorter and uses an abbreviated set of the activities from the longer training. These three to six hour trainings also reach adult volunteers, usually from a close geographic area or GS council. The goals of the trainings are to provide the participants with enough information and background that they are comfortable to share the excitement of exploring the solar system with young girls. Thus the activities are appropriately designed to arouse curiosity, engage creativity, excite

interest and easily take the participants from the pre-awareness to the awareness stage.

Leverage from Trainings: The answer to the question of whether NASA should expend funds and expertise to engage and inform young girls in the informal setting can be answered positively from several angles. GS reach over forty percent of the young women in the US and within the aerospace industry as well as the female astronaut core almost three quarters of the women were once GS. Also, there is more time to explore science and technology in the informal, after school setting than in formal school schedules. In the informal setting, educators can use solar system exploration activities to reinforce learning in association with thematic displays, planetarium programs, youth group gatherings, or community events. Because the activities developed for GS are at the entry level they are ideal for a wide variety of settings that are common in the GS community; troop meetings, day camps, thematic events, and community gatherings.

The preliminary data gathered by the SSE Forum indicate the average GS trainer reaches hundreds of individuals with at least one encounter involving solar system activities or displays. One event led by a SSE trained GS engaged several thousand GS and their families in a Boston citywide Solar System Treasure Hunt involving activities held at each planet symbol of the solar system model developed by the Harvard Smithsonian Observatory staff. Each person who participated heard at least part of the Solar System Exploration story.

Additional Information: The leverage data for the past eighteen months is being compiled and will be available in preliminary form on request.