

**USER MANUAL
FOR TEACHERS
AND STUDENTS**

WELCOME

How will mankind finally reach out, beyond the confines of planet Earth, and explore the universe? Will we establish colonies in space, on orbiting space stations, or set up new homes on the Moon, Mars, and beyond? If you haven't already been to an Outreach to Space program in your area, check the calendar, and see when you can explore 10-12 fun, hands-on space science exhibits at a local event or school!

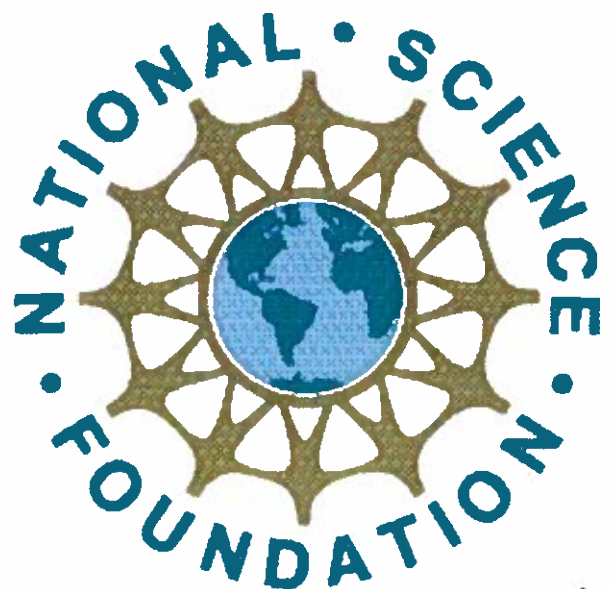
PARTNERS

Outreach to Space is comprised of ten relatively small science centers throughout the United States, who have formed a collaboration to deliver the program to rural audiences. Collectively, we are trying to foster a life-long interest in science, technology, engineering, and math in our communities—and not just because it's cool. Today's children will be tomorrow's leaders, scientists, engineers and policy-makers. The world is going high-tech, and we need to be ready. All of the partners share this common goal, with their exhibits and in-house programs, as well as their outreach efforts.

The Exploratorium is a key partner, with their vast experience as a science center and science exhibit manufacturer. David Heil Associates is evaluating the success of this program.

FINANCIAL SUPPORT

Startup funding for the Outreach to Space program was provided by a grant from the National Science Foundation.



WHO WE ARE

Bluedorn Science Imaginarium
503 South St.
Waterloo, IA 50701



Discovery Center
711 N. Main St.
Rockford, IL 61103



Evansville Museum
411 SE Riverside Dr.
Evansville, IN 47713



Exploratorium
Palace of Fine Arts
3601 Lyon St.
San Francisco, CA 94123



Imaginarium
737 W 5th Ave, G
Anchorage, AK 99501

Science Central
1950 N. Clinton St.
Fort Wayne, IN 46805



Lakeview Museum
1125 W. Lake Ave.
Peoria, IL 61614

Science Station
427 First St., SE
Cedar Rapids, IA 52401

Science Works
1500 E. Main St.
Ashland, OR 97520



SciTech Museum
18 W. Benton
Aurora, IL 60506



Terra Haute Children's Museum
523 Wabash Ave.
Terra Haute, IN 47807



TABLE OF CONTENTS

Welcome/Partners	1
Who We Are	2
Table of Contents	3
Special Needs	4
Outreach to Space List	5
Aim for Orbit	6
Big Dipper	12
Different Worlds	54
Glove Box	61
Gravity Well	66
Mars Rocket	71
Pressure Suit	77
Rocket Launch	83
Space Colony	91
Star Spectrum	96
Steering with Thrust	104
Sunspotter	109
Student Interpretive Scripts	114
Guided Discovery Questions	121
Guided Discovery Answers	123
Image Credits	127
Writing Credits	128

SPECIAL NEEDS POPULATIONS

INTRODUCTION:

If the people who will be using OTS need an introduction to the exhibits and space travel, do not hesitate to contact the museum that brought them to you. If you desire, we will walk your facilitators or aides through the exhibits so you may adequately assist your clients, students, or workers. We are also available to confer with you on any other needs you might have.

USE AND ENJOYMENT OF EXHIBITS:

Most of the exhibits are wheelchair accessible. Most of the exhibits require sight to fully appreciate. However, a few might also be appreciated by the visually impaired: Different Worlds, Different Weights; Gloves in Space; Rocket Launch; Space Colony. We encourage your people to work in pairs, if possible. Depending on your clients' or students' abilities, they may gain some insight into space travel. At the very least most should have fun operating the exhibits. This manual contains numerous hands-on activities, some of which may be suitable for your clientele.

REMEMBERING:

If your people would appreciate mementos of their experience, let us know; we may be able to provide some suitable pictures, certificates or objects. In addition, you may take as many photographs of your people with the exhibits as you wish.

EVALUATION:

If we do not offer, ask us for an evaluation form after you have hosted the OTS exhibits. Filling out and returning this form will help us improve our service to you and other agencies or schools in the future.

FOLLOW UP:

Your museum also has relevant permanent and temporary exhibits, and in some cases, planetarium shows. We encourage you to consider taking advantage of these opportunities. Special group rates may apply. Contact your museum for more detail.



Outreach to Space

astronomy, space flight, and space settlement

Background

- **Big Dipper**
- **Star Spectrum**
- **Gravity Well**
- **Different Worlds, Different Weights**
- **Sunspotter Telescope**

Getting into Space

- **Mars Rocket**
- **Glove Box**
- **Pressure Suit**
- **Steering with Thrust**
- **Aim for Orbit**
- **Rocket Launch**

Future in Space

- **Space Colony**