

## Experience-based Learning

Do you think in 3-D? Basic concepts in astronomy can be difficult to grasp because they require imagining the solar system in 3 dimensions, and from different perspectives. Capital Region BOCES is now partnering with Dudley Observatory to provide interactive planetarium programs where students explore the orbital motions that cause predictable patterns in the phases of the moon, seasons, and the changing positions of constellations in our night sky. For example, a first-grade student might predict where the sun and moon appear to rise and set, while a fifth-grade student observes and records the sun's seasonal path through the sky.

## Starlab brings astronomy alive

### How to Schedule Starlab

Starlab is available throughout the school year and summer for \$400 per day for up to five (5) sessions.

School, libraries, camps, and other organizations can schedule through the Dudley Observatory, 518-382-7890 x. 259 or [info@dudleyobservatory.org](mailto:info@dudleyobservatory.org).

Public Schools eligible for BOCES aid may schedule through the Capital Region BOCES at 518-464-3999 or [laura.lehtonen@neric.org](mailto:laura.lehtonen@neric.org)

## What is Starlab?

Starlab is a portable planetarium. When unpacked and inflated, Starlab transforms into a 16-foot dome that accommodates up to 28 students, and is handicapped accessible. A projector and subject cylinders introduce participants to astronomical topics through exciting graphics projected on the dome's interior. All that is needed is floor space, an electrical outlet, and enthusiastic sky-gazers.

### Starlab Meets Standards

The New York State Elementary and Middle Level Science Core Curricula include many astronomical concepts in the Physical Setting section. Starlab programs are designed to supplement district science programs in earth and space science.

**Dudley Observatory at miSci**  
**15 Nott Terrace Heights**  
**Schenectady, NY 12308**  
**518-382-7890 x.259**  
**DudleyObservatory.org**  
**info@dudleyobservatory.org**

Capital Region BOCES  
Suite 102, 900 Watervliet-Shaker Rd.  
Albany, NY 12205



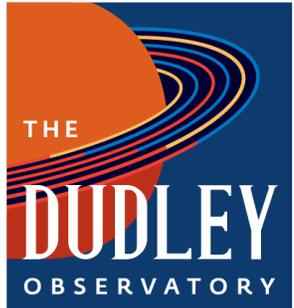
# Portable Planetarium for Astronomy Education



A Partnership between



and



**at miSci**

## As the Earth Spins

**Grades K-2**

Why do we have night and day? Where does the sun rise and set? What will we see in the sky tonight? Students will look for patterns and make predictions based on the rotation of the earth.

## Seasonal Stargazers

**Grades K-5**

What are constellations, and why do they change with the seasons? Students discover why the sun and other stars appear to move through the sky in predictable patterns, both daily and seasonally.

## Native American Constellations

**Grades 3-5**

The role of star stories in different cultures is explored through storytelling. Students are introduced to the important role of the North Star and celestial movement.

## Andromeda to Zeus

**Grades 3-8**

Greek mythology and seasonal constellations are show-cased, while students predict the regular motion of celestial objects.



# Programs

## Reasons for the Seasons

**Grades 3-8**

Students observe and record changes in the sun's apparent path through the sky through the year and understand why the tilt of the earth's axis causes the seasons.

## It's Only a Phase

**Grades 3-8**

Students will observe and model the cyclic pattern of moon phases, and use moon maps to identify and discuss different types of features on the moon.

## Star Clock

**Grades 3-8**

Our system of measuring time is based on the motion of the Earth in relation to the sun, moon, and stars. Students use observations of the Big Dipper and the North Star to tell the both the time and season.

## Calendar Constellations

**Grades 3-8**

Why do the constellations visible in the night sky change during the year? The zodiac, or "circle of animals" was used as a calendar. Changes due to the earth's daily rotation and its annual orbit around the sun will be examined and compared.

## Earth and Sky

**Grades 3-8**

The concepts of latitude and longitude are reinforced as students plot coordinates and observe the changing view of the sky from different places on earth.

## Custom Programs

**Grades K-12**

Starlab instructors will work with teachers to design unique programs to meet curriculum needs. The Dudley Observatory is also available as a resource for classroom visits, telescope observing sessions, and teacher support and professional development programs.