



# Math & Science Institute

Arkansas **TECH** University

**Return to:**  
Math & Science Institute  
1507 N. Boulder Ave  
Russellville, AR 72801

v: 479.964.0825  
f: 479.964.0542  
<http://www.atu.edu/msi>

The STARLAB Portable Planetarium systems are available to all public, private and parochial schools to supplement the education program of instruction.

\_\_\_\_\_ has had the following faculty or staff member(s) trained in  
(name of school)  
the setup, operation, take down and storage of the STARLAB Portable Planetarium by the Math & Science Institute (MSI) at Arkansas Tech University or its approved agent.

- (1) \_\_\_\_\_ (2) \_\_\_\_\_
- (3) \_\_\_\_\_ (4) \_\_\_\_\_

I certify that the STARLAB and all of its components will be picked up, used and returned according to all requirements of the MSI and that it will be stored properly in a secure location when not in use and that those faculty/staff members trained in the operation and use of the equipment will be in charge and present for all activities scheduled within the STARLAB. I also acknowledge that the loan fee of \$100 entitles my school to schedule the STARLAB equipment for a **MAXIMUM TIME PERIOD OF TWO WEEKS (TEN SCHOOL DAYS)** within an academic year. (The time period does not have to be a contiguous block of days. For example, the equipment might be booked for three days in September, three days in January and four days in May. A booking for a week in the fall and a week in the spring or two weeks in a given month is also permissible. If there are questions concerning booking periods, contact Steve Zimmer at the MSI for assistance.)

**Print Name:** \_\_\_\_\_ **Signature** \_\_\_\_\_

**Title** \_\_\_\_\_ **Date** \_\_\_\_\_

**MSI:** Steve Zimmer **Signature** \_\_\_\_\_

**Title** Director, Math & Science Institute **Date** \_\_\_\_\_

**ATU:** David Moseley **Signature** \_\_\_\_\_

**Title** Vice-President of Administration & Finance **Date** \_\_\_\_\_



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Select the Dates and Dome Size Desired

	Initial Loan Dates:	2 <sup>nd</sup> Loan Dates:	3 <sup>rd</sup> Loan Dates
<b>Pickup from MSI</b>			
<b>Return to MSI</b>			
<b>Dome Size</b>	SD / GD	SD / GD	SD / GD

Indicate planetarium dome size preference—SD refers to the standard size dome; GD refers to the Giant Size dome.

Circle your preference for each loan period

(NOTE: Dome size cannot be guaranteed! If size desired is not available for the dates chosen, you will be contacted concerning situation. Availability is based on earliest confirmation of loan.)

## Projection Cylinder Selection

List 3 choices for loan #1 (mark 3 cylinders as "#1;" if you are requesting additional loan periods, mark 3 choices for loan #2 and 3 choices for loan #3, etc.

Loan #1	Loan #2	Loan #3

## SOLAR IMAGING EQUIPMENT

Equipment may be checked out separately or with a planetarium system

Include with loan—Y or N?	Item	Description
	<b>SunSpotter</b>	For viewing the sun, eclipses, and for daily record keeping. Track sunspots as they appear, move, and vanish
	<b>Bushnell 100 X 4.5 Reflector Telescope</b>	Set up for safe solar viewing; includes solar filter.  Projects solar image so many can view simultaneously. Complementary equipment to SunSpotter. Telescope can also be used for night time observations.



## STARLAB Loan Requirements

### Definitions:

**LOANEE:** A school or agency that has arranged a loan of equipment from the Math & Science Institute.

**LOAN FEE:** The basic charge to schedule an equipment loan. Loan fee is used to maintain existing equipment and supplement additional related equipment. All funds received through loan agreements will be deposited into the general operating budget of Arkansas Tech University.

**STARLAB Planetarium system (or, planetarium system):** Set of equipment provided through Laboratory Technologies, Inc. under the name STARLAB Portable Planetarium in either the standard or giant sizes. The System includes the inflatable dome, projector, inflation fan, all projection cylinders and their respective transportation cases.

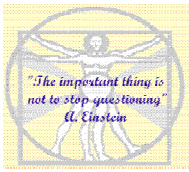
**STANDARD DOME:** height is 10.5 ft and requires a minimal floor space of 21' X 21.' Suggested capacity is 30 students.

**GIANT DOME:** height is 13.5 ft and requires a minimal floor space of 27' X 27.' Suggested capacity is 50 students.

**SOLAR IMAGING EQUIPMENT:** Equipment owned by the Math & Science Institute for the purpose of safely observing solar phenomena.

### Terms of Agreement

1. Loan fee is due at the time of initial scheduling of the STARLB equipment.
2. All transportation of the STARLAB equipment is the responsibility of the loanee. **Transportation must be in a closed vehicle.**
3. Pickup and return of equipment must be between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.
4. The STARLAB must be set up inside only. A bare floor (i.e., a gym floor) must be cleaned prior to unrolling the dome and inflating it. Be sure that all extension cords are taped down to the floor to prevent a tripping hazard.
5. Students are to remove their shoes before entering the dome.
6. No admission may be charged for any use of this equipment by the borrowing agency.
7. The planetarium dome material must be kept a minimum of 1 ft (30.5 cm) from all standard ceiling light fixtures. If high intensity light fixtures are used in the room chosen for the planetarium display, the dome material must be kept a minimum of 5 ft (1.5 m) from the light source.
8. Students are not to take pens, pencils or other sharp pointed objects into the planetarium.
9. Damage incurred to the planetarium system during a loan period (including during transport to or from the Math & Science Institute) will be the responsibility of the loanee. (Replacement cost of the standard dome and projector is \$13,650 and \$19,080 for the giant dome and projector).
10. The Loan Agreement Form must be signed by the chief administrator, or a designated alternative, of the district or school arranging the equipment loan.



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## Projection Cylinders Available for loan

PROJECTION CYLINDER	BRIEF DESCRIPTION
Northern Starfield	Depicts more than 3000 stars as viewed in the northern sky in the proper colors.
Northern Starfield with Milky Way	Same as above but also depicts how the Milky Way Galaxy appears in the night sky
Constellation A	Depicts 48 common constellations as illustrated by H.A. Rey; the ecliptic and the celestial equator
Constellation B	Same as above
Celestial Coordinates	Introduces the astronomical mapping system. A projection of more than 3000 stars against a background of celestial coordinates, the ecliptic and celestial equator.
Solar System & Galaxy <i>(2 cylinders in 1!)</i>	[1] Provides a scaled representation of planetary sizes. A second scale is used to represent the distances between the sun and the planets.  [2] A depiction of the Milky Way Galaxy with its spiral arms. A scaled distance line is also included
Lewis & Clark	Learn how Lewis and Clark were able to record their locations and draw a map of the Louisiana Territory through Stellar Navigation.
Greek Mythology	Contains traditional artwork for 45 classical Greek constellations
African Mythology	Depicts constellations as seen by many African cultures such as the Dogon, Bushmen, Masai, Egyptians and more.
Ancient Egyptian Mythology	36 constellations as seen by both Pharaohs and slaves of Ancient Egypt in the year 2500 BC.
Native American Mythology	Figures from the legends of the Navajo, Shoshoni, Blackfoot, Cherokee, Tewa, Hopi, and Algonquin tribes
Maya Skies	Projects glyphs representing the sun, moon, eclipses, planets, stars, constellations and the Milky Way as seen by the Mayan people. Learn about Mayan culture!
Earth	Standard projection of the entire terrestrial globe including all land and ocean masses. Longitude and Latitude markings included.
Geocentric Earth	Projection of the surface of the earth as viewed from the center of the planet. Great for teaching students how geographic coordinate mapping techniques in longitude/latitude relate to astronomical coordinate mapping techniques in right ascension/ declination.
Plate Tectonics	Global projection based on Continental Drift Theory showing active ridges, faults, spreading centers and volcanic activity over the past 1 million years.
Weather	The earth's atmospheric circulation patterns including location of the wind systems, jet streams, and high and low pressure masses. Study the significance of the wind systems and how this affected the early explorer and military decisions in World War II. Investigate pressure systems, storm systems, etc. to see how the weather is determined in different locations around the globe.
Biological Cell	A 1 million-time magnification of a composite cell demonstrates the workings of a one-celled organism. The processes of cellular digestion and reproduction are illustrated. The endoplasmic reticulum, ribosomes, mitochondria, the Golgi complex, secretion vesicles, lysosomes, pinocytotic vesicles, microvilli, cilia, chromosomes and nucleolus are clearly depicted.
Transparent	Create your own projection art! Supplies included with cylinder.