



Two Small Pieces of Glass

A Pre-Visit Information Guide for Teachers

Meets the following RI GSE requirements: ESS3(5-6)-9, ESS2(7-8)-7, ESS3(7-8)-9

This may be the first visit to the Planetarium for many of your students. We have found that both cognitive and affective learning can be increased when teachers use structured activities before and/or after the visit to create a context for the experience and links with their classroom instruction. In this guide we have provided some interesting facts about the Cormack Planetarium and include background information about the astronomy content that will be presented in ***“Two Small Pieces of Glass”***. We encourage teachers to conduct pre-visit and post-visit classroom discussions and activities with their classes to make the most of their field trip experience.

ABOUT THE CORMACK PLANETARIUM:

- In a planetarium, objects in the universe are projected, as they exist at any time in space.
- These celestial objects are projected onto a dome-shaped ceiling so it appears that one is looking up into the night sky.
- Our Star Projector is capable of displaying images of over 7,000 stars...many more than anyone can see without the aid of a telescope. Planets, comets, satellites and the Milky Way and Andromeda Galaxy can also be projected.

TWO SMALL PIECES OF GLASS:

400 years ago, in 1609, an Italian named Galileo Galilei first turned a new invention called the telescope towards the heavens, and recorded his observations of the little-known objects in our solar system. These observations marked a major turning point in the history of science, changing our ideas about the structure of our universe. For the past 400 years, the continued evolution of the telescope has allowed us to make amazing new discoveries about stars, nebulae, galaxies, and our ever-expanding universe.

Viewers will be taken on a journey from the earliest times of astronomic observations, when ancient peoples first observed the motion of celestial bodies, to the invention of the telescope, and up to the present. This presentation celebrating the International Year of Astronomy (2009) will give viewers the tools and understanding they need to try their own astronomic observations, whether of constellations viewed with the naked eye, or through the magnifying eye of a telescope.

SUGGESTED CONCEPTS TO REVIEW INCLUDE:

Aperture	Light	Spectrum
Astronomy	Lens	Spectroscopy
Constellation	Nebula	Speed of Light
Doppler Effect	Reflector	Star Cluster
Galaxy	Refractor	Star Life Cycle

ACTIVITIES: WHERE DO WE GO FROM HERE?

Teachers are encouraged to conduct pre-visit and post-visit classroom discussions and activities with their classes to make the most of their experience. Students may want to conduct observations of the sky over the course of several weeks, noting changes in what can be seen. Instructions for making and using a starfinder to help find constellations in the night sky can be found at: http://www.400years.org/resources/files/Making_Using_Family_Star_Finder.pdf. Optics activities that introduce students to the concepts of light and lenses can be found at: <http://www.opticsforkids.org/teachersparents/classroomactivities/>.



SUGGESTED WEBSITES:

- Astronomy – night sky updates, astronomic events:
<http://www.astronomy.com/asy/default.aspx>
- Google Sky Site – Explore the night sky:
<http://www.google.com/sky/>
- NASA's Hubble Space Telescope Site:
http://www.nasa.gov/mission_pages/hubble/main/
- International Year of Astronomy Site:
<http://www.astronomy2009.org/>