OU Libraries

Tower of Pisa light sculpture (Engineering)

• Bringing worlds together: How does the story of Galileo exhibit the story of OU?

Galileo and Universities (Great Reading Room)

 How do universities foster communities of learning, preserve knowledge, and fuel innovation?

Galileo in Popular Culture (Main floor)

• What does Galileo mean today?

History of Science Collections

Music of the Spheres

• What was it like to be a mathematician in an era when music and astronomy were sister sciences?

Galileo's Compass

• What was it like to be an engineer in an era of mathematical discovery?

Galileo and China

• How did European and Chinese astronomers collaborate in the generation of Galileo?

Controversy over the Comets

• What does it mean to say mathematics is the language of nature?

The Galileo Affair

- What went wrong? Does the Galileo affair represent an inevitable conflict between science and religion?
- A New Physics
- How are Galileo's two new sciences connected with other disciplines?

Bird Library, OU Health Sciences Campus

Galileo and Medicine

• How might a friend of Galileo's have practiced medicine?

Schusterman Library, OU Tulsa

Galileo and the Scientific Revolution

• What is nature? How is nature known?

National Weather Center

Galileo and Experiment

• How did new instruments extend sensory perception, facilitate new experiments, and promote quantitative methods?

Galileo and Kepler

• Who was Kepler, and why was a telescope named after him?

Copernicus and Meteorology

• How has meteorology facilitated discovery in other disciplines?

Galileo and Space Science

• What was it like, following Kepler and Galileo, to explore the heavens?

Oklahomans and Aerospace

• How has the science of Galileo shaped the story of Oklahoma?

Sam Noble Oklahoma Museum of Natural History

Eyes of the Lynx: Galileo, Natural History and the Americas

- What was it like to explore the living world?
- What was it like to explore the Americas?

Eyes of the Lynx: Galileo and the Microscope

• What was it like to reveal the mysteries of the very small?

Fred Jones, Jr., Museum of Art

The Eyes of Galileo: Renaissance Art and the Telescope

• What was it like to be an astronomer in an era when art and mathematics were intertwined?

The Sky at Night

• What is the human, artistic and scientific heritage of the sky at night?

Headington Hall, Athletic Department

Galileo and Sports

• What would Coach Galileo say?

OU Academy of the Lynx



Collaborating in Exhibit-based Education #oulynx, oulynx.org

presents





History of Science Collections University of Oklahoma Libraries

2015-2017



The Phases of Venus and Heliocentrism

When Galileo recorded the phases of Venus, what impact did this have on our understanding of the solar system?

It is often thought that Galileo's observations of the phases of Venus proved the heliocentric system. While it is true that Galileo's observations helped move scientists of the early modern period in this direction, such a conclusion is not historically accurate.

During the time of Galileo there were many competing models of the solar system. When Galileo observed the phases of Venus some of these were ruled out. It would take the observations of those after Galileo before the heliocentric model could be established.

By incorporating Galileo's observations of Venus within the historical time period in which Galileo lived students will explore the use of models while also developing deductive reasoning skills.

Creating Educational Resources

The OU Academy of the Lynx exists to connect the History of Science Collections at the University of Oklahoma with K12 classrooms everywhere. The rich resources held in this collection have been an inspiration for educators and students for many years, and we're working to improve its impact by collaborating with experienced educators.

Currently we are producing content for "Galileo's World," an exhibition at the University of Oklahoma in 2015-2017. See the back of this brochure for a listing of the galleries.

Get Involved

We would love for you to join us in connecting the history of science with K12 education.

- Join the OU Lynx: Collaborate with other K12 educators by sharing lesson plans and discussing ideas on our blog, <u>oulynx.org</u>.
- Bring your class to see the exhibits: Let us know ahead of time and we will help you plan your visit to focus on the themes that complement your teaching.
- Utilize our digital resources: From podcasts, videos, instrument tutorials, ebook gallery guides, and digitized original texts, we will have a wide variety of resources available to supplement your lesson plans.
- Share your expertise: Are you interested in helping to develop effective lesson plans and educational activities that connect the history of science with K12 classrooms? Email us at <u>oulynx@ou.edu</u> and K12 classrooms? Email us at <u>oulynx@ou.edu</u> and let us know. We would love for you to join our team!

Music, Math, and Astronomy

Are music and astronomy really sister sciences? In the 17th century the answer would have been "yes." From Galileo to Fludd, Yesler, and



many others, the universe and the motion of the heavenly bodies were described through the language of music theory. Above is an illustration from Robert Fludd's Utriusque Cosmi depicting the hand of deity tuning the string of the universe. Fludd has depicted the planets moving through space between notes on the monochord. These notes combine to create the the monochord. These notes combine to create the

The harmonies shown on this monochord are created by dividing the string into shorter segments. For instance, dividing it in half will produce a note an octave higher than the original pitch. Students can test these ratios today by using monochords in the same manner in which they were used in ancient times. Not only will it help them to understand the way the ancients understood the universe, but it will also demonstrate the connections between music, math, and astronomy.