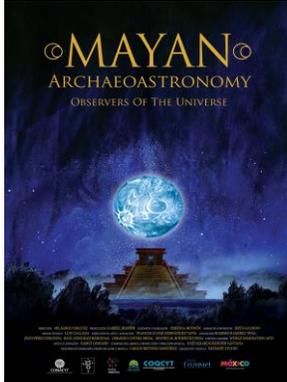


Educator Viewing Guide



Mayan Archaeoastronomy: Observers of the Universe (2017)
20 minutes

Mayan Archaeoastronomy: Observers of the Universe is unique among planetarium shows, intertwining science and mythology to take the viewer on a poetic journey through how the Mayans have viewed and understood the Universe throughout their history. The visuals are stunning, giving the viewer the impression of being inside a beautifully stylistic painting. This artistic interpretation of the Universe makes for a journey that will not be forgotten.

Topics covered:

Archaeoastronomy, astronomy, MesoAmerican cultures, mythology

Interdisciplinary connections: humanities, cultural studies

Key Terms and Concepts:

Astronomy, Calendar, Constellation, Galaxy, Mythology, Sun, Zenith

Combine with these KidSpace Activities:

Ballistics Lab

Take aim with space-themed ball blasters, jump, and climb while exploring science concepts: forces, gravity, resistance, energy, and more.

Engineering Lab

Discover the six simple machines and other engineering principles used in designing spacecraft while operating wheels, levers, pulleys, and more.

PlaySpace!

Science begins with imagination. The space-themed playground offers many opportunities for space-themed play, space-related discoveries, and demonstrations of science concepts: gravity, friction, force, laws of motion, and more.



Learning Resources and Activities:

Create learning units designed around a visit to KidSpace! These web resources and activities are designed to illustrate concepts and ideas presented in the show. These can be adapted to various age groups.

Astronomy of the Mayans; StarTeach Astronomy Education Program

This resource provides background information and references about Mayan astronomy, archeology, mathematics, and calendars.

<http://www.starteachastronomy.com/mayan.html>

Ancient Eyes Looked to the Sky: Sunwatchers of the Southwest; Chabot Space & Science Center

This 100-page activity guide provides an overview of Archaeoastronomy, teacher guidance, and several activities in Archaeoastronomy for Grades 4-8. Includes web resources for teachers and science standards alignment.

<http://www.amauta.info/files/gsunwatch.pdf>

Ancient Observatories: Timeless Knowledge Activities; Sun/Earth Day NASA

This resource describes two activities designed for grades 6-8. The activities seek to help learners make connections between their lives and seasons of the year and observation dates in the Earth's orbit around the sun. Connections with different cultures are included.

https://sunearthday.nasa.gov/2005/educators/AOTK_lessons.pdf

Using Multicultural Dimensions to Teach Astronomy; The Universe in the Classroom

This teaching resource from the Astronomical Society of the Pacific includes background information about multicultural astronomy and detailed instructions for activities: *'Different' Skies at Different Latitudes*, *Observing the Sun*, *Measuring the Position of the Sun in the Sky*, *The Sun and the Seasons at Different Latitudes*, and *Observing the Sky for Different Purposes*.

<http://astrosociety.org/edu/publications/tnl/53/multicultural.html>

The Astronomy of Many Cultures; Multiverse, Berkeley

This site contains a comprehensive resource guide for educators about astronomy in many different cultures. Includes scholarly references for astronomy of Native American, African, Asian, Central American, Native Australian cultures and more. Available as PDF download.

<http://multiverse.ssl.berkeley.edu/multicultural>

Shadow Play; McDonald Observatory

This site provides descriptions for two activities designed for young children to learn about the Sun's relative motion in the sky by experimenting with shadows. Also includes discussion of Anasazi Sunwatchers archaeological sites.

<https://stardate.org/sites/default/files/pdfs/teachers/ShadowPlay.pdf>



Comprehension Questions:

Help learners process the concepts and ideas presented in the show with these questions.

1. How did Mayan astronomers use their knowledge of the Sun to develop their calendars?
2. Why was this knowledge useful to the Mayan people?
3. What is different about the Mayan calendar compared to our own calendar?
4. What is similar?
5. Describe how the Mayan intertwined mythology with astronomy in their culture. How is this similar to and different from other cultures you know about?

Further Research and Discussion

Using [The Astronomy of Many Cultures Resource Guide](#) as a starting point, ask learners to research the astronomy of another culture. Share what they find with the others.

(<http://multiverse.ssl.berkeley.edu/multicultural>)

This show covers content that addresses Colorado Academic Standard in Science (Physical Science and Earth Systems Science). See [Planetarium Show Academic Standard Chart](#) for details by grade.