

Banneker Planetarium's Private Shows for Schools

We offer free shows for elementary, middle, high or college school groups, during our fall and spring semesters. We also offer summer shows on a limited basis.

Our shows take place on weekdays at 10 a.m. Depending on the age group, shows run anywhere from 30-45 minutes. To book a show for your students, contact [Anna Burgio](#).

Full Dome Presentations

"The Christmas Star": Fourth grade through high school.

Over the years many people have tried to explain the appearance of the Star of Bethlehem, as described in the Bible. Can the star be explained as an exploding star, a comet or some other natural event in the sky? Potential natural explanations for the Star of Bethlehem and common modern-day misconceptions are discussed. This show, produced by the Charles W. Brown Planetarium at Ball State University.

"Magic Tree House": For general audiences.

Travel with the brother-sister duo, Jack and Annie, in their Magic Tree House as they discover a note that asks them to answer a series of six questions about space. With the help of the astronomer, the Internet, an astronaut, books and the writer of the mysterious note, Jack and Annie are taken on a wondrous journey of adventure and learning. This exciting voyage will carry you to the planets and far out into the Universe where Jack and Annie nearly get... Well, we don't want to give it away. The adventure is just beginning!

"Earth, Moon & Sun": First through eighth grade and general audiences.

Coyote has a razor-sharp wit, but he's a little confused about what he sees in the sky. Join this amusing character (adapted from American Indian oral traditions) in a fast-paced and fun show that explores lunar phases, eclipses, and other puzzles. Engaging and Immersive, Earth, Moon and Sun also examine how humans learn through space exploration. It is a perfect show for school audiences! The show is a production by the UNC Morehead Planetarium and Science Center.

"Dynamic Earth": Fourth grade through high school.

Dynamic Earth explores the inner workings of Earth's great life support system: the global climate. With visualizations based on satellite monitoring data and advanced supercomputer simulations, this cutting-edge production follows a trail of energy that flows from the Sun into the interlocking systems that shape our climate: the atmosphere,

oceans, and the biosphere. Audiences will ride along on swirling ocean and wind currents, dive into the heart of a monster hurricane, come face-to-face with sharks and gigantic whales, and fly into roiling volcanoes. The show is produced by Spitz Creative Media, NCSA's Advanced Visualization Lab, NASA's SciVis Studio, and Thomas Lucas Productions, Inc., in association with the Denver Museum of Nature & Science and NASA Earth Science. Supported by PA State Film Office. Narrated by Liam Neeson.

"Two Small Pieces of Glass": Sixth grade through high school.

Telescopes help us understand our place in space and telescopes continue to expand our understanding of the Universe. Discover the history of the telescope — an instrument with two small pieces of glass — and the discoveries these wonderful tools have made. See how telescopes work and how the largest observatories in the world use these instruments to explore the mysteries of the universe. While looking through an astronomer's telescope, you will explore the Galilean Moons, Saturn's rings, and spiral structure of galaxies and learn about the discoveries of Galileo, Huygens, Newton, Hubble and many others. You'll be transported to some of the largest observatories in the world, as well as learn about recent NASA missions including the Hubble Space Telescope.

"Solar Superstorms": Fourth grade through high school.

A fury is building on the surface of the Sun—high-velocity jets, a fiery tsunami wave 100,000 kilometers high, rising loops of electrified gas. What's driving these strange phenomena? How will they affect planet Earth? Find the answers as we venture into the seething interior of our star. Solar Superstorms is a major new production that takes viewers into the tangle of magnetic fields and superhot plasma that vent the Sun's rage in dramatic flares, violent solar tornadoes, and the largest eruptions in the solar system: coronal mass ejections. The show features one of the most intensive efforts ever made to visualize the Sun's inner workings, including a series of groundbreaking scientific visualizations computed on the giant supercomputing initiative, Blue Waters, based at the National Center for Supercomputing Applications, University of Illinois. The show is a co-production of Spitz Creative Media, NCSA's Advanced Visualization Lab, and Thomas Lucas Productions. Narrated by Benedict Cumberbatch with major support from the National Science Foundation and the Pennsylvania State Film Office.

Solar Superstorms explores related content including: The Earth-Sun relationship, Importance of magnetic fields in space, The nature of polar auroras, Space weather and the threat to communications and power networks, Monitoring solar behavior.

"We Are Stars": Fourth grade through high school.

What are we made of? Where did it all come from?

Explore the secrets of our cosmic chemistry, and our explosive origins. Connect life on Earth to the evolution of the Universe by following the formation of Hydrogen atoms to the synthesis of Carbon, and the molecules for life. With expert input from leading scientists, cosmologists, astrophysicists, astro chemists, planetary scientists and astro biologists we present humanity's current understanding of where everything, including us, came from. Narrated by Andy Serkis, music by Rhian Sheehan.

Covered subject areas: Cosmology, Earth Science, Life Science & Nature, Solar System, Space Science and Astronomy.

"Black Hole: 1st Picture": GA, College, Grades 1-3, 4-5 and 9-12.

Following a journey of human perseverance, ingenuity, and imagination, the full dome film Black Hole First Picture encapsulates a historic milestone in science visualization and discovery – witnessing a phenomenon widely believed to be invisible: a black hole. Planetarium audiences around the world are taken on a quest that examines worldwide radio sites that comprise the Event Horizon Telescope (a global network of synchronized radio observatories that work in unison to capture images of black holes), peers into the core of the Messier 87 galaxy, and travels to the heart of the Milky Way to produce the first-ever picture of a black hole.

Black Hole First Picture showcases stunning cinematography of each site of the Event Horizon Telescope, including real-world footage captured at seven of the eight telescopes. To produce the film, the Cosm Studios team and Writer-Director, Robin Sip, travelled across 10 countries and utilized 3D printing to model the South Pole Telescope. 95 percent of the film is live-action footage, versus CGI. Through the lens of this film, we see the tremendous contributions and impact made by the global science community, inspiring future generations across the globe.

"Beyond the Sun: In Search of a New Earth": Grade 1 and up.

While Celeste is fighting off sleep in her room by reading a book on astronomy she receives an unexpected visit from Moon. Together, they will enjoy a journey through the Universe to discover what exoplanets are and how they can be detected.

They observe rogue planets, oceanic worlds and super-Earths. Moon tells her about exoplanet hunters, who observe the sky in search of planets like Earth. Many adventures are yet to come. But first, she needs some rest. Celeste drops off to sleep waiting for the next visit of Moon.

Live Show Presentations

"Exploring Patterns in the Sky"

Satisfies the Next Generation Science Standards (NGSS) for 1st grade.

This show explains the concepts of rotation and revolution showing the patterns Earth's rotation creates (movement of the Sun and stars across the sky from East to West) and the repeating patterns Earth's revolution creates, such as the constellations and seasons changing over the course of a year. It also explains how the moon's revolution around the Earth creates the phases of the moon. It ends with a presentation of the full dome movie *Earth, Moon, Sun*.

"Force, Mass, and Motion"

Satisfies the Next Generation Science Standards (NGSS) for 3rd grade.

This show explains rotation and revolution in a more detailed way and uses physical props as part of a demonstration, which includes how to find the winter and summer constellations and the Milky Way. It also covers the concept of gravity using the terms Mass, Weight, Density and two of Kepler's 3 Laws of planetary motion. Lastly, it shows videos that explain how astronauts live in space without gravity.

"Exploring the Earth and Sun"

Satisfies the Next Generation Science Standards (NGSS) for 5th grade.

This show explains how the motion of the Sun across the sky can be used to tell time due to the Earth's rotation and how the constellations change over the course of a year because of the Earth's revolution, including how to find constellations in all four seasons. It also explains in depth why we have seasons. In addition, it explains how gravity keeps the planets in orbit around the Sun and compares the Sun to other stars in terms of mass and size (diameter/radius).

"The Boy Who Hated the Nighttime"

The darkness of nighttime can be scary, especially if you're not familiar with nighttime things. The planetarium sky will be the backdrop for the story of a little boy who becomes less scared after learning about constellations, the Moon, meteors, comets and aurora. The boy is also shown what to expect as the sky seems to shift during the night. Kindergarten through second grade.

Word list: sun, star, constellation, earth, rotate, meteor, comet, aurora, phases, moon

"Dudley the Curious Duckling"

Dudley is a very curious duckling. When he sees the full moon for the first time, he becomes so curious, he must find out what it is and why it's getting smaller. This starts with him on a quest which takes him all over his farm in search of answers. He finally meets a wise old owl who gives him some of the answers he seeks as well as a new friend. This program introduces the phases of the moon and the basics of why they occur. Kindergarten through second grade.

Word list: rotation, pole, planet, orbit, constellation, axis, equator, revolution, ecliptic, star

"Reading the Night Sky like a Scout"

This show qualifies for the Boy Scout Astronomy Merit badge and fulfills some of the requirements for the Cadets and Senior Girl Scout Space Exploration Merit Badge

Before you go out camping you will be able to prepare yourself for the sky that will be above you. The seasonal sky will be shown so that one can figure out directions and locate various constellations. You will also be shown how to tell time by the Sun and by the stars.

Under the night sky you will witness unusual sights such as a meteor shower, an exploding fireball and a comet. The changing positions of the planets and the phases of the moon will also be displayed. The dome of the sky should then be a more familiar covering for your camping excursions.

Word list: meteor, comet, meridian, galaxy, coordinates, constellation, zodiac, retrograde, circumpolar, ecliptic