

Drop Down Menu for Field Trip Programs

1st Grade

- **Max Goes to the Moon:** Max (the dog) and a young girl named Tori take the first trip to the moon since the Apollo era. 35 minutes

5th Grade

- **Cosmic Castaways:** Based on research from astronomers at Youngstown State University, the program explains how stars can be ejected from galaxies by gravitational perturbation. From Ward Beecher Planetarium/CosmoQuest. 20 minutes Grade 5 Standards ESS1A and ESS1B **Paired with NASA Muscles** Explore how researchers are using the Hubble Space Telescope's Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanetary Systems (MUSCLES) Survey to study properties of red dwarf stars and how their intense x-ray and ultraviolet flares may affect the chemistry of planets' atmospheres. 7 minutes- Standard ESS1A and ESS1B
- **Sunstruck:** A full dome planetarium show about the sun. Produced by the Michigan Science Center under a NASA grant. 21 minutes Grade 5 Standards ESS1A and ESS1B. **Paired with Parker Solar Probe:** Humans have sent a spacecraft into the Sun's atmosphere to study the corona and solar wind. 7 minutes-Standards ESS1A and ESS1B
- **From Earth to the Universe:** is a 30-min show produced by European Southern Observatory for planetariums and digital dome theatres. Info, trailer & full preview. Grade 5 Standards ESS1A and ESS1B

7th Grade

- **Climate Change in our Backyard:** Explore the role of carbon dioxide in our atmosphere, the natural temperature variations that the Earth has experienced over millions of years, and how humans are affecting our planet today. 20 minutes- 7th Grade Standard ESS3D

8th Grade

- **Worlds of Curiosity** dives into the questions of "What it would be like to live on an Earth with no Moon?" or "What if the Earth was tilted on its side (like Uranus)?" explore how our lives would be different on these Earths, talk about other hypothetical planets that could exist, and marvel at the even stranger worlds that astronomers have discovered beyond our solar system. 15 minutes. **Paired with Four Paths of the Sun:** This short program illustrates why Earth has seasons, how the Sun's altitude in the sky changes over the course of a year, and how the angle of the Sun causes changes in weather. 8th Grade Standards: ESS1A and ESS1B

- **Cosmic Castaways:** Based on research from astronomers at Youngstown State University, the program explains how stars can be ejected from galaxies by gravitational perturbation. From Ward Beecher Planetarium/CosmoQuest. 20 minutes Standards ESS1A and ESS1B **Paired with NASA Muscles** Explore how researchers are using the Hubble Space Telescope's Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanetary Systems (MUSCLES) Survey to study properties of red dwarf stars and how their intense x-ray and ultraviolet flares may affect the chemistry of planets' atmospheres. 7 minutes- Standards ESS1A and ESS1B
- **Darker Matter Mystery:** What keeps Galaxies together? What are the building blocks of the Universe? What makes the Universe look the way it looks today? Researchers all around the world try to answer these questions. We know today that approximately a quarter of the Universe is filled with a mysterious glue: Dark Matter. We know that it is out there. But we have no idea what it is made out of...
This fulldome planetarium show takes you on the biggest quest of contemporary astrophysics. You will see why we know that Dark Matter exists, and how this search is one of the most challenging and exciting searches science has to offer. Join the scientists on their hunt for Dark Matter with experiments in space and deep underground. Will they be able to solve the Dark Matter Mystery? 38 minutes- Grade 8 Standard ESS1A
- **Galaxies:** Once we thought that Earth was the center of the universe. Shapely and Hubble changed that perspective by showing that we are part of a vast expanse of galaxies. This program reviews some of their key discoveries and explores some of the most common types of galaxies. 38 minutes- Grade 8 Standard ESS1A
- **Out There:** We are able to explore more and more of the Universe. What we have found so far has surpassed even our wildest expectations - there are planets everywhere! 30 minutes- Grade 8 Standard ESS1A
- **A Voyage to Different Worlds:** A tour of the solar system, but one that's designed for older audiences than many other solar system shows. Lots of information about our neighboring planets is packed into this program. 15 minutes **Followed by Journey to Mars:** a short planetarium 10 minute presentation. 8th Grade Standard ESS1A
- **Sunstruck:** A full dome planetarium show about the sun. Produced by the Michigan Science Center under a NASA grant. 21 minutes Grades 8 Standards ESS1A and ESS1B. **Paired with Parker Solar Probe:** Humans have sent a spacecraft into the Sun's atmosphere to study the corona and solar wind. 7 minutes- 8th Grade Standards ESS1A and ESS1B

- **From Earth to the Universe:** is a 30-min show produced by European Southern Observatory for planetariums and digital dome theatres. Info, trailer & full preview. Grades 8 Standards ESS1A and ESS1B
- **Cosmic Mashups:** Supermassive black holes are found in most galaxies and we're beginning to uncover how the merging of galaxies activates galactic centers. 21 minutes
Paired with Dark: a full-dome movie that explains and explores the nature of dark matter, the missing 80% of the mass of the Universe. 20 minutes- 8th Grade Standard ESS1A

High School

- **Hot and Energetic Universe:** The Hot and Energetic Universe presents with the use of immersive visualizations and real images the achievements of the modern astronomy, the most advanced terrestrial and orbital observatories, the basic principles electromagnetic radiation and the natural phenomena related to the High Energy Astrophysics. 30 minutes- High School Standard: ESSA PS3D PS4B
- **Phantom Universe:** Phantom of the Universe: a free planetarium show that showcases the exploration of dark matter, from the Big Bang to galaxies to the Large Hadron Collider. 30 minutes- High School Standard: ESS1A
- **Cosmic Origins Spectrograph:** Following the path taken by light from a quasar, this film journeys across the cosmic web, touching on concepts such as spectra, formation of the elements, the electromagnetic spectrum, the distribution of gas around galaxies, and many of HST's showcase images. 28 minutes- High School Standards: ESS1A and PS4B
- **Worlds of Curiosity** dives into the questions of "What it would be like to live on an Earth with no Moon?" or "What if the Earth was tilted on its side (like Uranus)?" explore how our lives would be different on these Earths, talk about other hypothetical planets that could exist, and marvel at the even stranger worlds that astronomers have discovered beyond our solar system. 15 minutes. **Paired with Four Paths of the Sun:** This short program illustrates why Earth has seasons, how the Sun's altitude in the sky changes over the course of a year, and how the angle of the Sun causes changes in weather. Standards: ESS1A and ESS1B
- **Cosmic Castaways:** Based on research from astronomers at Youngstown State University, the program explains how stars can be ejected from galaxies by gravitational perturbation. From Ward Beecher Planetarium/CosmoQuest. 20 minutes High School Standard ESS1B **Paired with NASA Muscles** Explore how researchers are using the Hubble Space Telescope's Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanetary Systems (MUSCLES) Survey to study properties of red dwarf

stars and how their intense x-ray and ultraviolet flares may affect the chemistry of planets' atmospheres. 7 minutes- High School PS4B

- **Cosmology:** How did the universe begin, and how is it evolving? What might its ultimate fate be? Explore some of the big questions in this original show narrated by Michael Stevens of Vsauce. 35 minutes- Standard ESS1A
- **Darker Matter Mystery:** What keeps Galaxies together? What are the building blocks of the Universe? What makes the Universe look the way it looks today? Researchers all around the world try to answer these questions. We know today that approximately a quarter of the Universe is filled with a mysterious glue: Dark Matter. We know that it is out there. But we have no idea what it is made out of...
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- **Solar Quest:** a planetarium short feature that demonstrates and provides an overview of the Sun – Earth environment. Detailed and high quality animations and videos demonstrate various solar phenomena such as fusion, light energy and solar surface features and phenomena. The show also discusses the impacts that space weather may have and how the Earth's atmosphere and magnetic field protects all life on Earth.

Highlighted in the show is the role of the Solar Dynamics Observatory (SDO) and how scientists have begun to use it as a way to help identify and predict severe space weather. 11 minutes- High School Standard PS3D **Paired with Sunstruck**: A full dome planetarium show about the sun. Produced by the Michigan Science Center under a NASA grant. 21 minutes High School Standard ESS1A

- **Climate Change in our Backyard**: Explore the role of carbon dioxide in our atmosphere, the natural temperature variations that the Earth has experienced over millions of years, and how humans are affecting our planet today. 20 minutes-High School Standards ESS3D and ESS2B
- **Cosmic Mashups**: Supermassive black holes are found in most galaxies and we're beginning to uncover how the merging of galaxies activates galactic centers. 21 minutes **Paired with Dark**: a full dome movie that explains and explores the nature of dark matter, the missing 80% of the mass of the Universe. 20 minutes- High School Standard ESS1A