



museum of
innovation and science

Grade 9-12 Field Trips

New York State P-12 Science Learning Standards are listed at the end of each program offering, where applicable

Planetarium Shows

Astronomy for Earth Science - The Planetarium is an excellent tool to demonstrate astronomical phenomena and concepts covered on the Regents Exam. We offer two separate lessons examining the different topics that are on the Regents. Sign up for either or both, your choice. Special rate applies when you book both programs on the same day. An introduction to the seasonal sky is included with each show.

45 minutes, 60 people maximum

The Moon & More This program demonstrates planetary motion, including retrograde motion of the planets as seen from Earth, and from outside of the Solar System. The Lunar Cycle and phases are viewed in the dome at “weekly intervals” and the phenomena of Eclipses is explained and shown.

45 minutes, 60 people maximum (including chaperones), HS-ESS1-7

The Sun & More This program takes a look at the apparent motions of the stars and circumpolar constellations. The rising and setting of the Sun at the start of each season is duplicated in the Planetarium sky, along with the Sun’s elevation at noon throughout the year. Incorporated into this lesson are the Ecliptic, Meridian, and Celestial Equator, and how they relate to the seasons and the tilt of the Earth’s axis.

45 minutes, 60 people maximum (including chaperones), HS-ESS1-7

Cosmic Wonders

This live program highlights the seasonal night sky, including constellations, planets, the moon and current astronomical events. Tell us what you are studying! We will emphasize specific topics such as constellation mythology or the solar system.

45 minutes, 60 people maximum (including chaperones), HS-ESS1-7

IBEX: Search for the Edge of the Solar System

Take a journey to the boundary between our Solar System and the rest of our galaxy! Get an in-depth look at NASA's Interstellar Boundary Explorer (IBEX) mission and how IBEX is collecting high-speed atoms to create a map of our Solar System's boundary. Narrated by two inquisitive teenagers, this show features the scientists and engineers who developed the IBEX mission and created the spacecraft, as well as the latest updates on the mission's discoveries.

Produced by the Adler Planetarium for the Southwest Research Institute.

45 minutes, 60 people maximum (including chaperones)

Losing the Dark

Learn all about light pollution and some of the important issues surrounding this problem in our environment. Explore simple actions people can take to help reduce light pollution. Discover ways we can all work together to implement responsible use of lighting. *Produced by Loch Ness Productions.*

45 minutes, 60 people maximum (including chaperones), HS-ESS3-4

Planetarium Shows (continued)

Saturn the Ring World

See Saturn up-close and all-around-you! Explore the two-story Cassini-Huygens spacecraft, which began orbiting Saturn on July 1, 2004. Cassini continues to explore Saturn and its moons during its extended mission, while the Huygens probe had landed on the surface of Titan, Saturn's largest moon. Narrated by Star Trek's John Billingsley (Dr. Phlox on ENTERPRISE). *Produced by the Houston Museum of Natural Science and NASA's Jet Propulsion Laboratory.*
45 minutes, 60 people maximum (including chaperones)

Season of Light (Nov. 24, 2017 - Jan. 7, 2018)

Light up the cold, dark winter with a bright holiday show that explores the history of holiday customs, cultural celebrations practiced during the winter solstice, and general astronomy topics like seasons and the winter night sky.
45 minutes, 60 people maximum (including chaperones), HS-ESS1-7

Two Small Pieces of Glass

Explore the history of the telescope from the time of Galileo and discover its impact upon the science of astronomy. Narrated by two children in a star party setting, this new digital show features astrophysicists and cosmologists from the world's renowned universities and observatories explaining astronomy concepts -- from Galileo's act of revealing the cosmos with a simple telescope to the latest discoveries in space, including startling new ideas about life on other planets and dark energy. *Produced by Interstellar Studios.*
45 minutes, 60 people maximum (including chaperones), HS-PS4-6

We Choose Space!

Discover the completed International Space Station (ISS) and the past and future moon with Astronauts Scott Parazinsky, Tom Jones and Gene Cernan, and veteran space reporter Walter Cronkite. This show is filled with real adventures for everyone who dreams of space and wonder about human spaceflight. *Produced by Loch Ness Productions. Funded by NASA to the Louisiana Art and Science Museum.*
45 minutes, 60 people maximum (including chaperones), HS-LS1-3

Sunstruck

Travel back to the beginning of time and experience the birth of the Sun. Discover how it came to support life, how it threatens life as we know it, and how its energy will one day fade away.
45 minutes, 60 people maximum (including chaperones), HS-ESS1-1

Back to the Moon for Good

This digital film highlights the history of exploring the moon and provides an insider's look at the teams vying for the \$30 million Google Lunar XPRIZE, the largest incentivized prize in history. The stunning visuals and compelling narrative of the show explain the importance of the Google Lunar XPRIZE in encouraging today's space entrepreneurs and innovators to collaborate toward building a new space economy while inspiring the next generation to "shoot for the moon."
45 minutes, 60 people maximum (including chaperones), HS-ETS1-1

Dinosaur Prophecy

Long before dinosaurs' massive extinction 65 million years ago, many individual species simply disappeared. Visit dinosaur graveyards, study their bones, and reconstruct how these creatures lived and died to solve four famous cold cases from the age of the dinosaurs in The Dinosaur Prophecy.
45 minutes, 60 people maximum (including chaperones), HS-LS2-6, HS-LS4-1, HS-LS4-2, HS-LS4-5

From Earth to the Universe

Travel to the birthplaces and burial grounds of stars; beyond the Milky Way, to the unimaginable immensity of a myriad of galaxies. Along the way, learn about the history of astronomy, the invention of the telescope, and today's giant telescopes that allow us to continue to probe ever deeper into the Universe.
45 minutes, 60 people maximum (including chaperones)

Hands-on Science Explorations

Crime Lab Science

Learn about forensic science and how evolving technology helps scientists, detectives, and other specialists discover the truth about today's criminal cases and mysterious crimes of the past.

45 minutes, 25 students maximum

Erie Canal

Discover the Erie Canal through a hands-on, inquiry-based learning experience that explores the science, technology, and history of innovation in our area. Investigate the Canal's economic importance to New York State and the technological advancements, such as hydraulic cement, that stemmed from its construction. Through experimentation explore Pascal's Law and how it was used to design canal lock systems.

45 minutes, 25 students maximum, HS-ETS1-3

Hot Topics in Astronomy

Keep your students up to date with the latest and greatest astronomical discoveries with an interactive lesson presented by the Dudley Observatory's new professional Astronomer in one of three exciting areas of astronomy: Stellar Birth to Death; Mysteries of the Universe: Dark Matter, Dark Energy, and Black Holes; Exoplanets and Life in the Universe. These lessons are designed to fill one class period and can be customized to fit into your curriculum. Dudley Observatory Astronomer Dr. Valerie Rapson has a Ph.D. in Astrophysical Sciences and Technology and has spent 5 years conducting research and teaching the public about astronomy.

60 minutes, 25 students maximum, HS-ESS1-1, HS-ESS1-2, HS-ESS1-3, HS-ESS1-4, HS-ESS1-7

It's a Small Small Nano World

Discover more about this technical field that focuses on matter at the nanoscale dimensions of 1 to 100 nanometers ($1\text{nm} = 10^{-9}\text{m}$). Learn about how researchers have made great strides in understanding new behaviors and properties of materials at the nanoscale. Understand how this information is being put to work in medicine, electronics, robotics, and energy production.

45 minutes, 25 students maximum

Optical Illusions

Trick your eyes with a number of Optical Illusions and then discover scientifically what is happening with your eye and brain for this to occur. Learn about the parts of your eye and how it produces images for your brain to see. See how artists have used techniques to trick us for hundreds of years.

45 minutes, 25 students maximum, HS-LS1-2

Spectacular Spectroscopy

Discover how light travels and creates the colors we see. Mix colored light to see what makes white light. Investigate how prisms can be used to manipulate light and produce rainbows. Experiment with gas samples and learn how they capture and release light waves.

45 minutes, 25 students maximum MS-PS4-1, MS-PS4-2, MS-PS4-3

Interactive Science Demos

Dry Ice

Explore the states of matter and sublimation with the fun and excitement of dry ice.

30 minutes, 30 students maximum, HS-PS2-6

Electricity

What is it? And how do we make more?

30 minutes, 30 students maximum, HS-PS3-5, HS-PS1-1, HS-PS1-3

Interactive Science Demos (continued)

Nanotechnology

Explore the everyday applications of nanotechnology and find out just how small nano really is.
30 minutes, 30 students maximum

Physics

Find out about the motion and the “why” behind its behavior.

30 minutes, 30 students maximum , HS-PS2-1, HS-PS2-2, HS-PS2-3, HS-PS2-4, HS-PS2-5