



museum of
innovation and science

Grade 6-8 Outreaches

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

Outreach Planetarium Shows

STARLAB Portable Planetarium Programs by Dudley Observatory at miSci in partnership with Capital Region BOCES.

Andromeda to Zeus

Greek mythology and seasonal constellations are showcased, while students predict the regular motion of celestial objects.

45 minutes, 30 people maximum (including chaperones)

Calendar Constellations

Why do the constellations visible in the night sky change during the year? The zodiac, or “circle of animals” was used as a calendar. Changes due to the earth’s daily rotation and its annual orbit around the sun will be examined and compared. 45 minutes, 30 people maximum (including chaperones)

Custom Program

We will work with you to design unique programs to meet your curriculum needs. 30 minutes, 30 people maximum (including chaperones)

Earth and Sky

The concepts of latitude and longitude are reinforced as students plot coordinates and observe the changing view of the sky from different places on earth.

45 minutes, 30 people maximum (including chaperones)

It’s Only a Phase

Students will observe and model the cyclic pattern of moon phases, and use moon maps to identify and discuss different types of features on the moon. Trip Tip: Pair with Just a Phase Hands-on Science Exploration.

45 minutes, 30 people maximum (including chaperones)

Reasons for the Seasons

Students observe and record changes in the sun’s apparent path through the sky through the year and understand why the tilt of the earth’s axis causes the seasons.

45 minutes, 30 people maximum (including chaperones)

Star Clock

Our system of measuring time is based on the motion of the Earth in relation to the sun, moon, and stars. Students use observations of the Big Dipper and the North Star to tell both the time and season.

45 minutes, 30 people maximum (including chaperones)

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

Dynamic Earth

What is beneath your feet and all around you – THE EARTH! Discover the everyday changes of the Earth. Explore the gradual, the dramatic, and the changes that happen every few hours. What lies at the center of the Earth? Why do continents move? Why do rivers bend? Why do hurricanes begin? Discover the answers through hands-on investigation.

45 minutes, 25 students maximum, MS-ESS1-4, MS-ESS2-2, MS-ESS2-3

Engineering Mission

Design and build a shock-absorbing system that will protect two marshmallow “astronauts” when they land. Test, evaluate, and redesign. This program is adapted from NASA’s Design Squad. Trip Tip: Pair with Saturn the Ring World or IBEX: Search for the Edge of the Solar System Planetarium Show.

45 minutes, 25 students maximum, MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4, MS-PS2-1, MS-PS2-2, MS-PS2-3, MS-PS2-4, MS-PS2-5

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, MS-ETS1-3

Fun with Physics

Physics is everywhere, even when we play. Through interactive demonstrations, learn how a bicycle tire can turn you into a human gyroscope. Explore the laws of gravity and discover Bernoulli’s Principle.

45 minutes, 25 students maximum, MS-PS3-4, MS-PS3-5, MS-PS2-1, MS-PS2-2

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

Just A Phase

Discover answers to the questions of the Moon. Learn why our Moon is so bright, why it controls our tides here on Earth and what is happening to the Moon. Each student will walk their Moon through the phases as they discover what creates new, full, and waxing Moons. Trip Tip: Pair with a Star Lab Portable Planetarium Show.

45 minutes, 25 students maximum, MS-ESS1-1

The Magic of Electricity

We all use it...but what IS it, and how does it work? Learn the basics of electricity through hands-on demonstrations, including the hair-raising Van de Graaf generator. Learn how electricity is generated, delivered to homes, and has changed our lives forever.

45 minutes, 25 students maximum

Hands-on Science Explorations (continued)

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, MS-LS1-3, MS-LS1-8

Renewable Energy

Energy is everywhere, but what is energy? Where does it come from? Does it run out?

45 minutes, 25 students maximum

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, MS-PS1-4, MS-PS1-7

Electricity

What is it? And how do we make more?

30 minutes, 30 students maximum

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



NEW!

Sense and Censability Classes

\$ense and Censability Lesson 1: Super Saver

Students will develop an understanding of the importance of saving money and learn how credit cards are a form of debt. Activities will demonstrate the advantages and disadvantages of having credit cards and using debt to finance their wants and needs. Concepts of principal and interest will be explored.

\$ense and Censability Lesson 2: Savvy Shopper

Students will consider the role of needs and wants in decision-making, and how to evaluate the credibility and motivation of marketing and advertising. Students will learn how to distinguish the best value of goods and services, and how to evaluate opportunity costs of various purchases.

\$ense and Censability Lesson 3: Personal Finances

Students will learn how to make decisions about what to do with their money, and whether to spend, save, or give. Considerations for an increasingly digital world, such as protecting one's identity and financial information, will also be addressed. Students will role-play various identity theft scenarios using a customized app.