

2023-2024

PROGRAM CATALOG



MOBILE EARTH + SPACE OBSERVATORY



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ABOUT MESO

The Mobile Earth + Space Observatory is a one-of-a-kind science center on wheels designed to bring museum-grade, hands-on science learning experiences to your school. Founded in 2017 with the goal to make meaningful science learning accessible to all, we are a passion-driven group of expert science educators who aim to bring our knowledge, access, and unique facilities to you. With a number of programs designed to fit a variety of settings, we hope that you will find a program that fits your classroom needs, however, we understand that no standard program outline will fit every school. Therefore we would be happy to work with you to customize any program as needed.



UNDER CONSTRUCTION, 2017



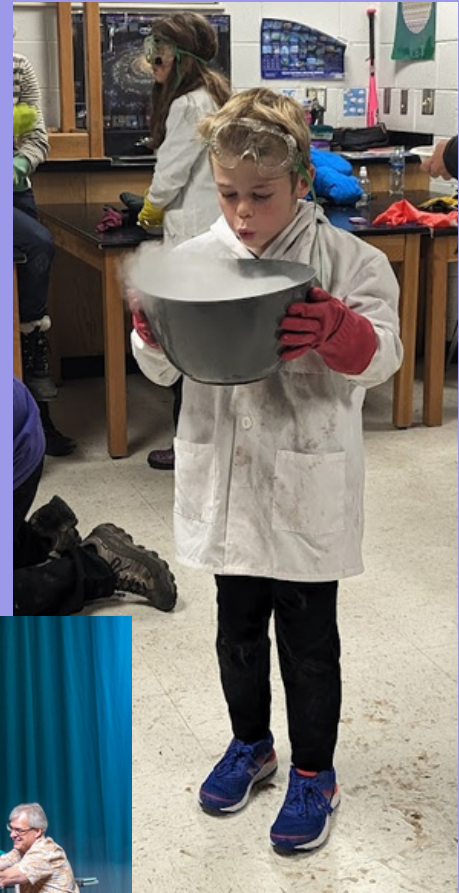
OPEN AT THE CHALLENGER
LEARNING CENTER, 2019



THE TEAM FACING HEAVY SNOW, 2023



CLASSROOM PROGRAM AT
THE COLORADO MILITARY
ACADEMY, 2020



WHAT WE DO DIFFERENTLY

Mobile Labs offer genuine hands-on science experiences to wider audiences by removing the need of travel. By bringing MESO to your school, students will learn authentic science from the familiarity of their classrooms with the novelty of the Mobile Lab experience. Our hybrid system allows us to invest in the hands-on component rather than paralleling a classroom on wheels.



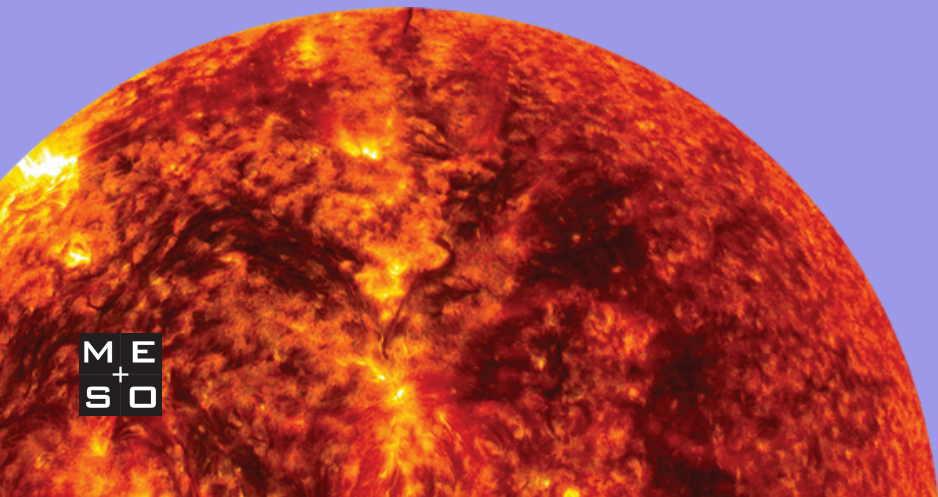
CLASSROOM PROGRAMS

Enhance your classroom with programs that range from 30-minute interactives to in-depth, multiple day lessons featuring hands-on experiments, live demonstrations, and design challenges to explore scientific concepts.



PHYSICS + ASTRONOMY

Hands-on experiences that cover the basics of physics and astronomy to build strong foundations of understanding. From exploring how telescopes work to understanding Einstein's theory of general relativity.



C.PA.1 - MAKING SENSE OF THE SEASONS



Lesson Length: 40 - 60 minutes

Grades: 1-5

Recognizing the seasons is one of the earliest forms of making scientific observations to recognize patterns taught in school, however, understanding what causes the seasons is riddled with misconceptions. In this program, students not only get an accurate visual demonstration of the Earth's movement around the sun using MESO's Sun-Earth model, but also recreate these findings to determine on their own how the Earth's tilt leads to an unequal distribution of sunlight causes the drastic changes in temperature and weather throughout the year.



EXPLORATIONS:

Seasons on Earth, our place in the solar system, patterns in Earth's systems

STANDARDS:

K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.

K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

1-ESS1-2. Make observations at different times of the year to relate the amount of daylight to the time of the year.

3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.

5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

MS-ESS1-1. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

MS-ESS2-6. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

MESO MATERIALS:

Seasons Table

Small Earth globes on skewers with stands

Flashlights with stands

Batteries

ADDITIONAL MATERIALS:

Butcher paper (or large sheet of paper)

Color markers

C.PA.2 - THE SCIENCE OF LIGHT + COLOR: THE POWER OF OPTICS



Lesson Length: 40 - 60 minutes

Grades: 4-5, 6-8, 9-12

Light is the most important, and most accessible, piece of information astronomers can use to study the universe. In this portion of the Science of Light and Color program, students learn how telescopes can image distant objects using the properties of light and lenses. Can be delivered by itself, or combined with the following Science of Light + Color programs.

EXPLORATIONS:

Electromagnetic radiation, imaging, lenses



STANDARDS:

4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

MESO MATERIALS:

Pinhole chambers

Light bulbs

Extension cables

Nails (3 sizes)

Laminated paper

Glass lens

Lens stand

Light ray tracing boards

Masking tape (3/4" and 2")



C.PA.2 - THE SCIENCE OF LIGHT + COLOR: ENERGY + TEMPERATURE



Lesson Length: 40 - 60 minutes

Grades: 6-8, 9-12

Look at any dazzling deep sky image and you will see variation of colors in the stars. Astronomers spent years trying to classify stars and eventually settled on the system used today, a measure of both size and temperature, but how are these determined from Earth? In this lesson, your students follow a series of steps to classify electromagnetic radiation by energy, and therefore temperature, to make sense of the information carried by the wavelength of light.

EXPLORATIONS:

Temperature, color, stars

STANDARDS:

MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

MS-PS4-2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

HS-PS4-4. Evaluate the reliability of claims in published material of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

MESO MATERIALS:

Voltage dependent light boxes

Extension cords

Light bulbs with visible filament

Color filters with transmission percentage

Diffraction lenses or glasses

Infrared Camera

Cooler

Ice



C.PA.2 - THE SCIENCE OF LIGHT + COLOR: SPECTROSCOPY



Lesson Length: 40 - 60 minutes

Grades: 6-8, 9-12

Scientists discovered the element Helium in the Sun before it was ever discovered on Earth using a process still used today to identify the make up of distant stars and even planets! In this lesson, students will explore the unique identifiers created by elements when they produce electromagnetic radiation.

EXPLORATIONS:

Spectroscopy, electromagnetic radiation, the discovery of elements

STANDARDS:

1-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.

1-PS4-3. Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.

MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

MS-PS4-2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

HS-PS4-4. Evaluate the reliability of claims in published material of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

MESO MATERIALS:

Diffraction lenses or glasses

Spectrometer lamps with gas samples

Periodic table with spectral lines



C.PA.2 - THE SCIENCE OF LIGHT + COLOR: PAINTING WITH LIGHT



Lesson Length: 30 minutes

Grades: K-5, 6-8, 9-12

This fun lesson covers the basics of light as a form of energy with fun visual displays. Students of all ages will enjoy discovering the rainbow hidden in white light, “painting” with phosphorescent light boards.

EXPLORATIONS:

Light, color, energy

STANDARDS:

11-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.

1-PS4-3. Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.

4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

MA-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

MS-PS3-5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

MESO MATERIALS:

Adjustable light box

Diffraction grating lenses

Fluorescent light boards

RGB light bulbs

C.PA.3 - TOUR OF THE UNIVERSE



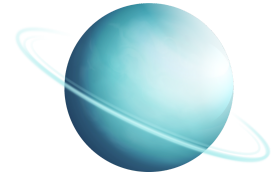
Lesson Length: 40 - 60 minutes

Grades: 5, 6-8, 9-12

Take your students on a tour of the solar system and beyond from your own classroom using planetarium-grade software. A trained MESO astronomy educator will give an in-depth live tour in this student-led exploration.

EXPLORATIONS:

Our place in the solar system, planets, stars



STANDARDS:

5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.

MS-ESS1-1. Develop and use a model of the Earth-Sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

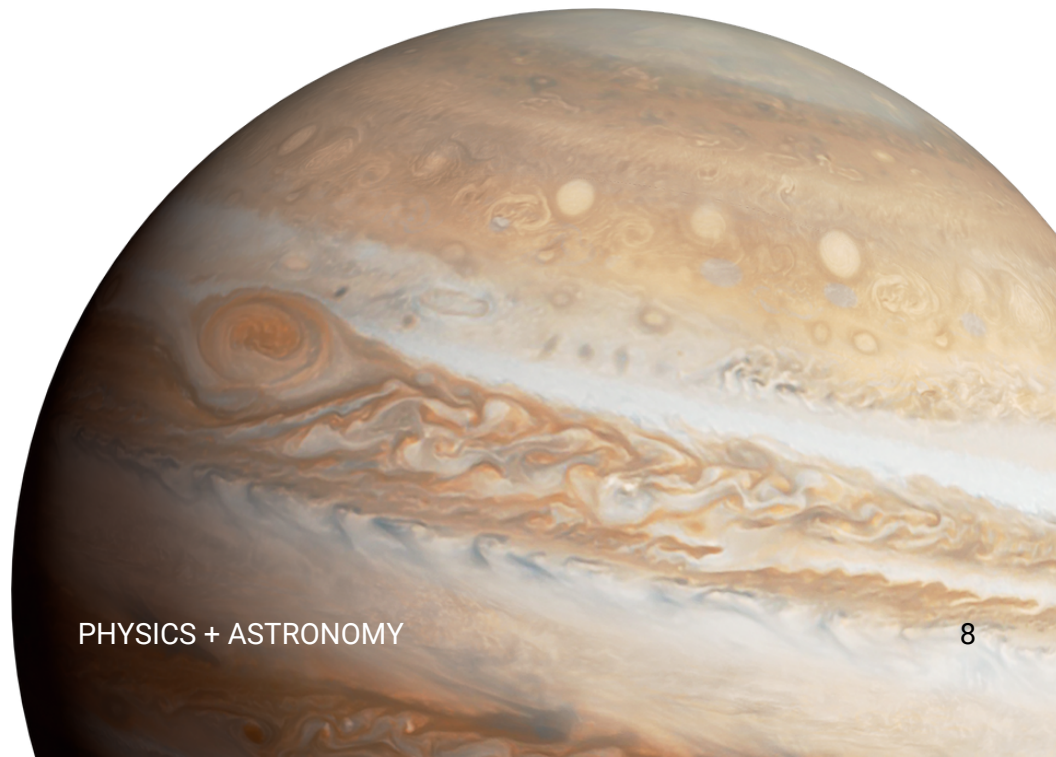
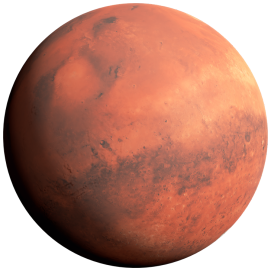
MS-ESS1-3. Analyze and interpret data to determine scale properties of objects in the solar system.

MESO MATERIALS:

Starry Night Pro software
Computer

ADDITIONAL MATERIALS:

Projector
Screen
Speakers



C.PA.4 - IS THERE GRAVITY IN SPACE?



Lesson Length: 40 - 90 minutes

Grades: 5, 6-8, 9-12

Einstein's theory of relativity revolutionized the way we understand gravity by proposing a higher, invisible dimension beyond our own. In this program, students explore space as a bendable, stretchy fabric to make first-hand observations about the laws that govern the motions of planets, stars, and galaxies.

EXPLORATIONS:

Einstein's theory of general relativity, space, gravity, orbits



STANDARDS:

5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.

MS-PS-1. Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

MS-PS2-2. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

MS-PS2-4. Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

MS-PS2-5. Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

MS-ESS1-2. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.

HS-PS2-1. Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

HS-PS2-2. Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

HS-PS2-4. Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.

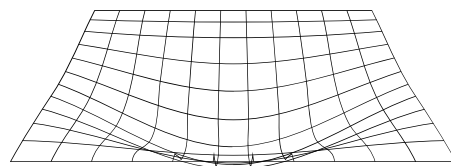
HS-ESS1-4. Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.

MESO MATERIALS:

Gravity demonstrator and related software

Student gravity demonstrators (PVC stands with binder clips)

Assorted objects of differing masses



C.PA.5 - OUR SOLAR SYSTEM



Lesson Length: 60 - 90 minutes

Grades: 5, 6-8, 9-12

Take your class outside to create a scale-distance model of our solar system, and then turn the focus upward to one of the most important – if not the most important – elements in our solar system: the sun. Students will receive training on how to use eclipse glasses to view the sun safely, then study the sun using three different telescopes to identify sunspots, prominences, and understand patterns on the surface of the sun. Time range varies with class size, weather dependent.



EXPLORATIONS:

The sun, planets, our solar system, orbits, distances in space

STANDARDS:

1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.

MS-ESS1-3. Analyze and interpret data to determine scale properties of objects in the solar system.

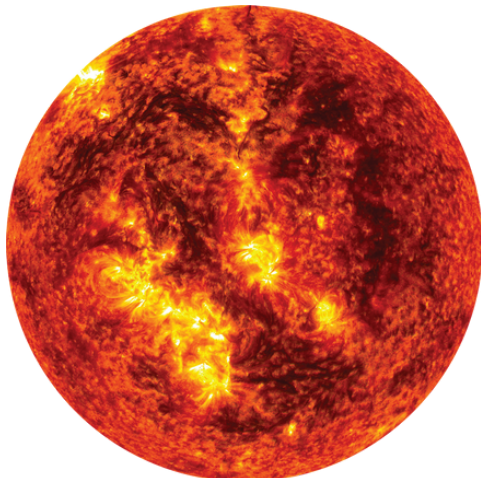
MESO MATERIALS:

Hydrogen-Alpha solar telescope

2 visual solar telescopes

Sun gazers

Scale solar system posts



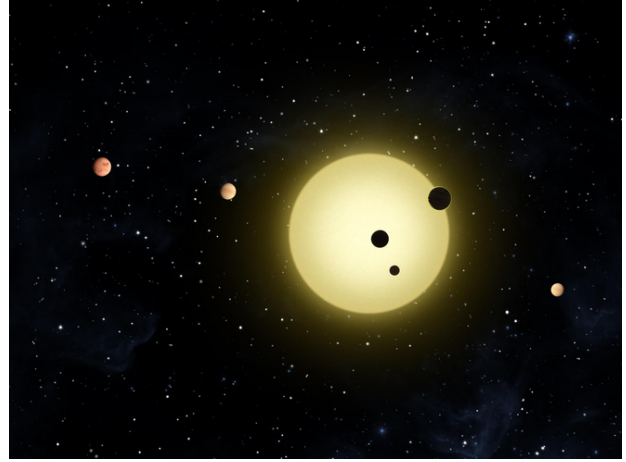
C.PA.6 - THE SEARCH FOR EXOPLANETS



Lesson Length: 40 - 60 minutes

Grades: 6-8, 9-12

More than 5000 exoplanets have been discovered in our galaxy alone since we started pointing powerful telescopes at the sky. In this lesson, students learn about the different methods for finding and confirming exoplanets, what that means for the possibility of life outside of the Earth, and the science to identify distant atmospheres that started by looking at our own.



Credit: NASA/Time Pyle

EXPLORATIONS:

Exoplanets, magnitude, spectroscopy

STANDARDS:

MS-ESS1-2. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.

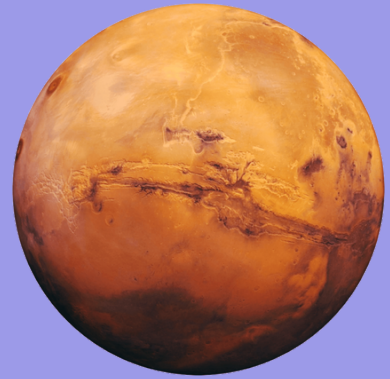
MS-ESS1-3. Analyze and interpret data to determine scale properties of objects in the solar system.

MESO MATERIALS:

Transit Orerey

Photometers

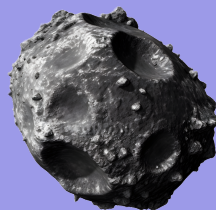
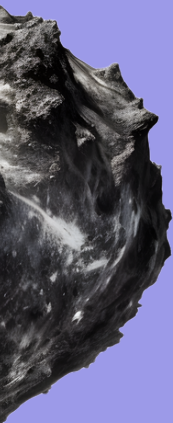
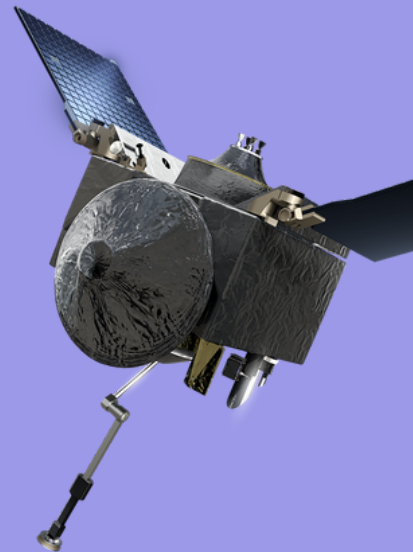
This lesson pairs great with "Is there Gravity in Space?" and "The Science of Light + Color: Spectroscopy"!



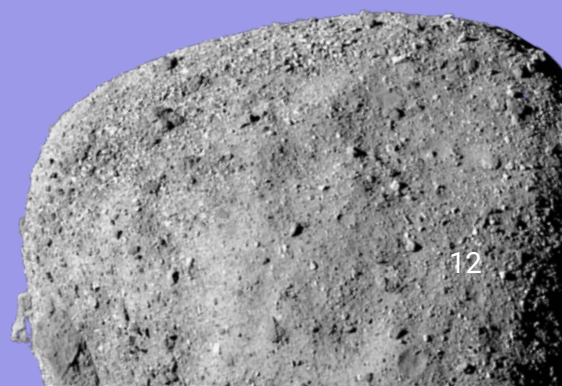
MISSION TO BENNU

In September of 2023, NASA scientists recovered the first samples taken from an asteroid, marking the end of a seven year mission called OSIRIS-REx. This set of lessons trace the steps NASA scientists took, from launch to sterilized sample return, to highlight the unique challenges of space exploration.

Learn more: science.nasa.gov/mission/osiris-rex/



Bennu



C.MB.1 - MISSION TO BENNU: ROCKETS! (STOICHIOMETRY LESSON)



Lesson Length: 60 minutes

Grades: 9-12

The first step to exploring space is leaving the Earth, which takes an incredible amount of energy. In this lesson students learn about balancing chemical equations using two mixtures to produce hydrogen and oxygen as the “fuel” for pipette rockets, as well as the need for a substance called a propellant to create rockets that fly across a classroom.

EXPLORATIONS:

Space exploration, rockets, balancing chemical equations

MESO MATERIALS:

Test tubes and racks
Test tube stoppers
Short pipettes
Spark generator
Hydrogen + oxygen solutions
(yeast, H_2O_2 , HCl , zinc)
Water
Small widemouth beakers
Wire launch pad

CLASSROOM MATERIALS:

Access to sinks
Paper towels

That's all steam! →



Credit: NASA

C.MB.1 - MISSION TO BENNU: ROCKETS! (DESIGN CHALLENGE)



Lesson Length: 50 minutes

Grades: K-5, 6-8

Learn about the anatomy of a rocket, and put your students' engineering and design skills to the test by designing and building their own rocket propelled by compressed air.

EXPLORATIONS:

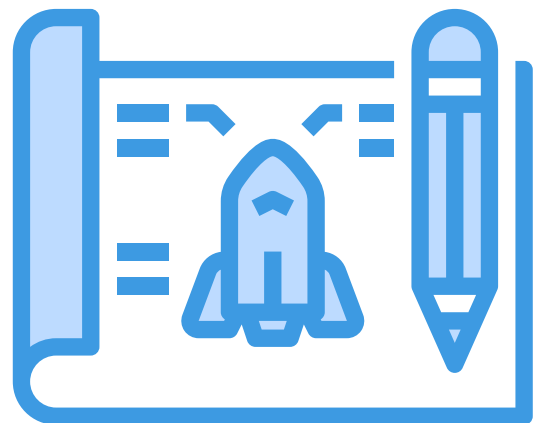
Space exploration, rockets, aerodynamics, engineering design

MESO MATERIALS:

Air compressor rocket launcher
Film cannisters

CLASSROOM MATERIALS:

Construction paper
Scissors
Markers
Tape & glue sticks



C.MB.2 - MISSION TO BENNU: GRAVITY



Lesson Length: 50 - 70 minutes

Grades: 5, 6-8, 9-12

Once OSIRIS-REx left the Earth's gravitational pull, NASA's navigation team had to develop a complicated path to use a limited amount of propellant to get to Bennu, through gravity assisted maneuvers. This lesson expands from our gravity lesson with a design challenge to reach targets in "space".

EXPLORATIONS:

Gravity, space exploration

MESO MATERIALS:

Gravity well

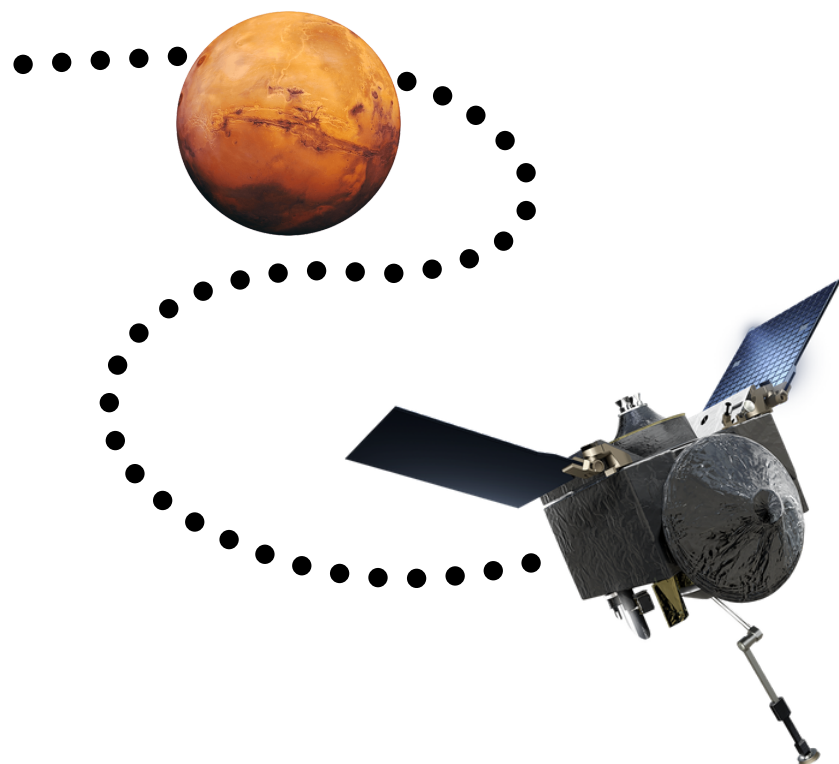
Gravity well kits



Credit: Aric Vyhmeister



Individual gravity wells promote student-led exploration



C.MB.3 - MISSION TO BENNU: SPECTRAL INTERPRETATION



Lesson Length: 50 - 70 minutes

Grades: 5, 6-8

OSIRIS-REx used three on-board spectrometers to determine the composition of Bennu's surface before collecting a physical sample. Students will learn how light carries information about the temperature, energy, and make up of its source. *Note: a more in depth exploration of the instrumentation on board OSIRIS-REx is featured in lesson C.MB.6.*

EXPLORATIONS:

Spectroscopy, electron configuration, light, temperature

MESO MATERIALS:

Spectroscopy gas tubes

Diffraction lenses

Infrared camera



Students see themselves in
"a new light" using an
infrared camera



C.MB.4 - MISSION TO BENNU: SAMPLE COLLECTION CHALLENGE

Lesson Length: 60 minutes

Grades: 3-5

Despite knowing how the surface of Bennu looked, scientists were not able to predict how well the asteroid was held together until after the OSIRIS-REx mission made impact to collect a sample. This posed a unique challenge of creating a sample collection device that could function without having to land on the asteroid's surface. This lesson challenges students to design, build, and test a sample recovery head using common materials.

EXPLORATIONS:

Engineering design

MESO MATERIALS:

Air compressor

Glue

Twine

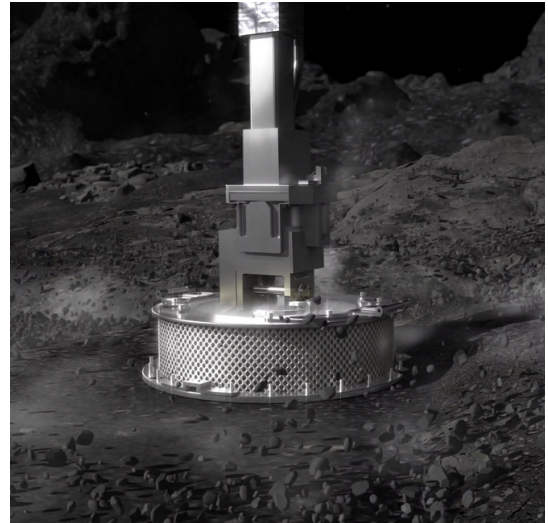
CLASSROOM MATERIALS:

Recycled materials (2-liter bottles, plastic cups, etc.)

Tape

Paper

Pens/pencils



Credit: NASA/Goddard Space Flight Center

C.MB.4 - MISSION TO BENNU: SAMPLE COLLECTION CHALLENGE (ADVANCED)

Lesson Length: 60 minutes

Grades: 6-8, 9-12

Despite knowing how the surface of Bennu looked, scientists were not able to predict how well the asteroid was held together until after the OSIRIS-REx mission made impact to collect a sample. This posed a unique challenge of creating a sample collection device that could function without having to land on the asteroid's surface. This more advanced lesson challenges students to design, build, and test a sample recovery head using common materials with more parameters such as measuring sample collected, time constraints, and compressed air settings.



Credit: NASA/Goddard Space Flight Center

EXPLORATIONS:

Engineering design

MESO MATERIALS:

Air compressor
Glue
Twine

CLASSROOM MATERIALS:

Recycled materials (2-liter bottles, plastic cups, etc.)
Tape
Paper
Pens/pencils

C.MB.5 - MISSION TO BENNU: SURFACE MAPPING CHALLENGE



Lesson Length: 60 - 90 minutes

Grades: 6-8, 9-12

Before OSIRIS-REx even left the Earth, scientists had a good idea of what the surface of the asteroid looked like, and after collecting its sample, scientists were able to map the newly formed crater on the asteroid's surface. Students use the same technology, called LIDAR (Light Detection and Ranging), in this lesson to map unknown surfaces.

EXPLORATIONS:

LIDAR, mapping, graphing

MESO MATERIALS:

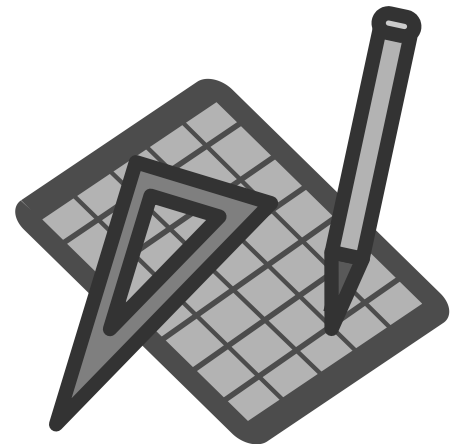
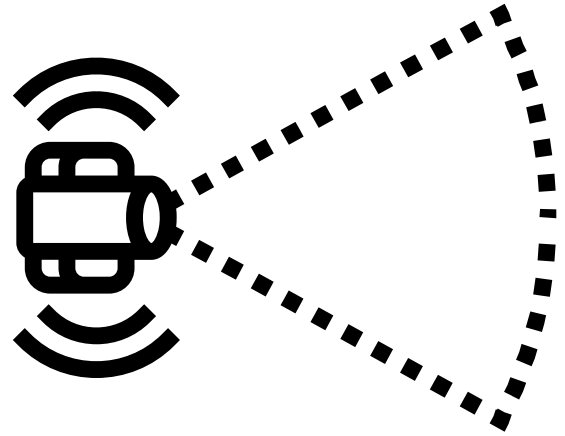
LIDAR activity

CLASSROOM MATERIALS:

Graphing paper

Pencils/pens

Rulers



C.MB.6 - MISSION TO BENNU: SCIENCE IN SPACE



Lesson Length: 70 minutes

Grades: 9-12

OSIRIS-REx carried a number of different instruments to study the surface of Bennu before collecting a sample, including optical and infrared cameras, LIDAR detectors, and spectrometers. This lesson dives deeper into the instrumentation on-board the mission, the science that was carried out at a distance, and the OSIRIS-APEX mission that continues beyond OSIRIS-REx

EXPLORATIONS:

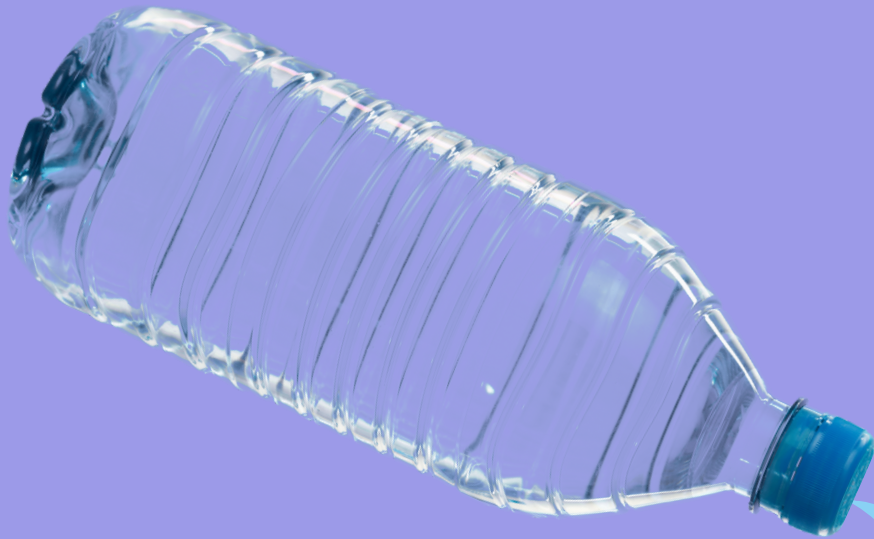
Instrumentation, spectroscopy, infrared astronomy

MESO MATERIALS:

Infrared camera

Spectroscopy tools





WATER

Learn about one of our most precious resources and the importance of conservation through a series of demonstrations and design challenges.

C.W.1 - HYDROPALOOZA ASSEMBLY*



Lesson Length: 60 minutes

Grades: k-5, 6-8

Start the conversation about water with a bang through this highly fun and interactive assembly program for audiences of any size. Students become watersheds to learn about area distribution, learn about filtration and conservation by challenging their teachers, and watch clouds form before their eyes.

Additional charge: \$250

EXPLORATIONS:

Filtration, water conservation, watersheds

STANDARDS:

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.



C.W.1 - WATER PURIFICATION DESIGN CHALLENGE*



Lesson Length: 60 minutes

Grades: k-5, 6-8

Every team of students will get 1 liter of dirty water and plenty of lab equipment to try to clean it. After an introduction to the importance of clean water and water purification techniques including filtering, sedimentation and distillation, each team has 20 min to produce the cleanest water they can. This design challenge has students constructing their own filters using natural ingredients, making turbidity measurements, and documenting their results. Which team will win?



EXPLORATIONS:

Filtration, water conservation, watersheds

STANDARDS:

K-PS3-2. Make observations to determine the effect of sunlight on Earth's surface.

MESO MATERIALS:

Water filtration kits

ADDITIONAL MATERIALS:

Expendable filtration items (\$2/student)

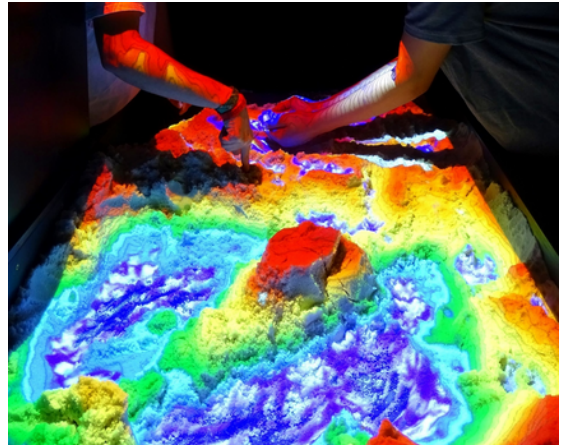
C.W.2 - BUILDING + MAPPING WATERSHEDS



Lesson Length: 60 - 120 minutes

Grades: k-5, 6-8

What does it mean that Colorado is a headwater state and why is it important? Can you predict the way Colorado rivers flow and why? In this station based program students will discover the environmental impacts of sharing a watershed with their neighbors, and will see how their own watershed fits in a Colorado context using a high quality hands-on relief map. Using an augmented reality sandbox students will build their own unique topography, identify and explore the concepts of divides and watershed boundaries. By reading topographic maps, contour lines and elevation, students will discover how to recognize watersheds.



EXPLORATIONS:

Water sheds, water conservation, topography.

STANDARDS:

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

MESO MATERIALS:

Colorado relief map

Colorado river map

AR sandbox

C.W.3 - RIVERS + STREAMS



Lesson Length: 60 - 120 minutes

Grades: k-5, 6-8

Rivers and streams change from day to day, year to year, and decade to decade depending on both natural and anthropological factors. With MESO's stream tables, students can explore the effects of changing flowrate on surrounding land to understand one of the processes that shape the Earth.

EXPLORATIONS:

Rivers, streams, flow rate, erosion

STANDARDS:

2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedback that cause changes to other Earth systems.

HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

MESO MATERIALS:

Stream tables



AFTERSCHOOL PROGRAMS

Extend learning and fun beyond the classroom with family-oriented programs that are just as interactive and hands-on as our classroom programs.

AS.1 - WATER IN THE SOLAR SYSTEM: COMET MAKING*

Lesson Length: 60 minutes

Water was essential in developing life as we know it on Earth, but how did it get here? Explore with us as we search for answers among some of the most common objects in our solar system: comets and asteroids, by making your own comet made of the same materials found in space.

Additional Charge: \$150



AS.2 - IMAGING SPACE: JAMES WEBB SPACE TELESCOPE LECTURE



Length: 60 minutes

The James Webb Space Telescope has produced beautiful and detailed new images of our universe. Learn about *how* the JWST takes these images and the properties of light that allow this with a mixture of interactive exploration and informative lecture.

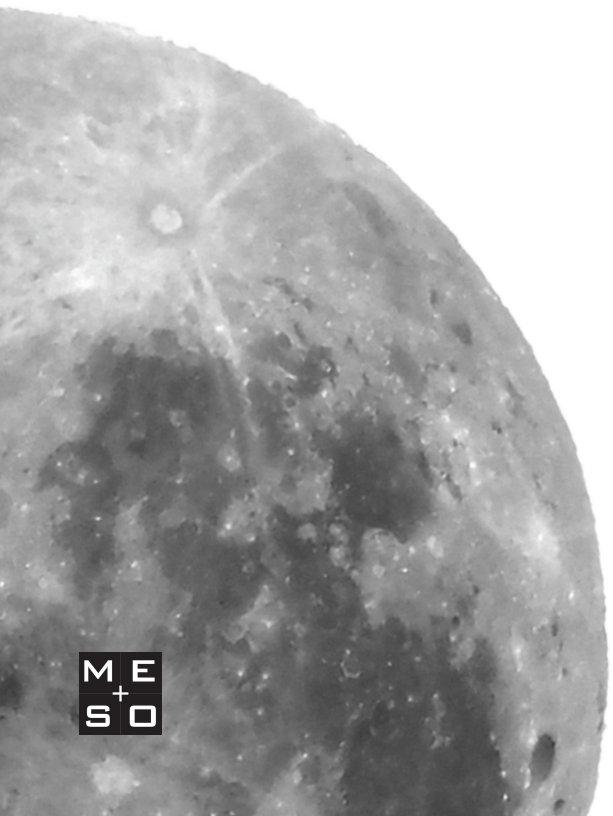


AS.3 - STAR PARTY!



Length: 2 - 3 hours

Board the Mobile Earth and Space Observatory to learn about Mars exploration, look through a telescope, and discover our night sky like never before. Take a tour of the stars that neighbor us guided by an expert educator, or explore the many hands-on activities that MESO has to offer, in this family-inclusive nighttime experience.



PRICING

The Mobile Earth + Space Observatory is a registered 501c3 non-profit organization with a mission to make science education more accessible and equitable. For this reason, we strive to provide the best authentic science learning experiences at the lowest cost possible. The following prices reflect the cost of transportation and employment of our expert science educators, the development and upkeep of our unique exhibits, as well as overhead costs such as storage and maintenance of our historic vehicle. Please note this pricing is subject to change.

HALF DAY PROGRAM (4 HOURS)	\$750
FULL DAY PROGRAM (6-8 HOURS)	\$1150
AFTER SCHOOL PROGRAM (3 HOURS)	\$650
FULL DAY + STAR PARTY	\$1475

ADDITIONAL COSTS:

\$2/mile travel surcharge

\$250 for each additional educator (2 educators included with price)

Additional charges and material fees denoted by a *

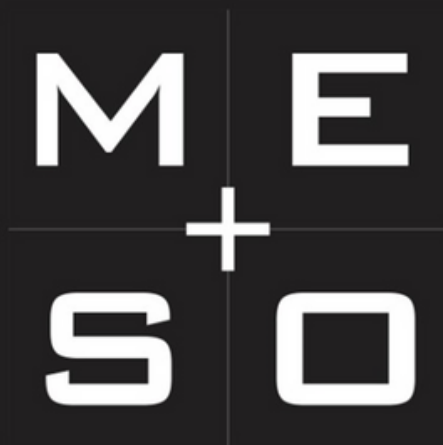
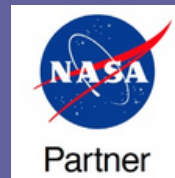
Scholarships that cover up to 50% of the program pricing (excluding travel surcharge and material fees) are available. To learn more contact:


info@nssti.org


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