Outreach Programs

From dinosaurs to dissections, engineering to astronomy, we offer a wide range of hands-on programs to meet your needs. Whether it's a class visit or science festival, we'll bring enlightening (and entertaining!) science learning opportunities to your students to help them get ahead.

PROGRAM TYPES

CLASSROOM PROGRAMS

Experience an adventure in science without leaving the classroom. Programs include a general introduction to a science topic and hands-on, interactive activities.

GRADE	LENGTH	FEE	MAX. # PEOPLE
Pre-K – 12th	1 hour*	$165	34**

**Two-program minimum registration*
***24- Pre-K*

ASSEMBLIES

Assemblies are a great way to bring classrooms together for a learning adventure. We can tailor assemblies to fit your specific age group.

GRADE	LENGTH	FEE	MAX. # PEOPLE
K – 12th	1 hour	$445*	350

**$320 for second showing*

PORTABLE PLANETARIUM

Our portable, museum-quality planetarium brings the night sky inside with live presentations and films.

Room requirements: 25'x25' clean indoor area with a 12' ceiling

GRADE	LENGTH	FEE/HOUR	MAX. # PEOPLE
K – 12	1 hour*	$165	30

**Two-hour minimum*

SCIENCE FESTIVAL

Bring the spirit of OMSI to your community. We fill 10 to 12 tables with science equipment and challenges guaranteed to thrill youngsters, perplex adults and offer an unforgettable science experience. Register for a full day for only $900. Add in demos or themes for an additional $120. Evening and weekend programs also available. Topics include: Astronomy, Ecology, Geology, Oceanography, Paleontology, Biology, Botany, and Zoology, and many more!

Note: Mileage and educator fees may apply if your school is more than 40 miles from OMSI.

GRADE	LENGTH	FEE/HOUR	MAX. # PEOPLE
K – 12	UP TO 6 HRS*	$180	90/hour

**Three-hour minimum.*

QUESTIONS?

Give us a call or drop us a line!
We'd love to help you find the best program for your class, school or community.

(503) 797 4661

register@omsi.edu

omsi.edu/traveling-programs

FINANCIAL AID $ AVAILABLE!

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OMSI OUTREACH PROGRAMS

Schedule an OMSI program to visit your school or business. Requests must be made 2 weeks in advance. More information can be found here: programs.omsi.edu/programs.

ASSEMBLIES

Assemblies are a great way to bring classrooms together for a learning adventure. OMSI can gear assemblies to fit your specific age group.

- $445/assembly; $320 for second showing
- Up to 350 people per session
- 1 hour
- Travel fees may apply *(see pg 7)*

Chemistry Assemblies

ALTERED STATES

Grades K–12

Explore the unique properties of solids, liquids, gases and plasmas. Observe how materials change from one state of matter to another. The freezing, flowing and glowing phenomena in this show are guaranteed to be a hit! Topics include states of matter, molecules, energy conversions and safety. Note: This program works best in a room that can be darkened.

REACT-O-BLAST

Grades K–8

Students help OMSI staff conduct experiments that vividly demonstrate the predictable (and sometimes unpredictable!) reactions of matter, including some that have explosive results. Topics include nature of chemical reactions, physical vs. chemical changes and safety. Note: Unless requested otherwise, this assembly includes use of an open flame.

Earth Science Assemblies

WILD WEATHER SHOW

Grades K-5

What causes exciting (and sometimes dangerous) weather conditions? How can we track them and protect ourselves? We'll explore and demonstrate the roots of weather phenomena including the origin of clouds, snow, wind, and lightning. Topics include Earth science, meteorology and weather forecasting. Note: Unless requested otherwise, this assembly includes use of an open flame.

Physics and Engineering Assemblies

ELECTRIFYING SCIENCE

Grades K-8

Itty bitty electrons are on the move, and it's amazing what they can do! We'll explore the wacky world of electrostatics, learn how renewable technologies like wind turbines and solar cells can power our cities, and witness the awesome power of a high voltage current. Topics include electrostatics, electrical currents, renewable energy, and safety. Note: This program works best in a room that can be darkened. Unless requested otherwise, this assembly includes use of an open flame.

MOTION COMMOTION

Grades K-8

Student volunteers participate in Sir Isaac Newton's 300 year-old experiments by using ordinary objects to demonstrate the physics at work around us each day. These entertaining demonstrations make physics incredibly easy to understand. Topics include energy conversions, forces, inertia and laws of motion.

Jugglemania Assemblies

GOLLY-OLOGY

Grades K-12

Instructor Rhys Thomas of Jugglemania is a former Smithsonian artist-in-residence who takes juggling beyond physics to explore archaeology, chemistry, mathematics and other sciences.

What new juggling props have chemists created? Can mathematicians help discover new tricks? Watch and wonder as the show builds to a grand finale, featuring Rhys juggling on a rope. Stage requirements: 12'x12' area with a 10' ceiling. Topics include inertia, gravity, balance, centripetal force, archaeology, chemistry and mathematics.

SCIENCE CIRCUS: THE PHYSICS OF FUN

Grades K-12

Instructor Rhys Thomas of Jugglemania is a former Smithsonian artist-in-residence who takes juggling beyond physics to explore archaeology, chemistry, mathematics and other sciences.

Juggling, acrobatics and the irresistible force of levity demonstrate the significance and relevance of physics. Stage requirements: 12'x12' area with a 10' ceiling. Topics include centripetal force, gyroscopic stability, gravity, balance, inertia, mass and air resistance.

CLASSROOM PROGRAMS

Experience an adventure in science without leaving the classroom. These classroom programs include a general introduction to a science topic and hands-on, interactive activities.

- $330.00 for two 1 hour sessions
- $165.00 for each additional 1 hour session
- Up to 34 students per session (PreK: 24 students per session)
- Sessions are 1 hour in length
- Must take place in same classroom
- Travel fees and/or lab fees may apply

Biology Classroom Programs

AMAZING WHALES

GRADES K–5 • 1 hour

Young marine biologists take a close-up look at whales, examine baleen, and learn about the adaptations, habitat, and stewardship of these amazing mammals. Students will touch real whale artifacts and crawl inside a 40- or 60-foot, life-size, inflatable whale. Room requirements: 50'x30' area with an 8' ceiling. Topics: adaptation, stewardship, mammal classification, whale ecology.

BUG ME!

Grades PreK-1 • 1 hour

What has six legs, three body parts and invades your picnic? Students discover how insects' bodies change as they grow and how they survive in a world where they are one of nature's smallest creatures. Participants will design their own insect to take home and will have the option to hold live insects. Topics include camouflage, insect anatomy and life cycles. Up to 34 students per session for K-1, up to 24 students per session for PreK.

GOING BATTY

Grades K-3 • 1 hour

Explore the intriguing world of bats and learn the truth about one of the most misunderstood and beneficial creatures on Earth. Students learn about bat diversity, echolocation and diet. They'll also practice using a mist nest, the tool field biologists use to capture and study live bats before releasing them back into the night sky. Topics include adaptations, bat biology and physics of sound.

HUNTERS OF THE SKY
Grades 4-8 • 1 hour
Get a bird's-eye view of how hawks, owls and eagles survive in the wild. Students learn about special adaptations such as "silent flight" and how their favorite birds of prey see and hunt. They will also discover what owls have for midnight snacks as they dissect owl pellets and take home their findings. Topics include adaptations, anatomy, biology and classification. Add $30 lab fee per session.

MICROSCOPIC ZOO
Grades 4-8 • 1 hour
What amazing creatures live in a single drop of pond water? Students learn to prepare slides and zoom in on microscopic wonders like the stinging tentacles of a pint-size predator and the beating heart of a tiny, translucent crustacean. This program teaches microscope skills and gives insight into an incredible microscopic world. Topics include animal adaptations, aquatic ecology, habitats and scientific equipment. Add $60 lab fee per day.

SCALES, CLAWS AND EXPANDING JAWS
Grades K-8 • 1 hour
Students slide, slither and hop into herpetology, the science of reptiles. We'll get up close and personal with live snakes, lizards and turtles in order to study the features which make this class of animals unique. Discover that snakes are smooth and dry, lizards have no earlobes, and geckos can lick their eyeballs!

SQUID DISSECTION
Grades 4-12 • 1 hour
If your students have the guts, so do we—squid guts that is! Young biologists use proper dissection techniques to explore the insides of a squid and discover firsthand how the beak, ink sac and other adaptations help this odd, underwater organism survive. Topics include anatomy, animal adaptations, dissection and lab procedures.

Chemistry Classroom Programs

COWABUNGA CHEMISTRY
Grades K-5 • 1 hour
Students perform amazing chemical reactions as they measure and mix ingredients and discover substances with strange and surprising properties: polymers. Make two different slimy concoctions for big-time chemistry fun. Topics include chemical reactions, states of matter, polymers and lab procedures.

INVESTIGATING CHEMISTRY
Grades 4-8 • 1 hour
Chemicals are like people—no two are exactly alike! In this class, students become chemical detectives, investigating "mystery chemicals" and identifying them based on their unique properties, ranging from solubility to flammability. This chemical exploration emphasizes problem-solving techniques and laboratory safety skills. Topics include chemical reactions, changes in state, chemical safety and properties of compounds. Note: This class includes use of small open flames.

KIDDIE CHEMISTRY
Grades K-3 • 1 hour
In this introduction to basic chemistry, young students study mixtures and chemical reactions involving changes in color, temperature and states of matter. They'll watch solutions change right before their eyes! Topics include chemical reactions, mixtures, chemical safety, gases, liquids and solids.

RADICAL REACTIONS
Grades 4-8 • 1 hour
Learn all about the pHabulous world of acids, bases and indicators using chemicals like dry ice and disappearing ink. Students use scientific inquiry to perform experiments, predict the outcome and analyze the results. Proper laboratory skills and safety are stressed. Topics include acids and bases, chemical safety, and properties of compounds.

Earth Science Classroom Programs

EARTH IN MOTION

Grades 4-8 • 1 hour

Duck and cover! In this class, students become earthquake experts, studying the tectonic forces that trigger quakes and engineering structures to withstand them. We'll also learn how those same tectonic forces work slowly over millions of years to sculpt mountains, shift continents and shape the land we live on today. Topics include plate tectonics, earthquakes and geologic time scale.

PREHISTORIC DINOSAURS

Grades Prek-3 • 1 hour

Students become fossil-digging paleontologists and learn how to reassemble a complete dinosaur from just a few pieces. Topics include adaptations, fossil evidence, fossil formation and paleontology. Up to 34 students per session for K-3, up to 24 students per session for PreK.

SCHOOL OF ROCKS

Grades 4-8 • 1 hour

Young geologists discover the amazing, and sometimes surprising, properties of the rocks beneath our feet. They will use careful analysis to identify a set of mystery minerals, then find out firsthand how minerals move through the rock cycle. Topics include rock classification, rock cycle and mineral identification.

WEATHER 101

Grades K-3 • 1 hour

Where does weather come from? How can we predict it? Young meteorologists learn how to study weather using their senses and homemade forecasting tools. Topics include Earth science, meteorology, forecasting.

Health and Wellness Classroom Programs

CALORIC CHEMISTRY (formerly BURNING CALORIES)

Grades 4-12 • 1 hour

Food is fuel! Food provides the energy, measured in calories, that our bodies need to function. In this class, students will burn calories (literally) using controlled flames and authentic scientific procedures to measure the energy content of various foods. Topics include nutrition, health, chemistry, mathematics and lab safety. Note: This class includes use of small open flames.

HUMAN SYSTEMS

Grades 2-5 • 1 hour

What happens to french fries after you eat them? How do you lift, throw, run and jump? What helps you think and learn? Students explore the skeletal, digestive, nervous, muscular, respiratory and circulatory systems, while learning how to take their own vital signs and keep their body healthy. Topics include human anatomy and body systems.

MOVE YOUR CLASS!

Grades K-5 • 1 hour

Get your class moving and shaking while investigating the effects of exercise on the human body. Students explore the benefits and science behind exercise. Room requirements: A large room, such as a multipurpose room or gym. Topics include physical fitness, biology and health.

THE SOUND OF SCIENCE

Grades Prek-1 • 1 hour

Young children love to pluck, strum, whistle and wiggle in this fun-filled musical class. Students experiment with unusual instruments to find out how waves and vibrations create all kinds of sounds—high and low, loud and soft—and how those sounds reach our ears. Topics include ear anatomy, sound waves and vibration. Up to 34 students per session for K-1, up to 24 students per session for PreK.

Multi-Science Classroom Programs

CRIME LAB
Grades 2-5 • 1 hour
As they piece together the evidence of a crime scene, students see firsthand how fingerprints, footprints and fibers can help catch a criminal. Topics include forensic science, evidence analysis and analytical thinking.

ENERGY OPTIONS
Grades 4-8 • 1 hour
How does a wind turbine generate electricity? Can we use solar panels in Oregon? What makes energy renewable? Students explore energy options and draw conclusions about how we can best meet our energy needs. Topics include energy, generation of electricity, technology, engineering and Earth systems.

IDENTITY
Grades 2-8 • 1 hour
What makes you, you? Students use hands-on science to extract their own DNA and real forensic techniques to examine their own unique fingerprints. Topics include forensic science, evidence analysis and analytical thinking.

NANO: THE SCIENCE OF SMALL (formerly NANO SCALE SCIENCE AND ENGINEERING)
Grades 4-12 • 1 hour
Big things are happening in the tiny, nanoscale world! In this class, students go beyond microscopic, observing firsthand the strange, sometimes surprising properties of matter when manipulated at the nanoscale. They will also learn how nanoscale engineering can develop new technologies that impact healthcare, energy, and the environment. Topics include scales of measurement, atoms, molecules, states of matter, engineering, energy and nature.

WEE WONDERS IN SCIENCE
Grades Prek-K • 1 hour
This introductory class has little ones exploring the wonders of chemistry, physics and biology. Students will make chemicals change colors, levitate objects, meet a live reptile and more in this fun-filled class. Topics include physics, biology and chemical mixing. Up to 34 students per session for K, up to 24 students per session for PreK.

Physics and Engineering Classroom Programs

FUNTASTIC PHYSICS
Grade 2-5 • 1 hour
Students explore the laws of physics while playing with everyday toys. They join a videotaped space mission and predict and observe how toys act in the weightless conditions of space. Topics include action/reaction, force applications, inertia, momentum and Newton's three laws of motion.

IMAGINEERING
OMSI's Imagineering programs are hands-on, inquiry-based workshops in which students use the engineering design process to solve exciting challenges through design and testing. To help teachers with the Oregon State Science Standards in engineering and design, OMSI can provide an engineering handbook for an additional charge of $25. This easy-to-use handbook features seven activities for your class and is designed for a teacher on a budget.

IMAGINEERING: 3-2-1 BLAST OFF!
Grades 4-12 • 1 hour
Students build paper rockets and launch them with a high-powered air compressor, examining the effects of changing variables on their rockets' flight. Room requirements: A large room, such as a multipurpose room or gym.

IMAGINEERING: DOWN WITH GRAVITY
Grades 2-5 • 1 hour
How slow can you go? In this gravity-defying workshop, students are challenged to reduce a falling ball to the slowest speed possible through a maze of obstacles.

IMAGINEERING: FLOAT YOUR BOAT
Grades Prek-1 • 1 hour
Young engineers will experiment with sinking and floating objects then use their new knowledge to solve creative challenges. Up to 34 students per session for K-1, up to 24 students per session for PreK.

IMAGINEERING: JITTERBUGS
Grades 4-12 • 1 hour
With just a motor, a battery, a marker and a handful of craft supplies, students are challenged to design and build a scribbling robot that can doodle all on its own. Add a $40 lab fee per session.

IMAGINEERING: PIT CREWS
Grades 2-5 • 1 hour
After building their own cars, students alter their designs to complete a series of impressive challenges.

IMAGINEERING: ROLLERCOASTER MADNESS
Grades 2-8 • 1 hour
Take your students on a wild ride with this workshop that lets them design and test their own marble coaster, complete with loops and jumps.

JOLTS, VOLTS AND WIRES
Grades 2-8 • 1 hour
Electrifying activities get students charged! Students study the nature of electricity by engineering circuits using generators, batteries, bulbs, motors and more. Topics include generation and transmission of electricity, safety, conductivity and circuits.

MARVELOUS MAGNETS
Grades K-2 • 1 hour
What's the attraction? Students explore the wonders of magnetic forces and discover how magnets attract and repel. They levitate a paperclip, confuse a compass and investigate other magnetic marvels. Topics include magnetism, attraction, repulsion and physics.

Space Science Classroom Programs

WHERE IN THE WORLDS
Grades K-2 • 1 hour
Climb aboard the Spaceship OMSI and discover the fascinating planets and moons that make up our solar system. Young astronomers learn about the qualities of atmosphere and space, create a solar system model, and build their own air-powered straw rocket to launch their imaginations. Topics include astronomy and space science.

YOUR GALACTIC ADDRESS
Grades 3-6 • 1 hour
How are we affected by the orbit and rotation of our planet? How far away are we from the Sun? In this space science class, students learn how Earth fits into our vast and ever–changing universe. Students will act out the Earth's movement through the solar system and create take-home activities to share their knowledge. Topics include astronomy and space science.

PORTABLE PLANETARIUM

OMSI's portable, museum-quality planetarium brings the night sky inside with live presentations and films.

- $330.00 for two sessions
- $165.00 for each additional session
- Sessions are 1 hour in length
- Room requirements: 25'x25' clean indoor area with a 12' ceiling.
- Maximum of 30 students per session
- Grades K–12
- Travel fees may apply *(see pg 7)*

SCIENCE FESTIVAL

Bring the spirit of OMSI to your community. We fill 10 to 12 tables with science equipment and challenges guaranteed to thrill youngsters, perplex adults and offer an unforgettable science experience. During school hours, we recommend that classes or grade levels rotate through every 45-60 minutes. Supplemental content related to health, nutrition, sustainability, and other topics is available if requested. For family nights and larger scale events, OMSI educators can also conduct exciting demonstrations for an additional $100 fee (options include chemistry, physics or live animals).

- $540.00 for three hours
- $180 for each additional hour
- Full day (6 hours) for only $900
- Up to 90 students at a time
- Grades K-12
- Science Demonstration included for an additional $100
- Travel fees may apply (see below)

Travel Costs

• By scheduling a program <u>when we're in your area per Outreach Map</u>, each school pays $125 per instructor per day, in addition to the program cost. No mileage is charged!

• If we make a special trip to your school (when we're not scheduled to be in your area per map), each school is charged 55¢ per round-trip mile (subject to federal rate changes) and $125 per instructor per day, in addition to the program cost.

• Visits to areas beyond the boundaries of the map are available by request and travel fees are negotiated on a case-by-case basis.