



2021 — 2022 STEM 2 *GO* GUIDE





ORLANDO SCIENCE CENTER



STEM 2 GO

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WE BRING THE SCIENCE CENTER TO YOU!

STEM 2 Go offsite programs are interactive handson STEM activities, aligned with the Florida State Standards in each subject area.

An Orlando Science Center staff member leads all activities and brings age-appropriate materials and supplies.

HEALTH & SAFETY INFORMATION

For the last 65 years Orlando Science Center has been dedicated to serving you and bringing science learning to our community, and that will continue. Science is the key to addressing some of our country's greatest challenges, whether it's Americans returning to space or combatting a global pandemic.

To view the Health Information Flyer, please visit <u>osc.org/field-trips</u>. For additional information, please contact us at 407.514.2112 or email us at classes@osc.org.



RESERVATION INFO & PRICING

TO MAKE A RESERVATION

Please fill out a reservation request form online at <u>osc.org/stem2go</u> and fax to 407.514.2067 or email to classes@osc.org. If you have any questions about the reservations process, a Reservations Team member will be happy to assist you at 407.514.2112.

IMPORTANT: The reservation request form does not guarantee a reservation. A reservation has not been made until you speak with a Reservations Team member and receive a confirmation letter.

CHANGES TO YOUR RESERVATION

- If you need to change the date of your STEM 2 Go program, all changes must be made two weeks prior to the scheduled date of your trip.
- Changes requested within the two week window might not be accommodated.

PAYMENTS

- Payments can be made with check, credit card or purchase order made payable to Orlando Science Center.
- Balance must be completed as one payment.

DEPOSIT POLICY

- A 20% non-refundable deposit (or \$50, whichever is greater) is required to book a STEM 2 Go program.
- The deposit must be received by Orlando Science Center's reservation department within two weeks of booking your reservation.
- If your deposit is not received at this time, your reservation is subject to cancellation.
- If you are booking a trip within two weeks, the entire amount is due at time of booking.

REFUND & CANCELLATION POLICY

- All cancellations made two weeks or more from scheduled field trip date will receive a refund of collected monies minus the non-refundable deposit amount.
- No-shows and cancellations made less than two weeks prior to the field trip date will forfeit their refund.

All STEM 2 Go programs are subject to a mileage fee of \$1.50 per mile, round-trip.

PRICING 2021 – 2022

STEM 2 Go Workshops One 60-Minute, Hands-on Lab\$400 Additional Labs*\$110 *To be eligible for this pricing, workshops must be the same topic and held consecutively on the same day. Additional workshops that require additional OSC staff will be charged the \$400 rate.
Destination STEM Workshops90-Minute, Hands-on Lab.\$450Four Labs.\$1,680
Family Science NightVirtual Family Science Night\$300Primary Grades\$500Secondary Grades\$625
Enhance Your Program Family Science Night & Workshops only Add KaBOOM! Live Show. \$150 5 stations. \$100 Extra staff. \$75
KaBOOM! \$215 30-Minute Live Show. \$375 Two shows. \$375 Each additional show (up to 5). \$100
Mobile Planetarium\$350Two 30-Minute Presentations.\$100Additional session (up to 4).\$10060-Minute Event Booking.\$300Each additional hour (up to 3).\$150*Face coverings required inside the Mobile Planetarium.
Drone ZoneTwo 30-Minute Interactive Experiences.\$350Additional session (up to 4).\$10060-Minute Event Booking.\$300Each additional hour (up to 3).\$150
Science FestivalSmall School Package.\$1,550Large School Package.\$1,900

WORKSHOPS

Experiment, investigate & explore STEM topics in depth in a Workshop of your choice. Workshops are led by Orlando Science Center Educators. All workshops have been carefully designed to meet all applicable Florida State Standards.

The experience offers students an opportunity to implement skills being taught in the classroom through inquiry based hands-on 60-minute workshop. There is a maximum of 30 students per Workshop, so your group will be divided accordingly.

Please contact Reservations for further details at 407.514.2112 or classes@osc.org.

PRE-K / VPK

Moving Machines

Children will investigate the six different types of simple machines that make work easier: lever, inclined plane, wheel and axle, screw, wedge, and pulley. They will also use teamwork to build a compound machine to meet a goal. Florida Early Learning and Development Standards for Four-Year-Olds: I.D.I; I.D.2; II.A.I; II.B.I; III.D.I; III.A.B.I; III.A.B.3; IV.A.I.A; IV.A.2.A; IV.C.I.C; IV.C.2.A; IV.C.2.B; IV.F.3.A; V.A.A.3.B; V.A.A.3.C; V.A.B.I.A; V.A.B.I.B; V.A.C.2.A; V.A.C.2.B; V.A.C.2.B; V.A.E.I.A; V.A.E.I.B; V.B.A.I; V.B.A.2; V.C.C.I

Little Engineers: Can We Fix It? Yes We Can!

Children will learn about Engineers and the Engineering Design Process through exploring the story 'Anything Is Possible' by Giulia Belloni and creating a solution to the storybook problem on their own in small teams.

Florida Early Learning and Development Standards for Four-Year-Olds: I.B.C.2, II.B.I, II.C.I, II.D.I, III.C.2, IV.A.I.A, VI.A.3, VI.C.I.A, VI.C.I.B

KINDERGARTEN

Little Engineers: Can We Fix It? Yes We Can!

Children will learn about Engineers and the Engineering Design Process through exploring the story 'Anything Is Possible' by Giulia Belloni and creating a solution to the storybook problem on their own in small teams.

SC.K.N.I.I., SC.K2.CS-CP.I.I., SC.K2.CS-CP.I.2, SC.K2.CS-CP.I.3, SC.K2.CS-CC.I.3, SC.K2.CS-CC.I.4, MAFS.K.G.I.1, MAFS.K.G.I.2, MAFS.K.G.I.3, MAFS.K12.MP.I.I., MAFS.K.CC.3.6, LAFS.K.RI.I.2, LAFS.K.RI.I.1, LAFS.K.RI.I.3, LAFS.K.RI.3.7, LAFS.K.RI.4.10

Bee Robotics

Children will be introduced to the basics of computer science and programming with our robot friend, Blue-Bot. They will explore how robots use algorithms as a series of steps to reach a goal.

SC.K2.CS-CS.2.2, SC.K2.CS-PC.1.1, SC.K2.CS-PC.2.2, SC.K2.CS-CP.1.3, SC.K2. CS-CP.2.1, SC.K2.CS-CP.2.3, SC.K.N.1.5, SC.K.P.12.1, MAFS.K.G.1.1, SC.K2.CS-CS.2.2, SC.K2.CS-CS.2.3, SC.K2.CS-PC.2.2, SC.K2.CS-CP.1.3, SC.K2.CS-CP.2.1, SC.K2.CS-CS.2.3, SC.K2.CS-PC.2.2, SC.K2.CS-CS.4.2, MAFS.K.G.1.1, SC.K2.CS-CS.2.2, SC.K2. CS-CS.2.4, SC.K2.CS-CS.2.3, SC

WORKSHOPS

GRADES I - 2

Forces of Nature

Our planet Earth is constantly changing as a result of the many forces of nature. You will discover how the Sun affects these forces. Delve into a vicious volcano, explore erosion and engineer wind-powered objects.

SC.1.N.1.1; SC.1.N.1.3; SC.1.N.1.4; SC.2.N.1.1; SC.1.E.5.2; SC.1.E.5.4; SC.1.E.6.1; SC.1.E.6.3; SC.2.E.6.1; SC.2.E.7.4; SC.2.E.7.5; SC.2.P.8.2; SC.2.P.10.1; SC.2.P.13.3; LAFS.1.SL.1.1; LAFS.1.SL.1.2; LAFS.1.SL.1.3; LAFS.1.W.3.8; LAFS.2.SL.1.1; LAFS.2.SL.1.3; LAFS.2.W.3.8

Superworm Science

Dive into life science by investigating superworm behavior through a science experiment. Using the scientific method, collaborate to design and implement an experiment to determine which physical properties superworms prefer in their food.

SC.1.L.14.1; SC.1.L.16.1; SC.1.L.17.1; SC.1.N.1.1; SC.1.N.1.2; SC.1.N.1.3; SC.1.N.1.4; SC.2.L.16.1; SC.2.L.17.1; SC.2.L.17.2; SC.2.N.1.1; SC.2.N.1.2; SC.2.N.1.3; SC.2.N.1.4; MAFS.1.MD.3.4; LAFS.1.SL.1.1; LAFS.1.SL.1.3; LAFS.1.W.3.8; LAFS.2.SL.1.1; LAFS.2.SL.1.3; LAFS.2.W.3.8

Bee Robotics

Enter the world of computer science and programming using our robot friend Blue-Bot. Follow Blue-Bot as they explore the lives of honeybees and how they communicate with each other.

SC.1.N.1.1; SC.1.N.1.3; SC.1.N.1.4; SC.2.N.1.1; SC.2.N.1.2; SC.2.N.1.3; SC.2.N.1.4; SC.2.N.1.5; SC.2.N.1.6; SC.1.P.12.1; SC.1.P.13.1; SC.2.P.13.1; SC.2.P.13.2; SC.2.P.13.4; SC.2.P.8.1; LAFS.1.SL.1.1; LAFS.1.SL.1.2; LAFS.1.SL.1.3; LAFS.1.W.3.8; LAFS.2.SL.1.1; LAFS.2.SL.1.2; LAFS.2.SL.1.3; LAFS.2.W.3.8; MAFS.1.MD.1.A; MAFS.2.MD.1.1

Mighty Magnets

How can an object be pushed or pulled using magnetism? Will the force of a magnetic field extend through non-magnetic materials? Can the strength of magnetic forces be increased and decreased? Find out in this discovery lab challenge as students explore force and motion with magnets!

SC.1.N.1.1; SC.1.N.1.3; SC.1.N.1.4; SC.2.N.1.1; SC.2.N.1.2; SC.2.N.1.3; SC.2.N.1.4; SC.2.N.1.5; SC.2.N.1.6; SC.1.P.12.1; SC.1.P.13.1; SC.2.P.13.1; SC.2.P.13.2; SC.2.P.13.4; SC.2.P.8.1; LAFS.1.SL.1.1; LAFS.1.SL.1.2; LAFS.1.SL.1.3; LAFS.1.W.3.8; LAFS.2.SL.1.1; LAFS.2.SL.1.2; LAFS.2.SL.1.3; LAFS.2.W.3.8; MAFS.1.MD.1.A; MAFS.2.MD.1.1

GRADES 3 – 5

STEM-tastic

Shipwreck! Embark on an Engineering Design Challenge journey through engineering! Solve real-world problems by creating structures with Civil Engineering and experience Electrical Engineering by designing circuits.

SC.3.N.I.I; SC.3.N.I.2; SC.3.N.I.3; SC.3.N.I.4; SC.3.N.I.5; SC.3.N.I.6; SC.4.N.I.1; SC.4.N.I.2; SC.4.N.I.5; SC.4.N.I.8; SC.5.P.II.1; SC.5.P.II.2; SC.5.N.I.3; MAFS.3.MD.2.4; MAFS.4.MD.I.1; LAFS.3.SL.I.1; LAFS.3.SL.I.3; LAFS.3.SL.2.6; LAFS.4.SL.I.1; LAFS.5.SL.I.1

Exploring Mars

Become aerospace engineers as you design and create satellites that will orbit the planet Mars. Analyze simulated Mars soil samples as astrobiologists to determine which plants could grow on the Red Planet. Let's explore Mars together!

SC.3.E.5.2; SC.3.E.5.3; SC.4.E.5.4; SC.5.E.5.2; SC.5.E.5.3; SC.3.N.I.3; SC.3.N.I.4; SC.3.N.3.2; SC.4.N.I.5; SC.3.P.I0.I; LAFS.3.SL.I.I; MAFS.KI2.MP.I; MAFS.KI2.MP.5; MAFS.3.MD.I.2; MAFS.5.MD.2.2

Vex Robotics: Detour Ahead

ROADS CLOSED! How do we navigate our way through a new route? Students will learn the basics of programming and apply their knowledge of maps and measurement while they explore alternate paths with a VEX Robot. Is your team up to this robot challenge?

SC.3.N.I.3; SC.3.N.I.4; SC.3.N.I.5; SC.3.N.I.6; SC.4.N.I.5; SC.4.N.I.6; SC.5.N.I.3; SC.35.CS-CC.I.3; SC.35.CS-CC.I.4; SC.35.CS-CC.I.5; SC.35.CS-CS.I.2; SC.35.CS-CS.2.4; SC.35.CS-CS.2.6; SC.35.CS-CS.2.7; SC.35.CS-CS.2.8; SC.35.CS-CS.2.9; SC.35.CS-CS.6.2; SC.35.CS-CS.6.3; SC.35.CS-CP.2.2; SC.35.CS-CP.2.3; SC.35.CS-CP.2.4; SC.35.CS-CP.2.5; MAFS.4.MD.3.5; MAFS.4.MD.3.6; LAFS.3.SL.I.1; LAFS.3.SL.I.3; LAFS.3.SL.2.6; LAFS.4.SL.I.1; LAFS.5.SL.I.1; LAFS.5.SL.II.1; LAFS.5.SL.

Roller Coaster Physics

Demonstrate how the forces of inertia, gravity, and friction affect motion while building a roller coaster model. Trace the flow of energy as it converts from potential to kinetic along the track.

SC.3.P.IO.2; SC.3.P.II.2; SC.3.E.5.5; SC.3.N.I.2; SC.3.N.I.3; SC.3.N.I.4; SC.3.N.I.5; SC.3.N.I.6; SC.3.N.3.2; SC.3.N.3.3; SC.4.P.IO.1; SC.4.P.IO.2; SC.4.P.IO.2; SC.4.P.IO.2; SC.4.P.IO.2; SC.4.P.IO.2; SC.5.P.IO.2; SC.5.P.IO.3; SC.5.P.IO.3; LAFS.3.SL.I.1; LAFS.3.SL.I.3; LAFS.3.SL.2.6; LAFS.4.SL.I.1; LAFS.5.SL.I.1; MAFS.3.MD.I; MAFS.4.MD.I

WORKSHOPS

GRADES 6 – 12

OSCSI

Become a crime scene investigator and decipher the evidence to discover the truth! Match ink samples with chromatography, identify mystery unknowns by their physical and chemical properties, learn blood-typing techniques, and create sketches of a suspect using facial composite computer software.

SC.6.NI.1; SC.6.N.1.4; SC.6.N.1.5; SC.7.N.1.1; SC.7.N.1.3; SC.7.N.1.5; SC.8.N.1.1; SC.8.N.1.3; SC.8.N.1.6; SC.8.N.4.1; SC.8.P.8.4; SC.8.P.8.8; LAFS.6.L.3.6; LAFS.6.R.1.1; LAFS.6.R.1.2.4; LAFS.6.R.3.7; LAFS.6.W.1.1; LAFS.6.W.3.7; LAFS.6.SL.1.1; LAFS.6.SL.1.2; LAFS.7.L.3.6; LAFS.7.W.1.1; LAFS.7.W.3.7; LAFS.7.SL.1.1; LAFS.7.SL.1.2; LAFS.8.L.3.6; LAFS.8.SL.1.1; LAFS.8.W.1.1; LAFS.8.W.3.7; LAFS.68.RST.1.3; LAFS.68.RST.2.4; LAFS.68. WHST.1.1; LAFS.68.WHST.3.9; LPSS.68.LAW.02.01; LPSS.68.LAW.02.03; LPSS.68.LAW.02.05

Rise to the Challenge: Weather Balloon Engineering

Become an aerospace engineer by experiencing the battle between gravity and buoyancy! By collecting data and calculating the opposing forces, teams create a balanced attachment that will suspend a model weather balloon in the atmosphere. Can your team rise to the challenge?

SC.6.N.I.I, SC.6.N.I.4, SC.6.P.I3.I, SC.6.P.I3.2, SC.6.P.I3.3, SC.7.N.I.I, SC.8.N.I.I, SC.8.P.8.2, SC.8.P.8.4, SC.8.N.I.5, SC.8.N.3.I, SC.68.CS-CC.I.2, SC.9I2.E.7.8, SC.9I2.E.6.6, SC.9I2.P.I2.4, SC.9I2.N.I.7, SC.9I2.N.4.I, MAFS.7.EE.I.I, MAFS.7.EE.2.4, MAFS.9I2.N-Q.I.3, LACC.6.SL.I.3, LACC.6.SL.2.4, LACC.8.SL.2.4, LACC.6.RST.I.3

Lasers Engage! (Grades 6 – 8)

Design, create, and test a laser defense system to find a solution to a real-world problem. Students will work in teams to design a laser path within a budget. Science, Technology, Engineering, and Mathematics combine, changing the trajectory of students' futures to inspire interest in these fields!

MAFS.7.G.2.5; MAFS.8.G.I.1; LAFS.68.RST.1.3; LAFS.68.RST.1.1; LAFS.68.RST.2.4; LAFS.68.RST.3.9; LAFS.68.WHST.1.2; LAFS.68.WHST.3.7; SC.6.N.1.1; SC.7.N.1.1; SC.8.N.1.1; SC.8.N.1.1; SC.8.N.1.1; SC.7.P.10.2; SC.7.P.10.3





DESTINATION STEM WORKSHOPS

GRADES 6 – 8

These workshops are designed to be booked either individually or as a series. Please call for availability. *Limit of 30 students per workshop.*

90-MINUTE WORKSHOP PRICING

Individual workshop	\$450
Series of 4 workshops	\$1,680

DESTINATION STEM

Destination STEM is a series of 90-minute hands-on workshops that introduce STEM disciplines and career paths, focusing on Engineering and Modeling/Simulation. Choose from these distinct 90-minute afterschool workshops:

TOPIC OPTIONS

Modeling & Simulation: 3D Printing

Explore the basics of how computer models can be turned into real, tangible objects with a 3D Printer! Discover how scientists, engineers, and even doctors are using 3D printers in their fields.

Modeling & Simulation: Roller Coasters

Investigate energy transformations and discover careers in modeling and simulation while designing a fun and safe roller coaster.

Engineering: Bridges

Use the engineering design process to build a bridge that meets size specifications and holds weight. Will your bridge hold up under pressure?

Engineering: Egg Drop

Scientists and engineers designed the Mars Rover to fall from the planet's orbit safely to its surface. Can you design and build a protection device for an egg that will survive a 10ft drop?

Medical Simulation: Dissection

Participate in a sheep heart dissection and substance testing on blackworms. Discuss the benefits and limitations of simulators.

Photonics & Optics: Lasers

Design and build a laser path that hits two designated targets, incorporates a combination of mirrors and prisms, and creates the shortest path possible.

Robotics: Programming

Using VEX®IQ robots, work in teams to explore the basics of programming to solve real world problems by program a robotic are to safely dispose of bio hazardous materials.

Engineering: Rise to the Challenge

Explore the forces of buoyancy and gravity and complete and engineering challenge to design a counterweight that will allow the balloon to hover midway between the floor and ceiling.

Computer Science: Drone Zone

Explore the forces of flight while working in teams to program a drone to perform a search and rescue in our mobile drone cage. Hone your skills as a drone pilot as you take to the skies!



STEM 2 GO

FAMILY SCIENCE NIGHT

Get the entire family involved during a fun, educational hands-on science program! Family Science Nights engage students, families, and teachers in the process of scientific inquiry through hands-on activity based stations. This unique program is ideal for family nights, PTA programs, fundraisers, or community events.

FAMILY SCIENCE NIGHT Up to 300 participants

- Primary programs include 90 minutes of hands-on science activities
- Secondary programs include 2 hours of hands-on science activities
- Supplies for 15 interactive stations
- Two trained OSC Educators to facilitate your event
- Cooperative learning opportunities among students, parents, and teachers

- Materials aligned to Florida State Standards
- Set-up and break-down assistance in your cafeteria, auditorium, or other large room
- Passport worksheets to encourage student participation
- Family-take home activities available at osc.org/educators
- A raffle prize of 4 Orlando Science Center General Admission tickets to one lucky participant! (Passports used as drawing entries)

Physical Science

• Energy Stick

Lasers

Rust

• Musical Bottles

POP Rockets

TOPIC OPTIONS

PRIMARY

(Pre-K - Grade 5) \$500

Hands-On Science

(Pre-K)

- Invisible Ink
- Energized!
- Dropsondes
- Be an Engineer
- Ozobot City

Engineering

- Sail Cars
- Skyscrapers
- Roller Coaster Physics
- Think for a Robot
- Bernoulli's Jets

Gross-Out

- Squiddin' Around
- Amazing Arachnids
- Scabs
- Poppin' Pustules
- The Xcrement Files

Bio-Adventures

- Heart Highways
- Bad to the Bone
- Plants Up Close
- Colorful Chlorophyll
- Mealworms

Earth/Space

- Planets
- Rockets
- 3D Constellations
- Martian Soil

STEM

- 5 Math Stations
- 5 Engineering Stations
- 5 Science Stations

of your choice: Physical Science, Bio-Adventures,

Gross-Out, or Earth/Space

SECONDARY

(Grades 6 - 12) \$625

Engineering

- Programming with Makey Makey
- Coding with Ozobots
- Building Bridges
- Solar Powered Rides

Sci-Fi: Science in Films

- Electrifying Lightning
- Pyrotechnics
- Cymatics Soundtrack
- Wicked Weather

NEW! – VIRTUAL FAMILY SCIENCE NIGHTS

- Can accommodate entire school in one event
- Lasts I hour
- Can be used on Zoom, Teams, and Webex platforms
- Comes with optional extension activity

- Program includes a complimentary Tech Check, PDF materials list, a series of exciting science demos, and a guided 30-minute activity
- Topic Options: Bridges and KaBOOM!
- \$300 per school/organization



LIVE SHOWS & SPECIAL OFFERINGS

WE BRING THE SCIENCE CENTER TO YOU! Prices of programs vary; please see listings for individual show costs. *Prices do not include charge for applicable mileage to event.*



KABOOM! (Grades K – 8)

A show guaranteed to be a blast! The KaBOOM! show is all about the states of matter and physical and chemical change. This informative and exciting presentation shows children different states of matter and demonstrates the changes they can undergo. This show can be chosen as a single program or added as an upgrade to other programs.

Live Show

30 minutes (max 5 shows) \$215 for one show \$375 for two shows \$100 for each additional show

Enhance Your Program

Add a KaBOOM! show, 30 minutes (Family Science Nights & Workshops only) \$150 for one show \$100 add 5 stations \$75 add extra staff



MOBILE PLANETARIUM* (Grades K – 8)

We will bring the Universe to your school with Orlando Science Center's Mobile Planetarium! Our Educators will bring the portable, inflatable dome to your location and use the digital projection system to take your students and guests on an immersive tour through space and time to view stars, constellations, planets, galaxies, and more! *Face coverings required inside the Mobile Planetarium.

Classroom Presentation

30 minutes (minimum 2 sessions, max 6 sessions) \$350 for first two sessions \$100 for each additional session

Event Booking

By the hour (max 4 hours) \$300 for first hour \$150 for each additional hour



DRONE ZONE (Grades K – 8)

Students will explore drone technology while they try to master flying these amazing machines in a drone cage! They will work together in groups and test their flight skills by flying their drones through a series of obstacles set-up in our mobile flight cage.

Interactive Experience

30 minutes
(minimum 2 sessions, max 6 sessions)
\$350 for first two sessions
\$100 for each additional session

Event Booking

By the hour (max 4 hours) \$300 for first hour \$150 for each additional hour



LIVE SHOWS & SPECIAL OFFERINGS



SCIENCE FESTIVAL

Can't decide which program to choose? Does it all just sound like too much fun to have to pick? Then why not bring the Orlando Science Center to your school for a Science Festival, which gives your students an entire day of everything our STEM 2 Go programming offers.

By the end of the day, your students will feel more confident and excited about science.

Contact us today to book your Science Festival at 407.514.2112 or *classes@osc.org*.

SMALL SCHOOL PACKAGE

\$1,550

- 2 Hands-On STEM Activities (5 sessions of each)
- 4 Drone Zone Interactive Experiences or 4 Mobile Planetarium* Shows
- 2 KaBOOM! Live Shows
- I Family Science Night (topic selection on page 7)

LARGE SCHOOL PACKAGE \$1,900

- 3 Hands-On STEM Activities (5 sessions of each)
- 4 Drone Zone Interactive Experiences or 4 Mobile Planetarium* Shows
- 2 KaBOOM! Live Shows
- I Family Science Night (topic selection on page 7)

*Face coverings required inside the Mobile Planetarium.