



## guided field trip BASICS

### Signature Field Trips

Our signature guided field trips were developed in collaboration with classroom teachers and industry professionals. See center of brochure for details on each program.

- 90 minutes long, including time in the exhibit space
- Large groups may be divided into multiple instructional groups

### STEAMlab Field Trips

Center your visit to MSC in our high tech STEAMlab. We will design a custom experience based on your group's age, interest and size.

- Popular choices: 3D printing, Minecraft challenges, Introduction to Coding in Scratch
- Best fit for grades 4 and up
- Groups limited to 12 at one time

### Pricing

\$10 per student (6 student minimum)

### Booking Field Trips

Email: [info@montanasciencecenter.org](mailto:info@montanasciencecenter.org)

Call: 406-522-9087

Chaperones are welcome at no additional charge.

*Field trip fees are covered by grant funding, by request.*

*All pricing effective May 1, 2022.*

## more field trip OPPORTUNITIES

### Self-Guided Field Trips

- Greeting & intro by MSC Staff
- 90 minutes long
- Large classes split into groups & rotated through specific areas
- Worksheet available

### Pricing

\$7 per student

### Outreach Field Trips to Rural Communities

Unable to make it to the Montana Science Center in person? We can bring MSC to you! Inquire with our team to build a customized off-site field trip based on our on-site offerings.

### Coming Fall 2022

Our STEAMmachine mobile science truck and staff are available on a limited basis to come to your school when the funding isn't available for you to join us here. Choose a field trip lesson plan and we will bring activities, supplies and volunteers.

### Pricing

\$150 per trip (includes up to 3 classrooms)

\$75 gas fee when outside 90 mile radius

*Field trips are supported by Dennis & Phyllis Washington Foundation, Enbridge, Marisa Bueno & Robert Keith, and Montana Photonics Industry Alliance.*

2022  
2023

# montana Science Center field trips

[montanasciencecenter.org](http://montanasciencecenter.org)



## GRADES K-4

*Spark interest in the world of science & engineering!*

Our elementary field trips always include hands-on building components, are NGSS-aligned, and include plenty of time to explore the exhibit space.

### Am I A Scientist?

Learn about three different types of careers in STEM: astrophysics, electrical engineering, and entomology through a hands-on project: a solar-powered insect model that will actually move using the energy of the sun! We specifically feature women in STEM careers to promote equity and inclusion and to serve as role models for the next generation of learners. This field trip is offered in partnership with the IF/THEN project. NGSS: 4-PS3-2 and 4

### Am I An Engineer?

Learn about how engineers work to solve problems using the engineering design process in this hands-on field trip. This selection can be customized to meet any Montana science or technology standards of your choice. Popular NGSS choices include: K-PS3-2, 1-PS4-4, 1-LS1-1, 2-ESS2-1, 3-ESS3-1

### Light and Diffraction

Discover what makes up the visual light spectrum and explore the scientific phenomena of light diffraction in our most popular field trip lesson, offered in partnership with the Montana Photonics Industry Alliance. Students will individually build a take-home model of a spectroscope, which they will use to view various light spectra. NGSS: 1-PS4-3, 4-PS3-2 and 4



## GRADES 5-8

*Elevate STEM interest and skills!*

Middle grade field trips expose students to more sophisticated science concepts, equipment and vocabulary. Our engaging educators will facilitate a hands-on, information rich, and fun NGSS-aligned experience for your students.

### Catapults

Explore engineering and physics using rubber bands, popsicle sticks, and energy. Using hands-on, interactive activities, students will examine the potential and kinetic energy within rubber bands, as well as the design and structure support needed to build a working catapult (which students may take home with them). NGSS: 5-PS2-1, MS-PS3-5, MS-PS2-2

### Electricity

Explore basic circuitry and the movement of electricity. Students will experiment with electricity using our tangible electric blocks. After a basic lesson in electricity, students could also learn how to safely solder a take-home LED flashlight.\* Alternatively, various other applications of circuit building projects are available for students, to be arranged in advance. NGSS: MS-PS2-3, MS-PS2-5, MS-PS4-3

### Diffraction and Refraction

Explore the scientific phenomena of light diffraction and refraction in our most popular field trip lesson, offered in partnership with the Montana Photonics Industry Alliance. Students will learn about different types of light through hands-on, interactive activities. Students will individually build a take-home model of a spectroscope, which they will use to view various light spectra. NGSS: 5-PS1-1, MS-PS1-1, MS-PS4-1, MS-PS4-2



## GRADES 9-12

*Inspire career connections!*

Our high school field trips give students a sightline to innovative & interesting STEM industry careers. They include a presentation by industry experts and a high-tech, skills-based activity.

### Careers in Photonics

Bozeman is home to over 30 Photonics companies that create crystals, develop LiDar, use infrared imaging and more. Montana Photonics Industry Alliance volunteers will teach students about careers in Photonics with Gallatin College. Students will solder a circuit board LED flashlight\* and test out lasers.

### Careers in Engineering

Learn about the many types of engineers that solve real-world problems from stream management to constructing buildings to creating light-up billboards. Hear from the MSU Engineering department and take on a critical thinking challenge to discover what engineering is all about.

### Careers in Aviation

Flying a jet is just a part of the incredible experience a career in aeronautics has to offer. Gallatin College program directors will take students through a journey in aeronautics and aviation to help them discover careers in flight engineering.