

The Element of ...

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Wonder!	

What's *YOUR*
Element?



GROUP GUIDE

Spring 2017

www.Mi-Sci.org • Group Reservations: 313.577.8400, Option 5

The Michigan Science Center is a 501(c)(3) nonprofit organization.

GROUP PACKAGES

Please refer to pages 2–4 for add-on packages.

Discovery

Designed for grades 1–12, ages 6–18

Explore 1 - \$9

Hands-on Exhibits
Spark!Lab
+ **Pick 1:**
Sparks Theatre
Live Stage Show
IMAX® Dome Theatre
Planetarium Show
Learning Lab

Explore 2 - \$12

3+ hour visit suggested

Hands-on Exhibits
Spark!Lab
+ **Pick 2:**
Sparks Theater
Live Stage Show
IMAX® Dome Theatre
Planetarium Show
Learning Lab

Explore 3 - \$14

4+ hour visit suggested

Hands-on Exhibits
Spark!Lab
+ **Pick 3:**
Sparks Theatre
Live Stage Show
IMAX® Dome Theatre
Planetarium Show
Learning Lab

Tiny Tots

Designed for grades PreK–K, ages 3–5

Tiny Tots Explore 1 - \$5

Kids Town Program
Hands-on Exhibits
Spark!Lab

Tiny Tots Explore 2 - \$9

2+ hour visit suggested

Kids Town Program
Hands-on Exhibits
Spark!Lab
+ **Pick 1:**
Sparks Theater
Stage Show
IMAX® Dome Theatre
Planetarium Show

Tiny Tots Explore 3 - \$12

3+ hour visit suggested

Kids Town Program
Hands-on Exhibits
Spark!Lab
+ **Pick 2:**
Sparks Theater
Stage Show
IMAX® Dome Theatre
Planetarium Show

Before Your Visit

Teachers receive free general admission with an educator ID. Visit us to plan your trip before you bring your class! Prior to your MiSci experience, visit our website for lesson ideas, standards alignment support, educator guides for our exhibits and films, and our new social story to help prepare your students for a visit! www.Mi-Sci.org/educators/resources.

M-STEP Prep

M-STEP Prep Days are designed to help students internalize concepts learned in the classroom using engaging activities. Interactive experiments and demonstrations in physical, earth, and life sciences will help students retain key science and math concepts. Our engaging audience response session will allow students to practice testing strategies while boosting their confidence for test day. Students will also experience a show in our planetarium. Join us for a day of learning, fun, and preparation for the M-STEP Science Test! Call 313.577.8400, ext. 482, for more info and to book your session today!

Offered special days in March and April.

 = Engineering Design Program

www.Mi-Sci.org

SHOWS, PROGRAMS & LIVE DEMOS

Our activators make learning fun with demonstrations and shows that bring science to life! Reservations required for groups.

All demonstration and stage show areas are subject to availability.

Chrysler IMAX® Dome Theatre

Showing films that entertain, educate and inspire, Michigan's only domed IMAX® Theatre surrounds audiences with an experience that thrills students and adults alike.

Featured Films:



Dream Big

Grades PreK–12

Dream Big travels from the world's tallest building to a bridge higher than the clouds to a solar car race. Discover how today's engineers are shaping the world of tomorrow.



Born to be Wild

Grades PreK–12

This film documents orphaned orangutans and elephants and the extraordinary people who rescue and raise them—saving endangered species one life at a time.

Don't see what you're looking for? We let school groups choose what we play once a day!

School choice films include: *Humpback Whales*, *Titans of the Ice Age*, *Dolphins*, *Mysteries of the Great Lakes*, *National Parks Adventure* and *Animalopolis*. For more information about scheduling a school choice film, please call 313.577.8400, option 5.

Dassault Systèmes Planetarium

Grades PreK–12

Go inside a virtual universe as you fly past 9,000 stars, planets, galaxies and more. Our shows are led by a live presenter and are followed by question and answer sessions. Shows last approximately 50 minutes.

Chrysler Science Stage Show

Grades PreK–12

Join our performers as they conduct thrilling educational programs and presentations for all ages!

Shows last approximately 20 minutes.

DTE Energy Sparks Theater

Grades PreK–12

Enter our amazing Faraday cage and witness the incredible “hair-raising” Sparks Electricity Show! As performers demonstrate how electricity affects the world in all forms through electromagnets, static electricity, plasma and exploring different states of matter.

Shows last approximately 30 minutes.

Spark!Lab

Grades PreK–12

This is the perfect space for engineering design! Through hands-on activities and interactions with facilitators, students engage in the process of invention. This interactive space creates an environment that supports the creative and collaborative thinking so important to invention and entrepreneurship.

Engineering Design Experience

Grades PreK – 12

Students will engage in engineering practices as they design various projects to solve a real world problem. This experience is focused on group work, designing solutions and optimizing the design for efficiency and reinforces the science and engineering practices for the new Michigan Science Standards. Pair with *Dream Big* in the Chrysler IMAX® Dome Theatre to reinforce engineering concepts.

Group Reservations: 313.577.8400, Option 5

GROUP EXPERIENCES

Grades PreK–2


Learning Labs

Add a Learning Lab to your visit and take students on an in-depth exploration of STEM principles.

What's the Property? — Travel around our hands-on stations as you test your five senses in order to sort, classify, and measure objects according to their similar and observable properties.

From Seed to Flower — Explore the life cycle of plants and their basic needs as you plant a seed to take home.

Wondrous Weather — Put on your meteorologist hat as you learn about weather patterns and the tools used to predict them.

 **Build a Bubble Blower** — Explore states of matter and properties of gravity as you challenge yourself to design, build, test, and modify an innovative bubble blower.

Recommended Planetarium Shows

PreK – Grade 1

Stories in the Sky — This interactive show is meant for our youngest guests. Learn about the rotation of the Earth, light pollution, our animal friends in the night sky and the stories that go along with them.

Grade 2

What's Up? Your Guide to the Night Sky — Discover the constellations, stars, and planets in the current season along with the latest news on astronomy and space.

Kids Town

PreK – Kindergarten

Kids Town features engaging activity areas organized into a child-scaled “town” where young scientists can develop their social and motor skills while exploring the basic science concepts we encounter every day.

Please refer to page 2 for IMAX® listings.


Grades 3–5


Learning Labs

Add a Learning Lab to your visit and take students on an in-depth exploration of STEM principles.

Survival of the Fittest — Learn how favorable traits add to an organism's ability to survive and thrive in its environment. How do your characteristics differ from animals?

Lakes Everywhere — The Great Lakes are Michigan's literal defining feature, giving the region its cookie cutter shape. Explore this ecosystem and the impact it has on our lives.

 **Laser Mazes** — Reflect and redirect light as you focus in on a mirror maze challenge!

 **Wind Powered LED** — Can you harness the power of the wind? Young engineers will face the real-world challenge of inventing a device to convert energy from one form to another.

Recommended Planetarium Show

Junior Astronomer — Explore the patterns in the cosmos including the phases of the moon, the reason for the seasons, and current constellations in the night sky.

Please refer to page 2 for IMAX® listings.

GROUP EXPERIENCES

Grades 6–8


Learning Labs

Add a Learning Lab to your visit and take students on an in-depth exploration of STEM principles.

The Human Element — Discover how humans affect the environment and alter populations through the use of land and other resources.

The Air Around Us — What is the composition of the atmosphere around us and how does it affect the weather? Use real data from NOAA to learn how atmosphere levels affect our lives.

Gravity Games — Discover the patterns within our solar system as you help demonstrate the relationship between the sun, earth, and moon.

 **Water Pollution Clean-Up** — Develop, test, and revise a water treatment device to clean up our Great Lakes, all while sticking to a budget and exploring how pollution impacts our watershed.

Recommended Planetarium Show

Our Place in Space — This show begins with a look at the state of Michigan and gradually zooms out to reveal the size of asteroids and dwarf planets when compared to our state. The journey continues with a view of the planets of our Solar System, the Sun, the Milky Way galaxy, and finally the scale of the Universe. Join us for this humbling look at the true size of our planet.

Please refer to page 2 for IMAX® listings.

Grades 9–12

Learning Labs

Add a Learning Lab to your visit and take students on an in-depth exploration of STEM principles.

Translating the Message — Try your hand at DNA extraction and learn how DNA transcription determines heredity and genetic traits.

Building with Biology — Have you heard of CRISPR? What about algae that can synthesize fuel? Students will explore the new field of synthetic biology, discuss what role these technologies should play in society, and debate the question, “Should we engineer the mosquito?”

The Element Family — Conduct chemistry experiments and learn why the elements on the periodic table are arranged by groups and periods.

 **Eggpollo 11** — Design a carrier to safely land an egg on the moon.

Recommended Planetarium Show

Sunstruck — Discover the wonders of our sun. Its incredible energy has supported life on earth for millennia, but is now threatening our technology and way of life. Travel to the distant future to discover our sun's connection to the universe's cosmic cycle of life and death.

Please refer to page 2 for IMAX® listings.

EDUCATOR RESOURCES

Traveling Science

Bring MiSci to you! Our Traveling Science educators bring engaging science workshops, group presentations and experiences to your school or event that will inspire learners to explore and appreciate science. Programs start at just \$150!

Hands-on Workshops

MiSci educators visit your classroom to introduce or reinforce topics in your curriculum. Programs can accommodate up to 30 students and typically last 45 minutes.

Group Presentations

Assemblies are a great way to engage and educate groups of up to 250 students.

Science Festivals

Host a science festival during the day for the entire school or in the evening for a fun family engagement event.

Custom Traveling Science programs are available upon request.

Contact our Outreach Coordinator at Outreach@Mi-Sci.org or call 313.577.8400, ext. 238 for additional information and reservations.



Professional Development

Our team of educators offers professional development training for teachers! All workshops focus on inquiry-based learning processes and the development of critical thinking skills. Check our website for current PD offerings.

The STEMinista Project

The STEMinista Project is a MiSci initiative created to defy statistics and raise expectations of interest in STEM (science, technology, engineering and math) for 4th through 8th grade girls. The Project engages girls with authentic STEM experiences designed to increase their curiosity, confidence and skill sets in STEM. Visit our website at Mi-Sci.org/STEMinista-project for more information.



Homeschool Learning Labs

Join us the first Wednesday of the month for Learning Labs just for homeschoolers. Visit Mi-Sci.org for a complete list of programs.

Scouts

The Michigan Science Center offers a full array of scouting programs and overnight adventures for both boys and girls. Check our website for new Scout programs.

MICHIGAN STANDARDS ALIGNMENT

The following standards are introduced in the below programs. To further your students' educational exploration, we recommend booking programs with related standards.

PreK-2nd

Standard	What's The Property	From Seed To Flower	Wondrous Weather	Build a Bubble Blower
Physical Science				
2-PS1-1				
2-PS1-2				
Life Science				
K-LS1-1				
1-LS3-1				
2-LS2-2				
2-LS4-1				
Earth & Space Science				
K-ESS2-1				
K-ESS3-1				
K-ESS3-2				
K-ESS3-3				
1-ESS1-1				
1-ESS1-2				
Engineering Design				
K-2-ETS1-1				
K-2-ETS1-2				
K-2-ETS1-3				

3rd-5th

Standard	Survival of the Fittest	Lakes Everywhere	Lazer Mazes	Wind-Powered LED
Physical Science				
3-PS2-2				
4-PS3-2				
4-PS3-4				
5-PS2-1				
Life Science				
3-LS3-1				
3-LS3-2				
3-LS4-1				
3-LS4-2				
3-LS4-3				
3-LS4-4				
Earth & Space Science				
4-ESS1-1				
4-ESS2-1				
4-ESS2-2				
4-ESS3-2				
5-ESS1-1				
5-ESS2-1				
5-ESS2-2				
5-ESS3-1				
Engineering Design				
3-5-ETS1-1				
3-5-ETS1-2				
3-5-ETS1-3				

Middle School

Standard	The Human Element	The Air Around Us	Gravity Games	Water Pollution Clean-Up
Life Science				
MS-LS2-5				
Earth & Space Science				
MS-ESS1-1				
MS-ESS1-2				
MS-ESS1-3				
MS-ESS2-5				
MS-ESS2-6				
MS-ESS3-2				
MS-ESS3-3				
MS-ESS3-4				
MS-ESS3-5				
Engineering Design				
MS-ETS1-1				
MS-ETS1-2				
MS-ETS1-3				

High School

Standard	Translating The Message	Building with Biology	The Element Family	Eggpollo 11
Physical Science				
HS-PS1-2				
HS-PS2-3				
Life Science				
HS-LS1-1				
HS-LS1-4				
HS-LS2-6				
HS-LS2-7				
HS-LS3-1				
HS-LS3-2				
HS-LS3-3				
HS-LS4-3				
Engineering Design				
HS-ETS1-1				
HS-ETS1-2				
HS-ETS1-3				

Planetarium Shows

Standard	Junior Astronomer	Our Place In Space	Stories in The Sky	Sunstruck	What's Up?
Physical Science					
3-PS2-2					
5-PS2-1					
Earth & Space Science					
1-ESS1-1					
1-ESS1-2					
2-ESS1-1					
5-ESS1-1					
MS-ESS1-1					
MS-ESS1-2					
MS-ESS1-3					
MS-ESS2-5					
MS-ESS2-6					
MS-ESS3-5					
HS-ESS1-1					
HS-ESS1-2					
HS-ESS1-3					

PRE-VISIT CHECKLIST

Ready to book your trip?

- ☐ Review our Group Guide, especially the Michigan Science Standards alignment, to decide on experiences for your students.
- ☐ Complete the Field Trip Inquiry form on our website or call our reservations team to schedule your trip, make sure to select 2–3 possible dates
- ☐ Recruit chaperones - MiSci requires at least one adult chaperone for every 10 students.
- ☐ The MiSci reservations team will email a confirmation of date and field trip invoice.
- ☐ Secure a 50% deposit at least two weeks prior to your field trip to secure your spot. The balance is due upon arrival.
- ☐ Check out Educator Resources on our website for materials to support in-class learning before and after your visit.
- ☐ MiSci will provide detailed copies of your group schedule upon arrival. Be sure that all chaperones and students have a clear understanding of MiSci expectations.
- ☐ Remind students to bring a sack lunch or money to purchase lunch items at our Cosmic Cafe.



A HEARTFELT STORY OF HUMAN INGENUITY

Book your trip today!