

2019–2020

# Educator's Guide

Field Trip & Outreach Programs



711 N. Main St.  
Rockford, IL 61103

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



# Outreach Programs

Our Outreach Programs bring the excitement of science learning to you! Whether you are educating one small class or the entire school, we offer a wide variety of programs which meet the needs of your students, enhance your curriculum, and line up with *Next Generation Science Standards Disciplinary Core Ideas*.

To begin the registration process, complete the online form at [discoverycentermuseum.org/outreach-request-form](http://discoverycentermuseum.org/outreach-request-form). For additional questions, you can also email [outreach@discoverycentermuseum.org](mailto:outreach@discoverycentermuseum.org) or call 815-972-2844. Our calendar fills well in advance. For the best choice of dates, please book 2-12 months before your planned event.

## Hands-On Classes

Engage your brain and immerse your hands in science with our Hands-On Classes! Whether introducing a topic, reviewing for a test, or investigating for fun, every student will be excited about learning science and begging for more!

**Grades:** varies by topic      **Length:** 60 minutes      **Participants:** 30 maximum  
**Cost:** \$140 (\$70 for each additional class\*) Travel fees may apply.

### *Simple Machines* \*\*

**Grades:** 2-8

Investigate mechanical advantage and get the scoop on force and motion with hands-on practice using a giant lever, pulleys, and LEGO gears!

NGSS: ETS1.ABC, PS2.AB, PS3.AC

### *Electric Circuits*

**Grades:** 3-8

Demonstrate an understanding of circuits using our Snap-Circuit Kits that light bulbs, spin motors, and more!

NGSS: ETS1.ABC, PS2.B, PS3.AB

Sponsored by  **ComEd**  
All Iodon Company



### *Slime & Chemistry*

**Grades:** K-8

Measure, pour, and mix real chemicals to produce reactions, investigate solids, liquids, and gases, and concoct slime!

NGSS: ETS1.ABC, PS1.AB, PS3.B

### *Magnetic Attractions* **New!**

**Grades:** K-3

Test to see what sticks, measure magnetic strength, and construct a magnetic contraption.

NGSS: PS2.AB, ETS1.AC

### *Engineering Challenge*

**Grades:** 3-8

Design and construct your own contraption to fly, spin, or stay put, then test it in our vertical wind column.

NGSS: ETS1.ABC, PS2.AB, PS3.AB

*Lots of hands-on activities  
aligned to NGSS*

Don't see quite what you are looking for? Contact us and our team of educators will work to meet your needs.

## Junior Hands-On Classes

These hands-on experiences feature activities that allow our littlest learners to explore at their own pace with amazing materials which stimulate senses and excite minds!

Toddler classes available upon request.

**Grades:** PreK

**Length:** 30-45 minutes

**Participants:** 20 maximum

**Cost:** \$110 (\$50 for each additional class\*) Travel fees may apply.

### *We Can Build It* **It's back!**

Create a building, bridge, or road using a variety of materials with this new version of one of our most popular classes!

IELDS: 7.A.ECb, 7.C.ECa, 9.A.ECd, 9.A.ECe

### *Playful Sounds* **New!**

Explore sounds of all sorts by playing with high and low and loud and soft in this noisy and fun-loving class!

IELDS: 7.A.ECa, 8.A.ECa, 11.A.EDf,

### *Ramps & Rolling Things* **It's back!**

Discover how balls of all types roll and move along ramps and through tunnels.

IELDS: 7.A.ECc, 11.A.ECa, 11.A.ECc, 12.D.ECb, 13.A.ECa, 30.C.ECb

### *Swoop* **It's back!**

Experiment with the way things twirl in the breeze, make your own fluttering craft, and invent an object that soars in the wind!

IELDS: 6.A.ECf, 6.B.ECd, 11.A.ECa, 11.A.ECc, 19.A.ECd, 30.C.ECd

## Portable Planetarium

We'll bring you the moon and stars with our inflatable StarLab Portable Planetarium! Presentations are tailored to your grade level and unique to this traveling program.

**Grades:** K-8

**Length:** 45 minutes

**Participants:** 30 maximum

**Cost:** \$140 (\$60 for each additional show\*) Travel fees may apply.

**Show Themes:** The Sky Tonight, Ancient Stories in the Stars, Native American Lore, and Our Solar System.

NGSS: ESS1.AB



# Science Carts

Roll science right into your classroom to maximize student participation and discussion!

**Grades:** 1-8

**Length:** 45 minutes

**Participants:** 30 maximum

**Cost:** \$140 (\$60 for each additional class\*) Travel fees may apply.

## Weather Cart

Witness the water cycle and see how this process leads to sun and storms! Instant clouds and touchable lightning unlock the complex phenomena of weather!

NGSS: ESS2.CD, ESS3.B, PS1.AB, PS3.AB

## Sounds of Science *New teaching style!*

Get splashed by a sound, invent some wacky noise-makers, and use a straw to discover the connection between size and pitch.

NGSS PS2.AB, PS4.A

## Electricity Cart \*\*

Explore where our electricity comes from. Generate and transmit energy, and de"light" in static electricity.

NGSS: ETS1.ABC, PS2.B, PS3.AB

Sponsored by



All States Company



# Family Fun Programs

You provide tables and volunteers; we bring everything else! Ideal for schools, libraries, and community centers. These hands-on sessions feature activity stations of experiments, games, math, science, and make-and-take projects designed to engage and interest all ages!

**6-10 stations**

**Program time:** 60-90 minutes

**Participants:** 300 maximum

**Cost:** \$400; Travel fees may apply.

**2-5 Stations**

**Program time:** 30-60 minutes

**Participants:** 150 maximum

**Cost:** \$250; Travel fees may apply.

## Outer Space *New!*



Launch a rocket, explore an exoplanet, and space out in the solar system! Take on an engineering challenge by designing a

spacecraft, a Mars rover, or a lunar base.

NGSS: PS2.A, PS3.C, ETS1.A, ETS1.ABC, ESS1.AB

## Whoosh

Experiment and play with the amazing properties of air! Create flying contraptions, fold a kite that can fly inside, launch a rocket, and more!

NGSS: ETS1.ABC, PS1.A, PS2.AB, PS3.AB

## Fun & Games

Play games from around the world, create a mosaic masterpiece, fashion an intricate design, create 3-D shapes and more.

Shhh! don't tell them it's math!

NGSS: ETS1.ABC, PS1.AB



## STEAM Powered Stories

Explore Science, Technology, Engineering, Art, and Math through activities inspired by the real life stories found in child-friendly biographies during this STEAM themed literacy night.

NGSS: ETS1.ABC, LS1.D, PS2.ABC, PS3.AB, PS4.BC



## Little Scientists

Manipulate magnets, compare colors, and fool with physics! Explore the world through activities designed for families with children grades PreK-2.

NGSS: ESS2.C, ETS1.ABC, LS1.AD, PS1.A, PS2.AB, PS4.AB

IELDS: 8.A.EC a, 12.D.ECa, 19.A.ECd

\* Additional program discount applies for programs of the same topic held on the same day at the same location.

\*\* This program has a special space requirement.

\*\*\* Expanded age range available for younger participants.



## Assembly Programs

These dynamite demos feature experiments, investigations, and explanations woven together in a stimulating presentation.

**Grades:** K-8

**Length:** 30-45 minutes

**Participants:** 150 maximum

**Cost:** \$300 (\$250 additional show\*) Travel fees may apply.

### *The Liquid Nitrogen Show* \*\*

Excitement goes up as the temperature drops in this ultra-cold show! Witness instant phase changes and identify the differences in states of matter as they succumb to the frigid world of liquid gas!

NGSS: PS1.AB, PS3.AB



### *The Captivating Chemistry Show*

Solids, liquids, and gases combine to create chemical changes that look like magic. Chemistry becomes apparent using surprising reactions that create colors, fabricate foam, and explode!

NGSS: ESS3.A, PS1.AB, PS2.B, PS3.ABCD

### *Forces in Motion* \*\*

Amazing feats come together to weave the story of Newton's Laws of Motion in this compelling program! From collisions to physics games, this is one memorable science lesson!

NGSS: ETS1.ABC, PS2.AB, PS3.ABC

## Afterschool Enrichment / Science Club Activities

We bring the excitement of science learning to you! Our active programs provide all materials plus playful engagement for your students and family groups. Choose from these topics for hands-on science fun!

**Grades:** varies by topic

**Length** 45-60 minutes

**Participants:** 30 maximum

**Cost:** \$140 (\$70 each additional program\*) Travel fees may apply.

### *Lots of LEGOs*

**Grades:** 1-5

Investigate gears and forces, and use America's favorite bricks to construct a merry-go-round or windmill that really works!



### *Good Vibrations* \*\*\*

**Grades:** K-6

Get splashed by a sound, invent some wacky noise-makers, and use a straw to discover the connection between size and pitch.



### *Blast Off* \*\*

**Grades:** 1-6

Explore forces and motion with these paper rockets that launch using air power and fly so far they hit the gym wall!

### *Thrill Ride* \*\*

**Grades:** 1-8

Experiment with potential and kinetic energy as you invent a rollercoaster and take a marble on a wild ride!

### *Engineering Adventure* \*\*\*

**Grades:** K-8

Design and construct your own contraption to fly, spin, or stay put, then test it in our vertical wind column.

### *Rolling Ramps* \*\*\*

**Grades:** K-2

Construct a crazy coaster or simulate a sensational slide with our set of ramps and balls of all sizes.

### *Build It Bigger* \*\*\*

**Grades:** K-6

Put together everyday objects and special materials to create bridges and towering structures.

### *Zombies!* New to afterschool!

**Grades:** 3-8

Investigate how the brain works, find the origin of an infectious zombie virus, and create a cure for the undead.

### *Fling and Wing*

**Grades:** 2-6

Learn aerodynamic secrets as you assemble and launch some crazy shapes. You won't believe these gadgets fly!



# Fantastic Field Trips

Our interactive exhibits provide valuable hands-on experiences that match your curriculum and align with Next Generation Science Standard Disciplinary Core Ideas. Visit Discovery Center Museum and engage in a science lesson your students won't forget!

NGSS: ESS2.BD, ESS3.B, ETS1.AB, LS4.CD, LS3.A, PS2.AB PS3.ABCD, PS4.ABC

IELDS: 9.A.ECa, 11.A.ECe, 12.B.ECb, 12.D.ECb, 19.A.ECa, 19.A.ECb, 30.C.ECa

**Length:** approximately 2 hours (additional time for add-on programs or lunch)

**Basic Field Trip Cost:** \$5 per student or chaperone (school/organizational staff are free)

**Reservations:** To begin the registration process, complete the online form at [discoverycentermuseum.org/group-visit-request-form](http://discoverycentermuseum.org/group-visit-request-form). For additional questions, you can also email [fieldtrip@discoverycentermuseum.org](mailto:fieldtrip@discoverycentermuseum.org). Our calendar fills well in advance. For the best choice of dates, please book 2-12 months before your planned visit.

## Permanent Exhibits

### Figure It Out

Flip, fold, and figure out patterns and relationships while exploring shapes, symmetry, sequences, shadows, and transformations. Use measurement and logic skills and connect to art, music, science, and society!



### Simple Machines

Use a giant Archimedes' screw to set in motion a whirlwind of activity on our transparent interactive wall. Lift yourself off the ground with a pulley and experience how to make work easier using simple machines.



### Color and Light *New Bubble Exhibits!*



Capture your shadow on a wall, impress an image on the giant pin-screen, encase yourself in a giant bubble, project a moving rainbow-image of your body, write with light, play with shadows, and tease your brain! Explore our new bubble exhibits and encase yourself in a brand new body bubble, make your own mist-filled bubbles, and create gigantic bubbles at a bubble table.

### Get the Message

Try your brush at virtual cave art, signal a crane operator, puzzle over expressions, send a message in Morse, decode a traffic sign, anchor the news and make the front page!



### Ag-Zibit

Explore science and technology on the farm from simple machines to GPS and discover how agriculture affects all our lives every day! Climb aboard the tractor, gather eggs, milk the cows, and more.



### Air & Flight

Soar with science as you float a ball on an invisible cushion of air, see the mechanics of airplanes in action, feel a vortex, and experiment with wind.



### Rockford Astronaut Janice Voss

Get a first-hand view of space flight, examine astronaut accessories, design your own mission patch, and find out what inspired Janice to reach for the stars.

### Wild Weather

Touch a tornado, create the coriolis effect, model the swirl of planetary weather, measure the Sun's shadow on Earth in real time, and build sand dunes.



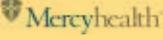
## Discovery Park

Navigate through the outdoor park to play with forces, motion, simple machines, optical illusions, and more! Availability is seasonal / weather dependent.



## Body Shop

Get your muscles moving, measure your heart rate, test your strength and agility, play games with your brain, design a nutritious meal, examine genetic traits, see the inner workings of the human body, and more!

Sponsored by 

## Power of Electricity

Turn body power into electrical power, feel the force and find the link between motion, magnets, and electricity! Harness the power of wind, assemble a circuit, dial up some solar energy, and witness stunning electrical phenomena!



Sponsored by 



## Team Up! Explore Science & Sports

Play virtual-reality soccer, clock the speed of your pitch, launch a tennis ball, try on sports equipment, measure bounces, and test for rotational inertia.



## Tot Spot Gallery

Recommended for grades PreK-K.

This exclusive area allows children 6 years and younger to take the lead with exploration, imagination, and creativity. Visit Ginny's House and work on the family car. Take a trip to the children's hospital and give an exam, review x-rays, and tend to babies in the nursery. Explore backyard nature and climb into a treehouse, catch a fish and eat a camp meal. Children can also experiment in the Water Play area and watch wind and gravity in motion.



## Careers Kiosks



Learn about jobs from the people who do them! Computer kiosks feature videos, photos, and information for a variety of career fields, including scientist, chef, doctor, engineer, machine operator, baker, artist, graphic designer, and many others. Graphic panels throughout the exhibit galleries feature people in occupations that relate to those exhibits.

## TV Studio *Newly Updated!*

Experiment with green screen technology like a real meteorologist! Report the news and instantly see yourself on screen.

Sponsored by 

## Special Exhibits

Check back with us soon for more details about our upcoming temporary exhibit!

*We've come the last 3 years for a field trip, and it's always been great! The exhibits are great, and are interactive for all of our students and their functioning levels.*

Jennifer McKay; Elementary Special Education teacher; Leggee Elementary School

# Programs to Enhance Your Field Trip

## STEM Labs

Add on to your visit and focus your students on a science theme. Each engaging workshop features activities, investigations and demonstrations that match your curriculum goals and reinforce science concepts.

**Length:** 45 minutes

**Cost:** \$55/class up to 30 students



### Space Engineering New Activities!

**Grades:** 2-6

Discover space science and get hands-on to see how gravity works in space. Land safely on the surface of a foreign world and engineer a space rover!

NGSS: PS3.ABC, ETS1.ABC, ESS1.A



### Microscopic Adventures

**Grades:** 3-8

Use real microscopes, prepare slides, and investigate the world of the very small. Examine cell structures and locate living organisms in unexpected places.

NGSS: ETS1.ABC, LS1.A, PS1.A, PS4.AB

### Wild Weather

**Grades:** K-3

Witness the water cycle and see how this process leads to sun and storms! Instant clouds and touchable lightning unlock the complex phenomena of weather!

NGSS: ESS2.CD, ESS3.B, PS1.AB, PS3.B



### Simple Machines

**Grades:** 2-8

An engaging overview of simple machines takes off as students experiment with wheels and axles, gear assemblies, pulley contraptions, and more.

NGSS: PS2.AB, PS3.C

### Color and Light

**Grades:** K-8

Explore the properties of light, fool your vision, dissect a rainbow, experiment with invisible light, and create your own kaleidoscope.

NGSS: ETS1.ABC, PS1.A, PS4.AB



### Slime & Chemistry

**Grades:** K-8

Measure, pour, and mix real chemicals to produce reactions, investigate solids, liquids, and gases, and concoct slime!

NGSS: ETS1.ABC, PS1.AB, PS3.B

### Physics of Fun

**Grades:** 1-8

Students make use of engineering skills as they design and test their own roller coasters in this exploration of kinetic and potential energy.

NGSS: ETS1.ABC, PS2.AB, PS3.ABC

Illinois SEL standards: 2C.1b, 2C.2b, 2C.3b

### Human Body Cart

**Grades:** K-8

Explore digestive, respiratory, and circulatory systems of the human body! See real lungs inflate, hang out with Mr. Guts, get your heart pumping, and more!

NGSS: LS1.AD, LS2.B

*The field trip was an absolute blast! Hillary did an amazing job coordinating our three 2nd Grade classrooms. The staff was incredibly helpful. We will DEFINITELY be back in the years to come during our Matter Unit to learn about Slime or other great offerings!*

Whitney Reed; 2nd Grade teacher;  
Welsh Elementary School

## Junior STEAM Labs

Add on to your visit and focus your students on a science theme. Each engaging workshop features activities, investigations and demonstrations that match your curriculum goals and reinforce science concepts.

**Length:** 30 minutes

**Cost:** \$40/class up to 20 students

### Bugs *New!*

**Grades:** PreK-K

Build, sort, and play with bugs while we explore the tiny world of our smallest friends.

IELDS: 7.A.ECa, 8.A.ECa, 12.A.ECa, 12.B.ECb, 13.B.ECa  
Common Core for Math: K.CC.4

### Wheels in Motion *New!*

**Grades:** PreK-K

Make a commotion while exploring the exciting world of locomotion.

IELDS: 11.A.ECcf, 12.D.ECdb  
NGSS: PS2.A, PS3.C



### Junior Weather *New!*

**Grades:** PreK-K

Explore clouds, rain, and sun in this mini version of our weather program designed for our young scientists.

IELDS: 12.E.ECa, 12.F.EDa  
NGSS: ESS2.D, PS3.B, ESS3.B

## Discovery Planetarium

Experience the night sky in Discovery Center's planetarium! Pick a show tailored to your group's interest and ability level to explore planets, stars, space exploration, and constellations. **These shows are designed for our in-house planetarium.**



*The planetarium is a gift from the Kiwanis Club of Rockford.*

NGSS: ESS1.AB, PS1.A, PS2.AB, PS4.BC

IELDS: 12.B.ECb, 13.B.ECa

**Length:** 30 min

**Cost:** \$30 per show up to 30 students

**Grades:** PreK and up

### Big Bird's Adventure

**Grades:** PreK-1

Big Bird and Elmo explore the night sky and discover that we see the same phases of the moon as our friends across the world!



### Discover the Night Sky

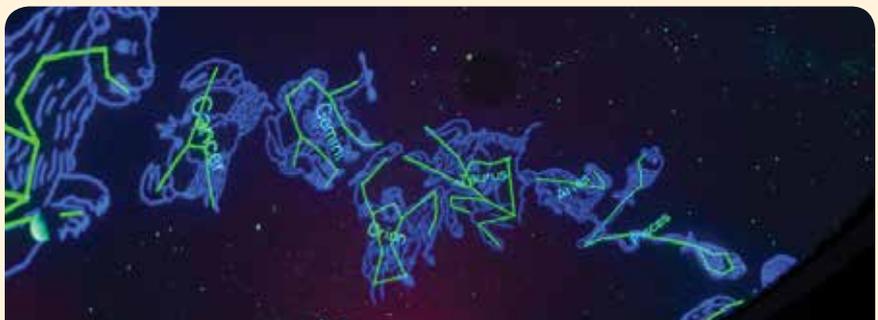
**Grades:** 2-8

This live presentation walks students through the sky tonight and points out moon phases, planet locations, and constellation identification. Seasonal constellations are illustrated using stories from Greek mythology.

### Earth, Moon, and Sun

**Grades:** 3-8

The Native American mythical Coyote's incorrect notions about basic astronomy prompt explanations. Animation and real images come together to teach about daily motion of the Sun, phases of the Moon, seasonal changes in star locations, and eclipses.



Options at Discovery Center		Grade level	Amount of time	Maximum participants	Fees	Please contact these people directly; email works best
<b>Options at Discovery Center</b>						
<b>Regular Field Trip</b>		<b>Any</b>	<b>2 hours</b>	<b>120</b>	<b>\$5 / person</b>	<b><a href="http://www.discoverycentermuseum.org/group-visit-request-form">http://www.discoverycentermuseum.org/group-visit-request-form</a></b>
STEM Labs		varies	45 min	30	\$55 / class	
Junior STEAM Labs		PreK-K	30 min	20	\$40 / class	fieldtrip@discoverycentermuseum.org or call 815-972-2826
Discovery Planetarium		varies	30 min	30	\$30 / class	
Lunchroom		All		60	\$10 / session	
<b>Options for Outreach</b>						
<b>Hands-on Classes</b>		varies	60 min	30	\$140 / \$70	<b><a href="http://www.discoverycentermuseum.org/outreach-request-form">http://www.discoverycentermuseum.org/outreach-request-form</a></b>
<b>Junior Hands-On Classes</b>		PreK	30-45 min	20	\$110 / \$50	
<b>Portable Planetarium</b>		K-8	45 min	30	\$140 / \$60	
<b>Science Carts</b>		1-8	45 min	30	\$140 / \$60	outreach@discoverycentermuseum.org or call 815-972-2844
<b>Family Fun Programs</b>		varies	30-90 min	300	\$250-\$400	
<b>Assembly Programs</b>		K-8	30-45 min	150	\$300 / \$250	
<b>After-school / Enrichment</b>		varies	45-60 min	30	\$140 / \$70	
Additional travel fees may apply.						

Our calendar fills well in advance. For the best choice of dates, please book 2-12 months before your event.