

2016-2017

# Educator's Guide

Field Trip & Outreach Programs



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Rockford, IL 61103

815-963-6769

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

# Fantastic Field Trips

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

Next Generation Science Standards: ESS2.BD, ESS3.B, ETS1.AB, LS4.CD, LS3.A, PS2.AB PS3.ABCD, PS4.ABC

**Length:** approximately 2 hours (longer for additional programs or lunchtime) **Cost:** \$5 per student or chaperone (one free teacher per class)

**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 [groupvisit@discoverycentermuseum.org](mailto:groupvisit@discoverycentermuseum.org) or call 815-972-2826.

## Permanent Exhibits

### Figure It Out

Flip, fold, and figure out patterns and relationships while exploring shapes and 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

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!

### 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, bounce a satellite beam, 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 everyday! Climb aboard the tractor, study live bees, 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.

### 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 the 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 NEW EXHIBITS!

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  **ROCKFORD HEALTH** system

## POWER of ELECTRICITY

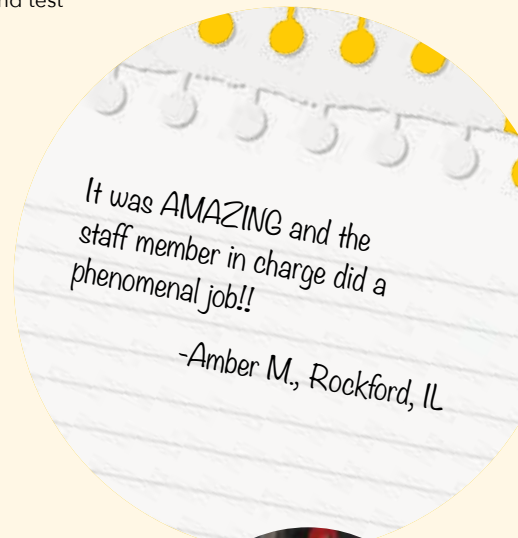
### Power of Electricity NEW!

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  **ComEd**  
An Exelon Company  
**Exelon Foundation.**

### 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

This exclusive area allows children 6 years and younger to take the lead with exploration, imagination and creativity. Visit Ginny's House, work on the family car, take a trip on Engine #9, experiment with water, build something in the construction zone, and watch wind and gravity in motion. Our role-playing themes change throughout the year.

This year's schedule includes:

### Bank / Grocery Store

Now - December 2016

### Tot Spot Pizza Shop

January - May 2017

# Programs to Enhance Your Field Trip

## Focused Field Trips

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:** \$50 per class up to 30 students

### Simple Machines

**Grades:** 2-8

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

Next Generation Science Standards: 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.

Next Generation Science Standards: ETS1.ABC, PS1.A, PS4.AB

### 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.

Next Generation Science Standards: ETS1.ABC, PS2.AB, PS3.ABC

### 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.

Next Generation Science Standards: ETS1.ABC, LS1.A, PS1.A, PS4.AB

### SustainABLE

**Grades:** 3-8

Everyone has a part to play in creating our future- what will you do? Get hands-on to learn about sustainable solutions to many of our planet's biggest challenges.

Next Generation Science Standards: ESS3.A, ESS3.C, ETS1.B

### Wild Weather

**Grades:** K-8

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!

Next Generation Science Standards: ESS2.CD, ESS3.B, PS1.AB, PS3.AB

### Slime & Chemistry

**Grades:** K-8

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

Next Generation Science Standards: ETS1.ABC, PS1.AB, PS3.B

### Mindbenders

**Grades:** 1-6

Students get a brain-workout with this assortment of patterns, puzzles, shapes, and graphing designed to stimulate creative thinking. Kids won't even realize they're doing math!

Next Generation Science Standards: ETS1.AB

## Focused Field Trips for Younger Learners

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:** \$50 per class up to 20 students

### Senses of Science

**Grades:** PreK-K

Use touch, sight, and hearing as exploration tools! This hands-on class is the perfect environment for kids to ask questions, discover answers, and experience science.

Next Generation Science Standards: LS1.AD

### All Shapes & Sizes

**Grades:** PreK-K

Students get a brain-workout with this assortment of patterns, puzzles, shapes, and sorting designed to stimulate creative thinking. Kids won't even realize they're doing math!

Next Generation Science Standards: ETS1.ABC, PS1.A

### Light and Sound

**Grades:** PreK-K

Make a color viewer, experiment with shapes and shadows, and invent a sound maker for loud and soft, high and low!

Next Generation Science Standards: ETS1.ABC, PS4.AB

## 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.

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

**Grades:** PreK and up

Next Generation Science Standards: ESS1.AB, PS1.A, PS2.AB, PS4.BC

### Big Bird's Adventure

recommended for 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

recommended for 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

recommended for 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.

## Terrific Tuesdays

Presented by Discovery Center, Rockford Art Museum, and Rockford Dance Company, this immersive and diverse experience expressively engages bodies and minds in science and art. Terrific Tuesday Basic Field Trips can accommodate 20 - 75 students and do not include museum tours.

**Time:** 9:30 am-12:00 pm

**Cost:** \$9/student; no cost for chaperones or teachers

**Grades:** K-6

Choose from these great themes and have your Tuesday date in mind when you contact us!

For more information or to schedule, call (815) 972-2842 or email [Tuesday@discoverycentermuseum.org](mailto:Tuesday@discoverycentermuseum.org)

### Light and Shadow

Break apart light, use paint to explore shades of color, and jump, step, and turn to articulate the qualities of light and shadow.

Next Generation Science Standards: ETS1.ABC, PS1.A, PS4.AB

### Body Works

Learn how our insides work, create an art masterpiece, and fashion graceful motions from teams of muscles and bones.

Next Generation Science Standards: LS1.ACD

### Mixing It Up

From chemistry to colors and moves, we're mixing things together with outstanding results.

Next Generation Science Standards: PS1.AB, PS3.D



# 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!* **Some programs available in Spanish.**

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.

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

## 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:** vary by topic **Length:** 60 minutes

**Cost:** \$140 per class (\$70 for each additional class\*)

30 participants maximum. 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!

Next Generation Science Standards: ETS1.ABC, PS2.AB, PS3.AC

### Zombies!

**Grades:** 3-8

Find out how the brain works, build a giant neuron, find the origin of an infectious zombie virus and create a cure for the undead.

Next Generation Science Standards: LS1.AD, LS2.B

### Electric Circuits

**Grades:** 3-8

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

Next Generation Science Standards: ETS1.ABC, PS2.B, PS3.AB

### 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.

Next Generation Science Standards: ETS1.ABC, PS2.AB, PS3.AB

### Sounds of Science

**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.

Next Generation Science Standards: PS2.AB, PS4.A, ETS1.ABC

### Slime & Chemistry

**Grades:** K-8

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

Next Generation Science Standards: ETS1.ABC, PS1.AB, PS3.B

## 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!

**Grades:** Toddler-PreK **Length:** 30-45 minutes

**Cost:** \$110 per class (\$50 for each additional class\*)

20 participants maximum. Travel fees may apply.

### Buildings & Structures\*\*\*

Build a giant tower, span the distance with a bridge, experiment with shape, structure, and balance.

### Light & Sound\*\*\*

Make a color viewer, experiment with shapes and shadows, and invent a sound maker for loud and soft, high and low!

### Ramps & Rolling Things **NEW!**

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

### Flutter & Fly\*\*\*

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

## 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

**Cost:** \$140 (\$60 for each additional show\*)

30 participants maximum. Travel fees may apply.

### Show Themes:

The Sky Tonight, Ancient Stories in the Stars, Native American Lore, Our Solar System.

Next Generation Science Standards: ESS1.AB



## Science Carts

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

**Grades:** 1-8

**Length:** 45 minutes

**Cost:** \$140 (\$60 for each additional class\*)

30 participants maximum. Travel fees may apply.

### Weather Cart

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

Next Generation Science Standards: ESS2.CD, ESS3.B, PS1.AB, PS3.AB

### Electricity Cart\*\*

Make the connection between work and power. Generated and transmit energy, and de"light" in static electricity.

Next Generation Science Standards: ETS1.ABC, PS2.B, PS3.AB

Sponsored by  **Exelon Foundation.**

### Human Body Cart

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!

Next Generation Science Standards: LS1.AD, LS2.B

It was awesome! We had so many compliments, everyone wants us to do it again next year. [The presenter] was wonderful, everything went so smoothly. It was just fabulous.  
-Melissa F., Lake Mills, WI

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

\*\* This program has special space requirement

\*\*\*Pair some of our Jr Hands-On and Science Club Activities for a wider range of ages at our discounted rate

## 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 **Length:** 60 - 90 minutes **Cost:** \$350 Up to 300 participants

2-5 stations **Length:** 30 - 60 minutes **Cost:** \$250 Up to 150 participant

Travel fees may apply.

### Storybook Science *NEW*

Explore Science, Technology, Engineering, Art and Math paired with kids' favorite stories to spark their curiosity and engage their naturally scientific minds!

Next Generation Science Standards: ETS1.ABC, ESS1.A, PS2.AB, PS3.ABC

### Outer Space

Map the stars, make a glittering constellation, hop to the planets, navigate a rover, and create a crater.

Next Generation Science Standards: ESS1.AB, ETS1.ABC, PS2.AB, PS3.B, PS4.C

### 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!

Next Generation Science Standards: ETS1.ABC, PS1.AB

### Little Scientists

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

Next Generation Science Standards: ESS2.C, ETS1.ABC, LS1.AD, PS1.A, PS2.AB, PS4.AB

### Chem-Tastic!

Measure, mix, and pour real chemicals for amazing reactions including fizz, slime, and instant color changes! +\$100 additional lab fee.

Next Generation Science Standards: ETS1.ABC, PS1.AB, PS3.B



### Lots of LEGOs

Investigate gears and forces and use America's favorite bricks to construct a merry-go-round or windmill that really works! Recommended for grades 1-8.

### Blast Off \*\*

Explore forces and motion with these paper rockets that launch using air power, and fly so far they hit the gym wall! Recommended for grades 1-6.

### Magnetic Attractions

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

Recommended for grades K-2.

### Thrill Ride \*\*

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

Recommended for grades 1-8.

### Make the Connection

Mess around with circuits to make things light up, spin, and maybe even fly!

Recommended for grades 3-8.

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

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

Recommended for grades K-6.

### Ooey Goey Science

Solids, liquids, and gases come together to create amazing reactions and slippery slime.

Recommended for grades K-8.

### Fling and Wing

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

Recommended for grades 2-6.

### Good Vibrations \*\*\*

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

Recommended for grades K-6.

### Minecraft Unplugged

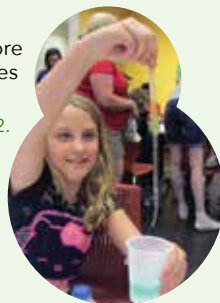
Assemble cubes, reel creepers, examine real rocks and ore, and create a torch.

Recommended for grades 3-6.

### Engineering Adventure \*\*\*

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

Recommended for grades 1-8.



## Assembly Programs

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

**Grades:** K-8 **Length:** 30-45 minutes

**Cost:** \$300 (\$250 additional show of the same topic, day, and location.)

Up to 150 participants. 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

### The Fascinating Physics Show\*\*

Amazing feats come together to weave the story of Newton's Laws of Motion in this compelling program! From *Angry Birds* to inertial basketball, this is one memorable science lesson!

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





Grade level                      Amount of time                      Maximum participants                      Fees

Please contact these people directly; email works best for us.

*Options at Discovery Center*

<b>Regular Field Trip</b>	Any	2 hours	120	\$5 / person	
<b>Focused Field Trip</b>	varies	45 min	30	\$50 / class	
<b>Focused Field Trip for Younger Learners</b>	PreK-1	45 min	20	\$50 / class	fieldtrip@discoverycentermuseum.org or call Hillary at 815-972-2826
<b>Discovery Planetarium</b>	varies	30 min	30	\$30 / class	
<b>Lunchroom</b>	All		60	\$10 / group	
<b>Terrific Tuesday</b>	K-6	2-½ hrs	75	\$9 / student	tuesday@discoverycentermuseum.org or call Corinne at 815-972-2842

*Options for Outreach*

<b>Hands-on Classes</b>	varies	1 hour	30	\$140 / \$70	
<b>Junior Hands-On Classes</b>	Toddler-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 Jessica at 815-972-2844
<b>Family Fun Programs</b>	varies	30-90 min	300	\$250-\$450	
<b>Assembly Programs</b>	K-8	30-45 min	150	\$300 / \$250	
<b>Afterschool / Enrichment</b>	varies	45-60 min	30	\$140 / \$70	

Additional travel fees may apply.