

FIELD TRIP PLANNER

UNION STATION & SCIENCE CITY



SPRING 2012

WELCOME

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Union Station
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Kansas City, MO 64108
816-460-2020 | unionstation.org

This is your ultimate field trip planning guide! We have everything from activities to an area to enjoy your lunch. Your entire day with us will be fun and stress-free. We have several awesome new exhibits as well as traditional student favorites.

In addition to our dynamic science exhibits, our great exhibits tie into your history curriculum. Discover historical treasures in the fascinating exhibit 'Titanic: The Artifact Exhibition'.

This guide breaks down the best programs that Union Station and Science City have to offer. We've made it easy to customize your trip! You pick the programs that best fit your curriculum and we take care of the rest. Happy planning!

Science City Hours:

Tuesday – Friday: 9:30 a.m. – 4 p.m.

Saturday: 9:30 a.m. – 5 p.m.

Sunday: Noon – 5 p.m.

Exhibit Hours:

Titanic: The Artifact Exhibition

Tuesday – Thursday: 9:30 a.m. – 5 p.m.

Friday & Saturday: 9:30 a.m. – 7 p.m.

Sunday: 11 a.m. – 6 p.m.

Grade-level curriculum standards available at
unionstation.org/edinfo.html.

ABOUT UNION STATION

Union Station Kansas City is a historical landmark and civic asset renovated and reopened to the public in 1999. It features a science center, national and international traveling exhibits, a giant screen movie theater, planetarium and live theater, shops and restaurants.

The Kansas City Museum Association [in Kansas City's historic Northeast neighborhood since 1940] and Union Station Assistance Corporation worked together in 1996 to pass a bi-state cultural sales tax, the first of its kind in the country. The tax funded nearly half of Union Station's \$250-million renovation. The remaining money was raised through private donations and federal funding. In 2000, the organizations combined to become Union Station Kansas City, Inc., a nonprofit 501(c)(3) organization. Union Station Kansas City, Inc. currently operates Union Station and the Kansas City Museum [in Kansas City's historic Northeast neighborhood].

Union Station receives no public funding. The Station's operating costs are funded by general admission and theater ticketing, grants, private donations, commercial space leases and facility rental. Union Station is an affiliate of the Smithsonian Institution in Washington, D.C.

Our Mission

The Kansas City Museums of History and Science, d.b.a. Union Station Kansas City, Inc., shall be recognized as the region's finest educational and cultural resource committed to the preservation and interpretation of Kansas City's regional history and the promotion of innovation, research and discovery in science and technology through the development of collections, exhibitions and other educational programs for all citizens of and visitors to the Greater Kansas City metropolitan area.

Our Goal

To educate people of all ages in the area of Kansas City regional history and in the exploration of science, and to assist in experiencing old and new technologies affecting our lives and inspiring others to become innovators in developing technologies for the future.

Great Science and History Programs

Learning and fun go hand-in-hand at Union Station. We offer a variety of curriculum-specific options, many of which are sure to fit the needs of your students and your lesson plans. Whether you visit us or we come to you with our popular outreach programs, we know you'll be satisfied. Sign up on our website for our education e-newsletter and receive regular updates on programs and activities.

It's all easy to book. Review the information in this guide, make your choice, then fax or email the reservation form. The reservation form is available at unionstation.org/fieldtrips.html or call us with other questions at 816-460-2020.

SCHEDULING



- Review all Union Station field trip options and pricing on page 5.
- Reservation form available at unionstation.org/fieldtrips.html.
- Return reservation form to youthsales@unionstation.org
OR fax to (816) 460-2260.
- Lunchroom space is available:

Groups up to 150	\$25
Groups of 150 or more	\$40

Reservations required; space is limited.
- Coordinating teacher will receive an emailed confirmation packet, which includes pre-visit educational materials, field trip guidelines, maps and more.
- Payment is due two weeks prior to your visit date.
- One adult chaperone per 10 students is required.
- For groups of 15 or more students, one chaperone with every five students receives free admission to Science City with advance reservation.
- **Questions? Call 816-460-2020. Tuesday – Friday, 9 a.m. – 3 p.m.**



PRICING

GROUP RATES

For groups of 15 students or more. Price per student. *

Titanic: The Artifact Exhibition	\$10
add Science City to Titanic	\$3.50
Science City	\$6
Discovery Areas	
Includes selected Discovery Areas and Science City	
1-hour programs	\$8.50
2-hour programs	\$10
Science City Plus	\$10
Science City and choice of Extreme Screen, Planetarium, Theatre for Young America Show OR KC Rail Experience	
Planetarium	\$4
Extreme Screen	\$4
Theatre for Young America	\$5.50
Outreach	\$175/program
Camp-ins, teambuilding and professional development	prices vary by program

*Advance reservation and payment required.



Funding Assistance

Bus Transportation Funds are available to schools in the bi-state region — Jackson, Clay and Platte counties in Missouri; Johnson and Wyandotte counties in Kansas. Funds are limited and must be requested at the time the field trip is originally scheduled and cannot be combined with other scholarships.

Scholarships

Inquire about additional funding opportunities for Science City field trips at education@unionstation.org.

TITANIC: THE ARTIFACT EXHIBITION

Now – September 3



Titanic: The Artifact Exhibition

We invite you and your school group to see Titanic: The Artifact Exhibition and take a trip back in time. The galleries in this fascinating Exhibition put you inside the Titanic experience like never before. They feature real artifacts recovered from the ocean floor along with room re-creations and personal histories, each highlighting a different chapter in the compelling story of Titanic's maiden voyage. Board Titanic using a replica White Star Line ticket belonging to an actual passenger, touch an iceberg, and learn about artifact recovery and conservation.

Titanic: The Artifact Exhibition is a great catalyst for lessons in Science, History, Geography, English, Math and Technology. Many students are familiar with the compelling story behind the Ship's promised voyage and tragic demise. Innovative educational resources link this innate fascination to classroom-friendly lessons that will generate student interest before your visit and extend student learning beyond your field trip.



Titanic Educational Materials

Accompanying lesson plans include the award-winning Titanic Teacher's Guide includes activities for elementary, middle, and high school levels aligned to your state curriculum standards as well as the national standards from NCSS and NCTE. These lessons, which come with ready-to-copy Student Activity Pages, are designed to be used by Social Studies and Language Arts classes before, during, and after your field trip. The Appendix includes suggestions and links for activities in Science and Math.

The Teacher's Guide features a variety of methods and projects for those educators who strive for differentiated instruction in their classrooms. While learning about Titanic, students can analyze primary sources, explore history through music, perform historical reenactments, sharpen their geography skills, and find connections to the Ship's story within their own communities and families.

Materials are tailor-made for students in the following age groups:

- Elementary school (grades K-5)
- Middle school (grades 5-8)
- Junior high (grades 7-9)
- High school (grades 9-12)



NEW IN SCIENCE CITY

Nature Center

Our creature friends have a brand new exhibit space and new living habitats!

Check it out and observe a diverse group of animals; compare and contrast their physical characteristics, behaviors and habitats. Explore the animal kingdom's family tree, meet some new Nature Center residents such as our adopted iguana and chinchilla, and greet some old friends like Larry the Legless Lizard and Elvis the California King Snake.

Science concepts: biology, ecology, environmental science, evolution, biomechanics, physiology, classification and taxonomy

KC Rail Experience

Trains made Kansas City what it is today. Union Station was one of the country's busiest and most elegant train stations in America. In this permanent exhibit, students can travel back to the time when the iron horses (trains) were just beginning to unite East with West. History comes alive as characters from the past tell stories significant to the culture and industry of the American railroad. Students can also see artifacts from Union Station's railroad collection.



Science on a Sphere

Science on a Sphere (SOS) presents a stunning and powerful visual perspective of Earth and other objects in our solar system. Designed and supported by the National Oceanic and Atmospheric Administration, SOS utilizes a unique projection system to display animated images using a six-foot suspended carbon fiber sphere. Visitors of all ages can explore our planet's dynamic landscapes, oceans, weather and take a tour of our own solar system.

Live 20-30 minute shows lead by Science City educators. Ask about reservations for your group!

SCIENCE CITY FAVORITES

Science City is a cityscape-themed, hands-on science center with more than 125 exhibits in 18 environments or neighborhoods. Students benefit by engaging in these self-guided, hands-on activities related to national and state standards. A description of the national and state standards can be found at unionstation.org/edinfo.html.



Tree House

An ideal venue to study principles of flight and our feathered friends! Expertly mounted birds of this region teach aspects of the ecology and biodiversity in the Midwest. Observe avian behavior on the Birds of North America multimedia touch-screen kiosk, and enjoy the view of Science City.

Science concepts: biology, ecology, biomechanics, evolution, aerodynamics, air pressure, bouyancy, camouflage and gravity



Exhibit Center

Visit some of our newest interactive exhibits, developed and fabricated by our own Science City staff. Roll three balls down the Energy Track, get a ring spinning on the Turntable, charge up foam beads in the Static Scape or experiment with various objects in the Whirlwind.

Science concepts: personal health, medical technology, science careers, cell biology, anatomy of physiology, science as inquiry, history of science



Body Tours

Explore the complex and diverse roles of cells as you walk through a simulated blood vessel. Interactive multimedia presentations show tissues and systems at work to keep us healthy. Evaluate your body fitness and functions with various testing stations to measure heart rate, blood pressure, body fat percentage, balance, hearing and flexibility.

Science concepts: personal health, medical technology, science careers, cell biology, anatomy, physiology, science as inquiry and history of science

SCIENCE CITY FAVORITES



City Park

Take an imaginary ride in the retired Kansas City Police Helicopter, make a hand print on a Temperature Panel, create a path in the Water Maze, spin a Zoetrope into animation or ride the Sky Bike (must meet height and weight requirements).

Science concepts: fluid mechanics, buoyancy, air pressure, air foils & lift, gravity, mass distribution, force & motion and magnetism

Music Park

Create your own music at this park area. Play the drums, walk the floor piano, knock on the huge standing xylophone, or wave your hand over the motion harmonicas at this favorite neighborhood stop in Science City.

Science concepts: non-verbal communication, hands-on discovery, introduction to sound and variations, group cooperation and interaction and creative opportunities



KinderLab

Enjoy this new, permanent exhibit space designed for early learners, ages 1-7. Explore, build, imagine, read, pretend and play while engaging in science concepts and science literacy in this safe, hands-on interactive space designed by early childhood educational specialists. Draw and create on the huge 20-foot chalk wall, inspect an ever-changing array of natural specimens in the Curio Cabinet, build structures, operate a miniature crane - and much more!

SCIENCE CITY FAVORITES



Dig Site

Unearth the fossil remains of mosasurs, pterosaurs, ferocious Mesozoic fish and other ancient ocean creatures at the Dig Site. Use brushes, shovels and goggles to explore the Dig Site and become a paleontologist for a day.

Dino Lab

See the cleaning and restoration of Lyle the Camarasaurus as fossil bones are pieced together in the Dino Lab. Developed in partnership with the University of Kansas, this fully functional laboratory demonstrates the equipment and process involved in preparing dinosaur specimens for display. Handle real fossils and observe them under a magnifying lens. Identify creatures that once inhabited Kansas and Missouri millions of years ago and observe tools and methods of paleontology.

Dig Site and Dino Lab science concepts: biology, geology, paleontology, fossils, extinction, evolution, biomechanics, physiology, earth history, science careers and science as inquiry

DISCOVERY AREA

See **DINO DISCOVERY** for group experience bookings.



SCIENCE CITY FAVORITES

Light Alley

A stroll down Light Alley allows you to observe how light and energy go hand-in-hand. Cast your outline on the Shadow Wall, add blue, green and red on the Color Wall and watch the effects of a blacklight on different materials.

Science concepts: science as inquiry, forms of energy, color theory, light spectrum and photoluminescence

Mister E. Hotel



The famed illusionist, Mr. E, has loaded this hotel with more than 21 different illusions to confuse and astound hotel guests. Unravel the “magic” that invokes the illusory perceptions and sensations experienced here. Shock your friends as you appear to become a disembodied head and torso at the Diner Table, watch your body dissolve in the Washroom Mirror, see objects bend and

distort at the Vision Warper and learn the secrets to dozens of other illusions at the Mister E. Hotel.

Science concepts: optical illusions, perception, camouflage, visual queues and color theory

S.O.A.R.

Build and test at the various engineering-based exhibits in S.O.A.R. Test different vehicle shapes in the Wind Tunnel, experiment with different fuel ratios and launch the Rocket, or try assorted combinations at the Gear Wall.

Science concepts: gravity, Newton's Laws, aerodynamics and Bernoulli's Principle.



DISCOVERY AREAS

Student groups participate in facilitated, themed programs that extend and reinforce science principles required for district and state testing. Discovery Areas provide in-depth learning with a structured environment, offer pre- and post-visit activities and support grade-level-specific, curriculum-appropriate activities. Programs are scheduled at 9:30 a.m. and noon, Tuesday - Friday.

TEST KITCHEN

Students, working as food scientists, discover the science behind some of our favorite foods and beverages. Science concepts for all Test Kitchen programs: science as inquiry, chemical reactions, physical reactions, solutions and mixtures, elements and compounds. Programs available only on specified days.

Thinking Like a Scientist

Tuesday - Friday

Grades 1-3 | 15-30 students | One hour

Using food as the context, students learn to use the scientific process in the kitchen. They observe types and traits of foods and describe differences in similar food products. Students will also predict scientific outcomes and test the results. 🔍

Science of Popcorn II

Tuesday, Wednesday

Grades 4-12 | 15-30 students | Two hours

Students experiment with popcorn and discover the science behind these mini-explosions. Working in teams, students will experiment with variables that affect popcorn's ability to pop and compare and contrast types of corn. Students will also hypothesize reasons for kernels popping or not, and test methods or products that may affect results. Conclusions will be discussed with class.

Food for Thought

Thursday, Friday

Grades 4-12 | 15-30 students | Two hours

Students will put food to the test as they discover many food attributes. A variety of food choices will be tested and even tasted to determine qualities such as carbohydrates, proteins, sugars, fats, starches and more. The results will guide student teams in their choice of foods to take on a picnic excursion. Along the way, historical, cultural and scientific perspectives about food help in the decision-making process.



Gross Science
Adapted for grades 4-8
15-30 students
One hour

Add some gross to your students' Science City experience. Discover some gruesome tricks and mix up some ooey, gooey messes. Investigate the real science behind some spooky fakes.


Science of Popcorn I

Tuesday - Friday

Grades 1-3 | 15-30 students | One hour

Students experiment with how popcorn is prepared and learn some of the physical science behind how it "pops." Students will compare and contrast types of corn, predict results with different popcorns and taste the outcome. 🔍



 Denotes Young Scientist Program

DISCOVERY AREAS


ENGINEERIUM

Learn and work in the new headquarters for Engineerium scientists. Through the generosity of Burns & McDonnell, a Kansas City-based engineering, architecture and construction firm, the design environment has been upgraded to a contemporary studio to challenge today's young engineers.

Science concepts for all Engineerium programs: robotics, engineering, motion, technology and computer programming

Robots 101

Grades K-4 | 15-24 students | One hour

Does a robot's program have to match its body to perform a task? Working with different factors such as wheel size, speed and power to affect how their robot performs, each team will work to solve a series of challenging scenarios. 

LEGO Robot Challenge

Grades 5-12 | 15-24 students | Two hours

The builders and programmers of each team must work together to complete a moving robot and understand how it does what they have designed it to do. Once the teams have accomplished the basics, the real challenge begins and the clock starts running. Each team will be left to their own creativity and problem-solving skills in designing a unique robot that will be able to navigate the ultimate obstacle-laden challenge: a rescue mission!

Smart Robot

Grades 5-12 | 15-24 students | Two hours

What makes a simple robot so smart? Each team will build and program a robot that can take in information from its environment and change its behavior appropriately. Yes, the robots that your students will build and program in the first part of this Discovery Area will be able to sense its surroundings and alter its course. Once the teams have achieved success at the first level, a series of specific design challenges will be presented and the derby has begun! Teams will go head-to-head not in an effort to dominate, but to build a better robot!


Coming March 2012

Renewable Wind

Grades 4-8 | 15-24 Students | Two Hours

Explore the world of wind turbines and learn how to generate and deliver renewable energy from the power of wind. Student teams research and test their wind turbines to determine factors such as energy production, best location and turbine blade type to deliver electricity. Their skills are put to the test as teams try to supply enough electricity to power a nearby housing community of LEGO people.



 Denotes Young Scientist Program




DISCOVERY AREAS

DINO DISCOVERY

Students work as part of a team of paleontologists to explore life as it was long ago.

Prehistoric Dig Site

Grades K-3 | 15-20 students | One hour

With the help of our experienced expedition leaders, your young explorers will uncover the mysteries of the ancient world of dinosaurs and prehistoric monsters. Each participant will hunt for the fossil remains of giant creatures that lived 80 million years ago. Teams will work together to learn what they have found and piece together the environment and ecosystem these creatures lived in during the Late Cretaceous Period. When the excavation is over, we will explore Science City's Dino Lab behind-the-scenes to learn how unearthed fossils are prepared and studied by paleontologists. 

Science concepts: paleontology, dinosaurs, fossils, earth history

Bone Wars

Grades 4-8 | 15-24 students | Two hours

Bone Wars participants will get a taste of the heated competition between the two most famous dinosaur hunters in history: E.D Cope and O.C. Marsh, as they race to complete their research and erect their dinosaur skeletons for display. The delicate balance of racing to publish scientific findings while performing thorough research and careful preparation is made apparent with a behind-the-scenes tour through Science City's Dino Lab. Relive history's most intense scientific rivalry as your budding crew of paleontologists experiences what it takes to put a dinosaur back on its feet!


Science concepts: paleontology, dinosaurs, biodiversity, fossils, geology



 Denotes Young Scientist Program

EARLY CHILDHOOD PROGRAMS

KINDERLAB

Beginning scientists experience the fun of science with hands-on activities using real laboratory tools. Educators involve the students through multi-sensory learning. Children are encouraged to use their natural curiosity and imagination to experiment, discover and learn. 

Tuesday, Wednesday, Friday
Ages 4-7 | 10-15 students | One hour

Educational relevancy: All KinderLab science programs relate to literacy, vocabulary building and fun with music.

Measuring Matters

Science tools are introduced through activities in weighing and making comparisons. Children learn to use balance, spring and digital scales for their measurements. Science process skills of wondering, thinking, predicting, testing, observing and sharing aloud are emphasized.

Kinder Testing

Safe laboratory tools such as graduated cylinders, beakers, test tubes, pipettes, tongs and Petri dishes are used in multi-sensory learning activities. Scientific vocabulary is modeled and encouraged as children participate in beginning scientific studies.


Fossils Galore

Imitate some activities of paleontologists with tools and materials similar to those used in dig sites. Hands-on activities include reference to dinosaurs and fossils from many kinds of plants and animals. Children will experience comparative measurement activities.

Science Meets Literacy

This Outreach program is for early childhood settings. See Outreach offerings, page 19 for details.



 Denotes Young Scientist Program

PLANETARIUM

Union Station's Planetarium is one of the largest in the Midwest. You'll be surrounded by this 360-degree experience featuring an all-new projection system. Shows available at 9:30 a.m. and noon. Capacity 150. Duration 40-45 minutes

Dawn of the Space Age

Grades 3-8 🌟

Become immersed and overwhelmed with the most accurate reconstruction of man's first steps into space, from the launch of the first artificial satellite Sputnik, to the magnificent Apollo lunar landings and privately operated space flights. Who were these men and women that took part in these death-defying endeavors? Witness their drive, their passion and their perseverance to explore the vast unknown territory of space in 'Dawn of the Space Age'.



Black Holes

Grades 5 and up

Black Holes takes you on a journey through one of the most mystifying, awe-inspiring phenomena in the universe: a black hole. Where do they come from? Where do they go? How do we find them? Is there one on Earth's horizon? The Arvin Gottlieb Planetarium invites you to explore with us the science and mystery of Black Holes.



Solar System Tour

Grades 2-5

Students take an immersive tour of the planets, moons, and other objects in our solar system. Explore the variety of our planets, from the runaway greenhouse atmosphere of Venus to the gas giants of Saturn and Jupiter to the furthest outreaches. Students learn insightful facts and concepts about the structure and formation of our Solar System, as well as learn about great discoveries and current research. This show is a combination of pre-recorded and live educator-led program. Students will be able to participate in observations, comparisons, question, answers and making a prediction or hypothesis.



One World, One Sky: Big Bird's Adventure

Preschool thru 2nd grade 🌐 🌟

'One World, One Sky' is a brilliant spectacle of light and color as Elmo, Big Bird and their newest friend (Hu Hu Zhu) watch the stars twinkle over Sesame Street. During the show, children can interact, drawing constellations and counting the time it takes the sun to set. Other interesting scientific facts are discovered along the way such as when Elmo and Hu Hu Zhu try to fly a kite on the moon, but do not succeed because there is no air or wind in space. At the end of the show, our heroes pick a friendship star to remind them no matter how far apart they might be, they can always look into the night sky and cherish their shared memories.

🌟 Includes Seasonal Star Show about constellations in the Kansas City night sky

🌐 Denotes Young Scientist Program



LIVE THEATRE

Presented by Theatre for Young America

Curriculum standards at unionstation.org/theater.html

To make a group reservation, call 816-460-2020.

SPRING SHOWS

DIARY OF A WORM, A SPIDER, AND A FLY

March 6 - April 14

Based on the popular books by Doreen Cronin, this musical play has been adapted by Joan Cushing. This will be the Kansas City premiere of this new work. With a set and costumes of recycled and repurposed materials, the show features rap, hip-hop, ballads, and boogie-woogie. This funny play promotes recycling, eco-consciousness and earth sciences and tolerance for differently-abled creatures.



PINOCCHIO COMMEDIA

April 24 - May 19

This production of the traditional Italian tale of Pinocchio by Carlo Collodi is adapted by Johnny Simmons. It is performed in the historical commedia dell'arte style with masks, stock commedia characters and music. Arlecchino plays the Cricket. Pantelone plays Gepetto, Pedrolina plays a donkey, and Pinocchio plays himself, a puppet who learns to become a real boy with the help of Columbina, a fairy.



SUMMER SHOWS

THE ADVENTURES OF PIPPI LONGSTOCKING

June 12-30

Pippi is a high spirited, warm hearted incarnation of every child's dream of freedom and power. With her unusual red braids of hair and strange clothing, she is a young lass of unusual strength. Rollicking adventures abound in her life in Villa Villekulla where she lives alone with her horse and pet monkey while her pirate dad is sailing the South Seas. This play is based on the book series of the same name by Swedish writer Astrid Lindgren.



FAIR BALL: NEGRO LEAGUES IN AMERICA

July 7-27

A musical play about the dramatic history and exemplary courage of the men and women who played against all odds of racial segregation and "Jim Crow" laws in the Negro Leagues baseball leagues. The musical is a complete revision of The Monarchs of KC, produced at TYA last season, including new songs, characters and true stories from a tumultuous and richly entertaining era of baseball history.



This program is presented in part by the National Endowment for the Arts, a federal agency that believes a great nation deserves great art.



MODEL RAIL EXPERIENCE/ EXTREME SCREEN



MODEL RAILROAD EXPERIENCE

Included with tickets to any other Union Station Attraction

Visit the Model Railroad Experience in the KCPL Gallery. Model railroad enthusiasts have collaborated in building this exhibit with multi-gauge layouts running simultaneously. Includes a special section describing the role of American railroads and the development of the National Parks System in our country.

THE EXTREME SCREEN

Kansas City's biggest movie experience, four-stories tall and more than 75 feet wide. Minimum of 25 people

Ghosts of the Abyss

Walt Disney Pictures and James Cameron, the Academy Award-winning director of Titanic, present the groundbreaking cinematic achievement Ghosts of the Abyss. Journey back to the site of his greatest inspiration - the legendary wreck of the Titanic. During the voyage, explore inside the entire ship, deck by deck, room by room, encountering mysteries that have remained hidden for almost a century. Revolutionary underwater robots were designed and built solely for the purpose of allowing the explorers to peer deep into the remains of the once-great ship and bring those surreal and haunting images back to the surface world.

**Available at 10 a.m., Noon and 2 p.m.
Minimum of 25 people**

GHOSTS OF THE ABYSS



OVERNIGHT CAMP-INS

Spend the night in Science City!

Space Camp | Science Camp | Dinosaur Camp

Great activity for scouts, church youth groups or teambuilding activities for students.

Enjoy a private camp-in including friendship building and enriched learning opportunities. Camp-ins are popular with schools more than a two-hour drive from Kansas City. Spend the night and extend the educational mission of the trip.



Groups: Minimum 50

Time: 7:30 p.m. to 8 a.m. (Check-in at 7 p.m.)

Price: \$35 per child; \$25 per adult

One adult per five children required.


To schedule or for more information, contact us at 816-460-2094 or youthsales@unionstation.org. Information packet will be sent to group leaders prior to event. Dates subject to availability.

OUTREACH PROGRAMS

Science City wants to be part of your school or community event with our interactive, educational science programs. Vocabulary and science concept descriptions are available upon request. All programming may be tailored to your specific event or classroom. Call 816-460-2020 to request booking information.

Science Meets Literacy

Appropriate for preschool-grade 2

Multiple themes connect science concepts through popular book titles. Interactive programming follows storytime introduction of themes. Children delight in using science tools and materials while learning about their world. May be adapted to many popular classroom topics. Sample of current titles available: 'Feathered Friends Fun', 'Insects & Arachnids', 'Kitchen Chemistry', 'Sleepers & Nappers (Hibernation)', 'Music to my Ears Pair: The Science of Two' and more. Request current selection list or classroom topic theme. 



Tabletop Demos or Classroom Activities

Appropriate for events or classroom settings

Static Charge - Which materials store electric charge? Can electricity be conducted through people? Using a Van de Graaff generator, watch your hair stand on end and see crispy cereal dance.

Fun Chemistry - Participate in cool chemical reactions. See, touch and hear what happens when everyday household ingredients get together.

Air, Air, Everywhere - Behold the power of air pressure. Learn some powerful everyday applications facts. Predict the winner in air tug-o-war.

Make It/Take It Activities

Appropriate for fairs and community events


Eewy Goo - Employ basic chemical reactions to make a shapeless blob of pure fun.

Hoop Gliders - Flight, air foils, center of gravity, air drag, stability - all experienced through creative engineering.

CD Hovercrafts - Air pressure makes these fun craft travel almost without friction.

Pinhole Viewers - Learn about optics and how eyes focus light by making and testing simple, yet powerful instruments.



 Denotes Young Scientist Program

OUTREACH PROGRAMS

Stage Shows

Appropriate for assembly setting



Radical Reactions - Heat! Light! Gas! Explode on the scene with Radical Reactions, where water and vinegar change color, an ordinary Ziploc turns into an exploding red bag, foam geysers expand and dollar bills catch fire. In the dynamic show, some amazing chemical reactions keep audiences of all ages on the edges of their seats.

Flames, Smoke & Sizzle - Learn about the science of combustion with this super hot pyrotechnic show! See our presenter throw fire, light flame-powered rockets, blow up flammable balloons and more in the lively, fact-filled and safe show. Important fire safety rules are covered throughout the show.

Under Pressure - Expanding marshmallows and balloons, water that defies all reason and gravity, and simple half spheres that seemingly cannot be pulled apart are just some of the pressure-packed demonstrations in this stage show. This show will give the phrase "under pressure" a whole new meaning for any audience.

Force & Motion - Explore the often invisible yet amazing forces of physics! Concepts of gravity, centripetal force, energy and collisions are explained using objects such as bouncing bowling balls, spinning wheels, and upside-down water glasses. Discover the principles of force and motion as Sir Isaac Newton did more than 300 years ago.

Volts and Jolts - Electricity is illuminated in a series of shocking experiments! Explore electrons and protons as the Van de Graaff generator creates 400,000 volts of hair-raising excitement through hands-on audience participation. Be amazed as a Tesla coil sends arcs of electricity through the air and watch as a light bulb turns on without even being plugged in. The power of electricity has never been so positive.

TEAMBUILDING

Union Station offers exciting opportunities for groups to participate in training exercises that develop teamwork and learning through fun activities. Our innovative programs promote group interaction, leadership development, conflict management and teambuilding. Call about availability and scheduling. Appropriate for high school, college and adult groups.



Union Station - History Hunt

Appropriate for groups of 10 to 100 | 45 - and 90 - Minute Program

Test your Kansas City history knowledge - then proceed on a hunt for historical and architectural items and/or facts about the Union Station landmark. Participants are grouped into teams named for the railroads that served Union Station. When the teams hear "GO!" the clock starts and the hunt begins. At the end of the activity, the results are calculated and the winning team is determined.



Science City - Scavenger Hunt

Appropriate for groups of 10 to 100 | 45 - and 90 - Minute Program

This fun activity is both competitive and challenging as teams race to accomplish assigned tasks in Science City. The program is designed for participants to creatively work with their teammates. At the end of the activity, the results are calculated and the winning team is determined.



Engineerium

Appropriate for groups of 12 to 24 | Two-hour session

Work in the new Engineerium facility, sponsored by Burns & McDonnell engineering firm. Given a mock state of emergency, your team is challenged to successfully design and build a robot to perform a rescue mission. Using LEGO Mindstorm™ products, learn programming skills and design techniques. Test your robot and modify your program to navigate this awesome obstacle course. Program adapted for beginners to experts in design skills.



Test Kitchen

Appropriate for groups of 15 to 30 | Two-hour session

Explore the chemistry behind the foods people eat every day. Field trip visitors can mix, blend and concoct like a real food scientist. A new health-themed program offers even more insight into the "eat your vegetables" mindset by testing the sugar, starch, protein and fat levels in everyday foods.

To book your group or for additional information, call **816-460-2094** or email youthsales@unionstation.org.

Science City & More!

Workshop for Elementary Teachers | \$45 per person

Elementary educators will gain valuable information on inquiry-based classroom lesson plans and how to connect classroom curriculum, state standards and science principles with a Science City field trip. Participants will put Science City to the test by trying out exhibit activities and discuss how these activities relate back to the classroom. (Approved for clock hours training in Missouri and Kansas)

Science Play in Your Classroom

2-hour workshop | \$20 per person

This workshop will enable educators to successfully implement and integrate science into early childhood centers. Participants learn how to engage children in scientific thinking and reinforce science concepts in daily activities. (Approved for two clock hours training in Missouri and Kansas)

I Wonder Why ... Science & Discovery

4-hour workshop | \$40 per person

Learn to facilitate science and math learning experiences in early childhood classrooms. Science City Educators will initiate and model inquiry-based learning—the recommended teaching method for effective education with young children. Participants will engage in collaborative activities highlighting science knowledge related to popular classroom themes. (Approved for four clock hours training OR .4 CEU Credit*)

Wired for Science ... Infants & Toddlers

4-hour workshop | \$40 per person

Our youngest children are already wired for discovery learning. Guide the process through inquiry and collaborative hands-on investigative activities. Participate in engaging conversation to facilitate cognitive development in young children. Explore, investigate and unearth ways to respond to the “why” questions of even the youngest students. (Approved for four clock hours training OR .4 CEU Credit*)

* Info for completing an associated assignment for optional CEU Credits will be explained at the workshop.



Workshop Scheduling

Call (816) 460-2226 to request group training for staff members. Flexible dates and times are available. Two week advance booking and payment required. Multiple centers may convene for any workshop.

Minimum enrollment: 10

Maximum enrollment: 24

Workshops may be scheduled at Union Station or as an outreach visit at your early childhood venue. Minimum \$25 mileage fee will be added for outreach visits.