



The Greater Boca Raton Beach and Park District owns and operates Sugar Sand Park. The City of Boca Raton provides daily operation and maintenance.



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Sugar Sand Park School Programs Guide 2011–2012



Children's Science Explorium

WELCOME TO THE CHILDREN'S SCIENCE EXPLORIUM

The Children's Science Explorium is a hands-on science center designed for ages 5-12 years. We offer a variety of fascinating, interactive exhibits and programs created to enhance young explorers' understanding of everyday physical sciences.

All of the CSE's school programs and exhibits are designed to enhance classroom instruction, support the Next Generation Sunshine State Standards, provide hands-on learning, and inspire students' natural curiosity.

Your field trip begins with pre-visit activities developed by CSE staff to prepare students for their upcoming visit. The day of the trip will include a one hour program and one hour of free exploration within the museum. We also offer age-appropriate challenges for a more guided experience, as well as guided nature tours and demonstrations.

Your group will participate in a brief and informative orientation prior to their time in the museum. We ask that teachers and chaperones join in on the fun and assist students when necessary.

As a follow up and extension to the content of your chosen program, teachers will be provided with post-visit activities to conduct back in the classroom.

Everything you need to know about arranging a visit to the CSE can be found in this guide. Join us in the excitement this school year by reserving your field trip today. We look forward to hosting your group!

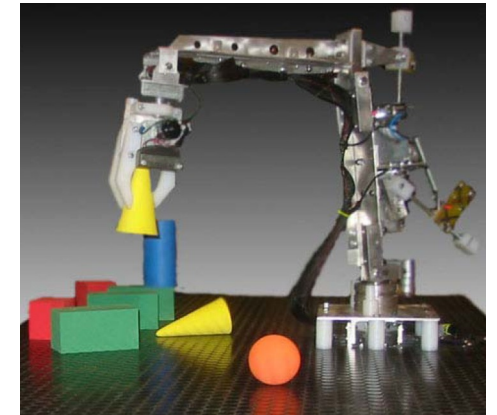
The Children's Science Explorium Staff

TRAVELING EXHIBITS

Robot Carnival, Coming in October

Robot Carnival demonstrates the use of technology through robotics - from movies to Mars and entertainment to the environment. Students will learn about the process of engineering - designing, building, testing, and modifying. Robot Carnival promotes problem solving and encourages youth to consider robotics engineering as a future endeavor.

This is no ordinary traveling show!



Blue Man Group - Making Waves, Coming in February

Blue Man Group - Making Waves is a highly interactive exhibit that features a playful and accessible approach to the science of sound. It encourages students to learn through interactive play and sensory engagement. This exhibit is a multi-sensory exploration of sound guaranteed to get students moving to a



For more information about exhibits, programs, and events visit our website at www.scienceexplorium.org.



****Note: No traveling exhibits will be on site September 12 - 30, 2011 or January 2 - 26, 2012**

Physics

Good Vibrations (K-2)

SSS: SC.K.P.10.1, SC.1.N.1.1, SC.2.N.1.1

- ◆ Explore the concept of vibrations
- ◆ Identify that sound is caused by vibrations that travel in waves through different media
- ◆ Experiment at centers to understand how sound is made
- ◆ Construct a musical instrument for continued exploration back in the classroom



Electrical Encounters (3-5)

SSS: SC.3.P.10.1, SC.3.P.10.2, SC.4.P.10.1, SC.4.P.10.2, SC.5.P.10.1, SC.5.P.10.2

- ◆ Explore the concept of electricity and differentiate between static and current
- ◆ Investigate static electricity in the form of lightning
- ◆ Identify current electricity by building circuits
- ◆ Experiment with materials to investigate conductors and insulators
- ◆ Observe a “hair-raising” demonstration with our Van De Graff generator



3-2-1 Blast-Off: Forces & Motion (3-5)

SSS: SC.3.E.5.4, SC.4.P.10.2, SC.5.P.13.1

- ◆ Explore rockets and identify their parts
- ◆ Investigate Newton’s Third Law of Motion while observing a series of demonstrations
- ◆ Identify types of energy and acting forces as a rocket is launched
- ◆ Collaboratively work in pairs to construct and launch a water rocket

(Partial Outdoor Program)

Magnet Investigations (K-2)

SSS: SC.K.N.1.1, SC.1.N.1.3, SC.2.P.8.1

- ◆ Collaboratively work in steps to complete the scientific process
- ◆ Identify properties of magnets using careful observation
- ◆ Participate in hands-on experiments with magnets
- ◆ Compare observations and ideas by sharing results with others

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HOW TO BOOK A FIELD TRIP

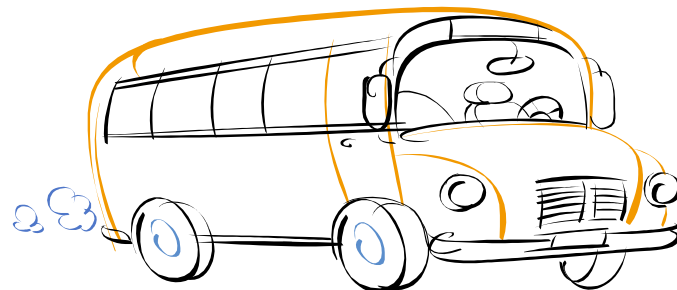
1. A reservation request form can be printed from our website at www.ScienceExplorium.org. You may email your request to Explorium@myboca.us, fax it to 561-347-3910, or mail it to 300 S. Military Trail Boca Raton, FL 33486 with attention to Science Center Educator.
2. When making a reservation please inform us if you have any students with special needs or require specific accommodations.
3. Once this information is received the reservation process will begin.
4. Within one week, you will receive a confirmation email with details of your trip.

ARRIVAL INFORMATION

The CSE accommodates 2 classes of 25 participants per day. Programs begin promptly at 10:00am and schools should arrive no later than 9:45am for all programs. If you are going to be late, please call (561) 347-3900 to inform staff. When inclement weather prohibits an outdoor program, an alternate program will be substituted.

BUS PASS INFORMATION

- ◆ Bus passes issued by Sugar Sand Park must accompany all groups using buses or passenger vans.
- ◆ Buses without passes will not be permitted in the park.
- ◆ A bus pass for your entire grade will be e-mailed to the teacher who made the original reservation approximately one month before your visit.
- ◆ To enter Sugar Sand Park, your bus pass must be displayed inside the front windshield of your bus. Failure to properly display your bus pass may result in your bus being denied access to the property and reducing your program time.



General Science Skills

Know Your Rock (1-2)

SSS: SC.1.N.1.1, SC.1.E.5.3, SC.1.E.6.1, SC.2.E.6.2

- ◆ Learn what it means to make observations using one or more of the five senses
- ◆ Collectively describe an object in as much detail as possible
- ◆ Explore the definition of a rock by actively participating in "My Secret Rock"
- ◆ Discover different types of rocks in a rock dig
- ◆ Select one special rock to take home

Build It: Engineering (3-5)

SSS: SC.3.N.1.1, SC.3.N.1.3, SC.4.N.1.3, SC.4.N.1.8, SC.5.N.1.5

- ◆ Investigate concepts of engineering by raising questions and experimenting in teams
- ◆ Record data in the form of simple charts
- ◆ Explore the idea that science does not always follow a rigid method
- ◆ Construct a model while using creativity and design skills
(Partial Outdoor Program)

Biology

Body Science: Healthy Habits (K-2)

SSS: SC.K.N.1.3, SC.K.L.14.1, SC.1.L.17.1, SC.2.L.14.1

- ◆ Identify that living things grow and change
- ◆ Understand that people need food for survival
- ◆ Explore the concept of nutrition and its importance for growth and function
- ◆ Investigate foods to learn how to make healthy choices

Clues of the Past (3-5)

SSS: SC.3.N.1.6, SC.4.N.1.7, SC.5.N.1.2

- ◆ Investigate the use of present artifacts to make inferences about the past lives of Tequesta Native Americans
- ◆ Explore evidence and create scientific explanations
- ◆ Differentiate between an experiment and other scientific explanations
- ◆ Explore Florida history by discussing "trash mounds"



Body Science: Cell Theory (3-5)

SSS: SC.3.N.1.3, SC.4.L.17.2, SC.5.L.14.1

- ◆ Identify that all living organisms are made of cells
- ◆ Investigate the structure & function of cells
- ◆ Explore the concept of cells as building blocks for tissues, organs, and body systems of humans
- ◆ Identify some of the major body systems, organs within these systems, and how they function together
- ◆ Construct an edible cell model

Earth Science continued

Mineral Mystery (2-4)

SSS: SC.2.E.6.1, SC.2.E.6.2, SC.3.P.8.3, SC.4.E.6.2

- ◆ Learn the properties of a mineral
- ◆ Identify minerals and their uses in our daily lives
- ◆ Investigate basic techniques used to identify minerals with the use of test kits
- ◆ Record and interpret data to compare and identify unknown minerals
- ◆ Take home a mineral keepsake

Rock and Erode (3-5)

SSS: SC.3.P.8.3, SC.4.E.6.1, SC.4.E.6.4, SC.4.p.10.4, SC.5.N.1.5

- ◆ Investigate the properties of rocks and identify the three rock types
- ◆ Explore rock formation and stages of the rock cycle
- ◆ Experiment with a stream table to understand the effects of weathering and erosion
- ◆ Take an "incredible journey" through the rock cycle

(Partial Outdoor Program)



Chemistry

Icky Squishy Matter (K-2)

SSS: SC.K.N.1.1, SC.K.P.8.1, SC.K.P.9.1, SC.1.N.1.2, SC.1.N.1.3, SC.2.P.8.2, SC.2.P.8.3, SC.2.P.9.1

- ◆ Explore the concept of matter and its various states
- ◆ Discuss how chemistry is used in our everyday lives
- ◆ Observe a chemical reaction and phase changes
- ◆ Model safe laboratory procedures as students actively participate in making and taking home a gooey concoction



Radical Reactions (3-5)

SSS: SC.3.N.1.3, SC.4.N.1.1, SC.4.P.9.1, SC.5.P.9.1

- ◆ Review the definitions of chemistry and matter
- ◆ Differentiate between chemical and physical reactions
- ◆ Incorporate steps of the scientific method through observation and experimentation
- ◆ Model safe laboratory procedures while recording and interpreting "bubbling" results

LUNCH

- ◆ A pavilion reservation is included with your field trip.
- ◆ The CSE has large bins to hold lunches.
- ◆ Please have students pack lunches in airtight containers to keep food dry and away from animals.
- ◆ Teachers and chaperones are responsible for distributing lunches to students.
- ◆ Bins will be collected once lunches have been distributed.
- ◆ Students and chaperones are responsible for cleaning up their lunch area.
- ◆ ***Please do not allow children to feed the animals.**

CHAPERONES

- ◆ Recommended: 1 chaperone per 7 students.
- ◆ Please ask chaperones not to bring students' siblings on the field trip; they may take away from students' learning experience and distract chaperones. They will not be permitted in the classroom.
- ◆ Teachers and chaperones are responsible for their students at all times and are *expected and encouraged to be involved in the programs.*
- ◆ Staff reserves the right to ask any group to leave due to disorderly or inappropriate behavior.
- ◆ Cell phones are prohibited during programs and tours. Please silence them.



SCIENCE PLAYGROUND AND CAROUSEL

- ◆ Both are located adjacent to the Family Pavilion.
- ◆ **The Science Playground** is a unique three-level facility featuring many interactive components. A limited water area is available. Children are advised to bring a towel and a change of clothes if they plan on getting wet. Should you decide your students are NOT allowed in this area, you have the option of avoiding it upon entering the playground. The water will be turned off when the temperature falls below 72 °F.
- ◆ **The Carousel** has 30 colorful horses and 2 chariots. Each class is issued a voucher for a free ride.
- ◆ Chaperones MUST distribute themselves around the Playground and Carousel to supervise and oversee students' behavior and activities. Please remind students to watch out for younger children who may also be using the playground.



SCIENCE PROGRAMS

Earth Science

STARLAB:

From Night to Day (K-2)

SSS:SC.K.E.5.2, SC.K.E.5.3, SC.K.E.5.4, SC.K.E.7.1

- ◆ Identify that the sun provides energy in the form of light and heat
- ◆ Investigate the position of the sun in the sky as it appears to change throughout the day
- ◆ Explore the night sky in our StarLab
- ◆ Construct a sky scope for continued exploration back in the classroom

STARLAB:

Exploring Our Galaxy (5)

SSS:SC.5.E.5.1, SC.5.E.5.2, SC.5.E.5.3

- ◆ Identify the objects that make up our galaxy
- ◆ Compare properties of the inner and outer planets
- ◆ Discuss the influence of gravity and energy in the formation of galaxies, stars, and solar systems.
- ◆ Explore the solar system in our StarLab

Digging Deep: Fossil Hunt (K-2)

SSS: SC.K.N.1.1, SC.K.N.1.3, SC.1.N.1.3, SC.2.P.8.1

- ◆ Define a fossil and discuss fossil formation and types
- ◆ Work in teams in our sand site to uncover and identify fossils
- ◆ Discover the origin and identity of all of the fossils collected
- ◆ Take home a fossil keepsake
(Outdoor Program)

STARLAB:

Moon and Stars (3-4)

SSS:SC.3.E.5.1, SC.3.E.5.2, SC.3.E.5.3, SC.4.E.5.1, SC.4.E.5.2, SC.4.E.5.3

- ◆ Identify the sun as a star that emits energy
- ◆ Investigate the changes in the observable shape of the moon
- ◆ Observe the patterns of the night sky in our StarLab
- ◆ Explore the reasons why stars seem to shift across the sky



Reasons for Seasons (1-2)

SSS: SC.1.E.6.3, SC.2.E.7.1, SC.2.E.7.5

- ◆ Identify that Earth revolves around the sun
- ◆ Discuss how the sun provides energy in the form of light and heat
- ◆ Examine patterns in weather, comparing Florida to other areas in the U.S.
- ◆ Experiment with weather instruments
- ◆ Leave with a "cool" batch of insta-snow