

SPRING 2019



Children's
Science
Explorium



Public Programs Guide



Welcome

The Children’s Science Explorium is a hands-on science center designed for children ages 5-12 and their caregivers. We offer fascinating and interactive exhibits, programs and camps that bring science to life.

TABLE OF CONTENTS

Information

Mission Statement	3
How to Register for Programs.....	4
Group Reservations.....	4

Permanent Exhibit	5
-------------------------	---

Traveling Exhibit

Under the Arctic: Digging into Permafrost	6
---	---

Explore the Outdoors

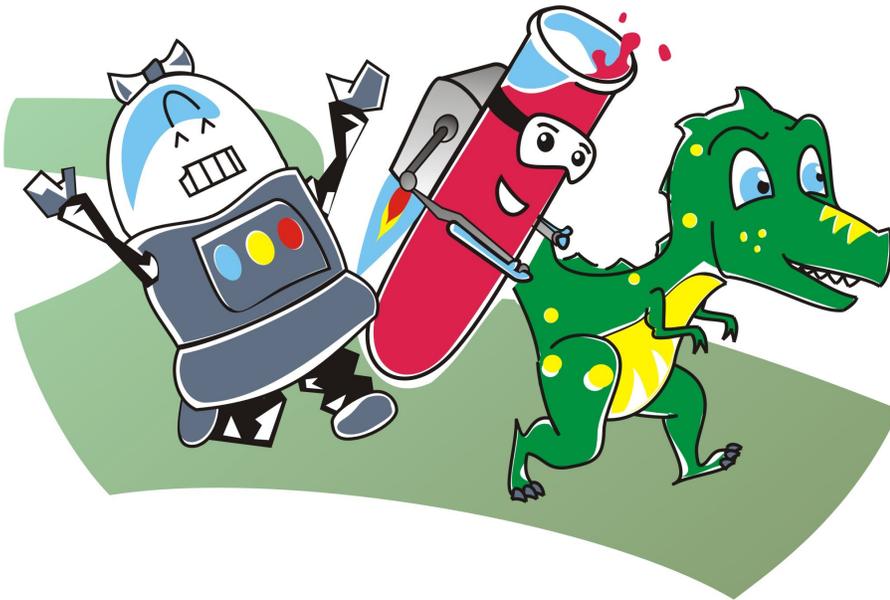
Science Garden	7
Earthcaching	7
Wildlife Explorers	7

Every Day in the Explorium

Challenge Sheets	8
Grab n’ Go Eco Packs	8
Experiment Express	8

Evenings and Weekends

Eyes to the Skies.....	9
Friday Night at the Museum.....	9
Expedition: Sugar Sand Park Science Playground	9
Science Stories	10
Sensory-Friendly Saturdays	10
Make & Takes	10
Weekend Demonstrations	10



A Season of Science

Explorium Science Squad.....	11
Early Afternoon Explorers	13

Birthday Party Programs

Birthday Gack Attack	14
Buccaneer Birthday Bash	14
Jurassic-tastic Birthday Quest	14
Super Hero Academy	14

Camps and Days Off

Great Escape Day.....	15
Spring Break Blast.....	15
STARLAB Adventure	16
Volunteer Here	16
Summer Science Camp	17

Scout Programs

19

Easy At-Home Experiments

Simple Slime	21
Make Your Own Lava Lamp.....	21
Sound Sandwiches	21

INFORMATION

Our Mission

The mission of the Children's Science Explorium (CSE) is to inspire young learners' natural curiosity about the physical world through exploration and inquiry. We strive to increase public understanding of and interest in science and technology through interactive exhibits and hands-on programs. We encourage family learning and enrichment through community involvement and life-long learning opportunities.

The CSE works to achieve this mission by:

- Providing inquiry-based learning opportunities, where children are encouraged to explore and make their own discoveries.
- Providing fun, interactive, and kid-friendly exhibits that relate to every day experiences with the physical sciences.
- Providing a diverse array of programming, including formal school programs, after school, weekend and family programs, camps, and special events.
- Providing creative, friendly, and knowledgeable staff to share their enthusiasm for science with visitors.



INFORMATION CONT'D...



How to Register for Programs

Register in person at the front desk of the Sugar Sand Park Community Center or online through WebTrac (residents will need to register in person the first time in order to set up a WebTrac account).

Resident and Non-resident fees apply. Residents live within the Greater Boca Raton Beach and Park District or the City of Boca Raton. Proof of residency needs to be provided during the first time registering (utility bill, mortgage bill, lease, etc).

Parents/Legal Guardians must register their own children for each program.

Registration for classes and programs begins December 1, 2018. Participants must pre-register at least **one (1) day in advance** of the chosen program to ensure enough space and materials are provided.

All participants must be signed-in and promptly picked up at the end of each program.

Group Reservations

Advanced reservations are required for any group of 10 or more wishing to visit the Children's Science Explorium or the Science Playground, or to use the Sugar Sand Park Pavilions on a weekday. All groups must be based within the Greater Boca Raton Beach and Park District or the City of Boca Raton. Explorium-issued passes must be present for admittance to Sugar Sand Park.

To schedule a group visit and obtain a pass, please call (561) 347-3906.

EXHIBITS:

PERMANENT EXHIBIT

Children's Science Explorium

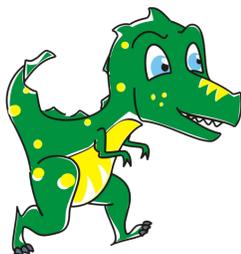
The Children's Science Explorium presents its own hands-on science exhibits all year long. These exhibits are usually designed in-house and offer a fascinating variety of interactive components for our guests to explore and investigate at their own pace.

Whether it's solid, liquid, or gas, aerodynamic or anti-gravity, elliptical or electrical, our permanent exhibit has a little something to engage every young scientist!



Monday-Friday.....9am - 6pm
Saturday, Sunday, & Holidays.....10am - 5pm
December 24th & 31st.....10am - 2pm
New Year's Day, Thanksgiving & Christmas.....Closed

While our exhibit hall is designed for ages 5-12, with a focus on elementary level concepts, all ages are welcome with parent supervision.



TRAVELING EXHIBIT

Opening February 2019



Have you ever seen a mammoth tooth up close or wondered what the Ice Age smelled like? Step into the shoes of climate science researchers, piece together clues, and solve engineering challenges posed by thawing permafrost in Under the Arctic: Digging into Permafrost. This interactive exhibit weaves together real narratives from people whose lives have been impacted by the changing global climate, highlighting the resiliency and ingenuity of everyday communities. Incorporating the sights and smells of the Western Hemisphere's only permafrost research tunnel, and Ice Age fossils, Under the Arctic: Digging into Permafrost is an immersive exhibit experience for all ages.



Under the Arctic: Digging into Permafrost was produced and is toured by the Oregon Museum of Science and Industry. The exhibit was developed in collaboration with the Geophysical Institute at the University of Alaska Fairbanks and made possible by a National Science Foundation (NSF) grant.



A night of fun in our new exhibit
before it opens to the public!

Fri, Jan 25 from 7-9pm

EXPLORE THE OUTDOORS

Science Garden Ages 5+

Step outside and discover your inner naturalist in our Science Garden. Don't forget to ask a staff member for Discovery Trail and Science Garden challenge sheets!

Cost: Free

Dates & Times: Garden accessible during park hours.

Challenge sheets available during Explorium hours.



Earthcaching Ages 7+

Test your GPS technology skills and outdoor field knowledge by participating in our Earthcaching program.

Cost: Free

Dates & Times: Available during Explorium hours.

Wildlife Explorers Ages 5–11



Created by the National Recreation and Parks Association, this 6-week program gives children an opportunity to connect with nature in local parks. Program will take place at Sugar Sand Park and Gumbo Limbo Nature Center. Workbooks and supplies will be provided. This is a guided outdoor activity, so please dress accordingly. (Max-20 children per week).

Cost: Free

Time: 10am-11am. Final session on 3/16 will run from 10am-12pm.

Dates: Saturdays Feb 9, Feb 16, Feb 23, Mar 2, Mar 9*, Mar 16*

*Meet at Gumbo Limbo Nature Center

EVERY DAY AT THE EXPLORIUM



Challenge Sheets

Ages 5+

Take your visit to the Explorium to the next level by asking a staff member for a **challenge sheet**! No matter your age or grade level, we have a challenge for you.

Challenge sheets are a FREE way to enhance your experience at the Explorium during normal business hours. We have both **indoor** and **outdoor** challenges, so take your pick between the natural and physical sciences.

Use your deduction skills to answer questions about our exhibits. Answer them correctly and win a prize!

Grab n' Go Eco Packs

Ages 5+

Set out to explore Sugar Sand Park! Backpacks are supplied with materials to guide your family through an investigation of the plants, insects and birds of the park.

Renter must be 18 or older and provide a valid ID to be held during time of rental. Packs are designed for individual use, or small groups of up to 4 people.

Dates & Times: Available during Explorium hours. Packs must be returned at least 30 minutes before closing.



Experiment Express

Ages 5+

What's that over there? It's cool science on the fly! Catch us doing an impromptu science demo at our Experiment Express cart whenever the urge strikes.

From precious stones to animal bones, our staff and volunteers are always excited to show you something new!



WHAT'S HAPPENING: EVENINGS AND WEEKENDS!

Eyes to the Skies

Ages 8+

Explore the night sky with our professional grade telescope. All children under 18 must be accompanied by an adult. Stars must be visible for the telescope to align. In case of poor weather, program will be moved to our indoor STARLAB planetarium.

Cost: Free

Dates & Times: One Friday a month

Jan 11 6:30pm; Feb 15 7:30pm; Mar 15 8:30pm
Apr 12 8:30pm; May 10 8:30pm



Friday Night at the Museum Ages 7-12

Kids, it's a night out without your parents! Join the staff for "after hours" pizza & a movie, exclusive access to the exhibits, and a fun hands-on science experiment! Pre-registration is required. Sign up for a full season in one transaction to earn FREE swag!

Cost: Resident \$20; Non-resident \$25

(\$7 discount for each additional child in the same household)

Dates & Time: One Friday a month, 6-9:30pm

Jan 18, Feb 8, Mar 8, Apr 19, May 17



Expedition: Sugar Sand Park Science Playground Ages 5+

Put your thinking caps on and join us as we take a closer look at the scientific principles found within our inclusive Science Playground.

Cost: Free

Dates & Time: Second Saturday of each month, 9-10am

Jan 12, Feb 9, Mar 9, Apr 13, May 11

Science Stories Ages 5+

Every once in a while, we all like to sit down and relax with a good book. That's why we hold a story time every Saturday morning, where we read some of our favorite science-themed books and host a free activity to engage our younger patrons.

Cost: Free

Dates & Times: Every Saturday at 11:30am



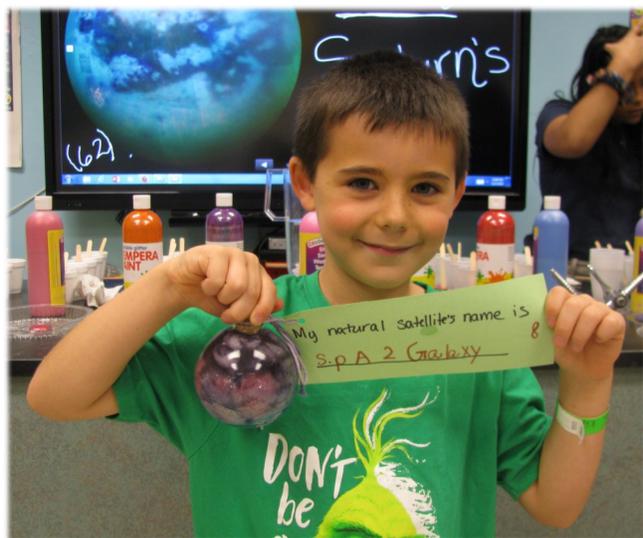
Sensory-Friendly Saturdays Ages 5+

The first Saturday of each month we invite children with special needs and their families to explore the museum in a sensory-modified setting with sound and lighting adjustments. Call 561-347-3906 for additional information.

Cost: Free

Dates & Time: First Saturday of each month, 9-10am

Jan 5, Feb 2, Mar 2, Apr 6, May 4



Make and Takes

Ages +5

Join us each month to build something remarkable! We'll learn about science concepts by making a fun craft to take home. Each month we'll try something new.

Cost: \$5 per project.

No pre-registration is required.

Dates & Times: First Sunday of each month, 11:30am & 12pm*

Jan 6, Feb 3, Mar 3, Apr 7, May 5

***Supplies are limited!** Sales for both 30-minute sessions begin promptly at 11:30am.

Weekend Demonstrations Ages 7+

One weekend each month, the Explorium hosts free Science Demos. Engaging explanations combined with audience participation create an enjoyable learning experience for visitors!

Cost: Free

Dates & Time: One weekend of each month, 3:30pm

Jan 19 & 20

Feb 23 & 24

Mar 16 & 17

Apr 20 & 21

May 18 & 19

WHAT'S HAPPENING: A SEASON OF SCIENCE

Explorium Science Squad Ages 5-9

Here's your chance to **EXPLORE MORE!**

Join us at the Explorium for a fun and hands-on learning experience. Every month we will spend an hour investigating a new topic and working as a team to discover something remarkable!

Classes meet once a month, and are offered by age. On Tuesdays, budding scientists (Ages 5-6) and their parents are invited to take on the fundamentals of scientific principles. Wednesday classes are for our more experienced researchers (Ages 7-9), who will work together to dig deeper into the topics at hand.

Registration: Students can sign up for individual classes or the entire season. All registrations must be made at least one day in advance.

Enroll in the full season (Jan-May) in one transaction for your FREE Explorium Science Squad Swag!

Cost per session: Resident \$10; Non-resident \$12.50

Times: 4-5pm each session

January— Under Pressure

What's more fun than a rocket ship blasting off? Set aside some time to come explore the science of explosions

Dates and Ages

Tue, Jan 8 for ages 5-6*

Wed, Jan 9 for ages 7-9

February— Under the Arctic

Join us as we navigate the underground world of permafrost in our brand new traveling exhibit.

Dates and Ages

Tue, Feb 5 for ages 5-6*

Wed, Feb 6 for ages 7-9





March— Fly, Glide & Slide

Come discover the laws of gravity, friction & motion by experimenting on the science playground.

Dates and Ages

Tue, Mar 5 for ages 5-6*

Wed, Mar 6 for ages 7-9



April— Swamp Science

The Florida Everglades is our backyard! Join us as we discover the secrets of the swamp and how it effects our community.

Dates and Ages

Tue, Apr 2 for ages 5-6*

Wed, Apr 3 for ages 7-9

May— Clues of the Past

Explore Florida’s history as we take a closer look at artifacts from archaeological sites and recreate some tools of the past.

Dates and Ages

Tue, May 7 for ages 5-6*

Wed, May 8 for ages 7-9

***Parent must accompany child during this program.**



Sign up for a full season

For your **FREE** Scientist Apron, Goggles & Gloves!



A SEASON OF SCIENCE CONT'D...

Early Afternoon Explorers Ages 7-12

Are you ready for something **DIFFERENT?**

These monthly, hour-long classes for **home-schoolers** offer explorers a chance to participate in fun, social and educational science programs! Each month's lesson will focus on a different topic of scientific inquiry, with hands-on activities and immersive learning experiences.

Registration: Students can sign up for individual classes or the entire season. All registrations must be made at least one day in advance.

Enroll in the full season (Jan-May) in one transaction for your **FREE Scientist Apron, Goggles & Gloves**

Cost per session: Resident \$10; Non-resident \$12.50



January: Explode!

Dates, Times and Ages

Mon, Jan 14

Ages 6-9, 1-2pm

Ages 10-12, 2-3pm

February: Permafrost

Dates, Times and Ages

Mon, Feb 11

Ages 6-9, 1-2pm

Ages 10-12, 2-3pm

March: Hovercrafts

Dates, Times and Ages

Mon, Mar 11

Ages 6-9, 1-2pm

Ages 10-12, 2-3pm

April: Wetland Wonders

Dates, Times and Ages

Mon, Apr 8

Ages 6-9, 1-2pm

Ages 10-12, 2-3pm

May: Amazing Archaeology

Dates, Times and Ages

Mon, May 13

Ages 6-9, 1-2pm

Ages 10-12, 2-3pm



WHAT'S HAPPENING: BIRTHDAY PARTIES

The Children's Science Explorium and Sugar Sand Park offer programs to make your child's next birthday a memorable one! Program costs include room reservation and a 1 hour program for up to 15 participants.

Call (561) 347-3900 to book your reservation today.

Cost: Resident \$170; Non-resident \$212.50



Birthday Gack Attack

Ages 5-7

Intrigued by messy fun and crazy concoctions? Let's throw on our aprons and goofy goggles, and experiment with slimy science, chemical reactions and more! Participants will make and take their own gooey gack home!

Buccaneer Birthday Bash

Ages 4-9

Do you dream of sailing the seven seas? Hunting for treasure? Making your own boat and weathering ocean storms? Join the Explorium staff for a swashbuckling birthday as your pirate crew helps you celebrate with a special "Captain's" big day. This pirate birthday crew will build a boat, make a treasure map or dig for their own buried treasure, and create a hurricane of fun!

Jurassic-tastic Birthday Quest

Ages 4-9

Is your young adventurer looking for the ultimate birthday quest? Join us as we investigate some of the most ferocious creatures to ever walk the earth. Excavating ancient fossils and interpret clues from the past, just like a real paleontologists!

Super Hero Academy

Ages 4-9

Calling All Superheroes: There's a villain on the loose and it's weakness is birthday fun! Put on your mask and get ready to use your Super Speed, Super Strength, and most of all, your Super Science Skills to save the day!

EXPLORIUM

WHAT'S HAPPENING: CAMPS AND DAYS OFF

Great Escape Day

Ages 6-12

A school day off got you down? Ready to get out of the house? Come join the Explorium staff for the fun side of science – experiments, outdoor fun and something to take home! Don't forget to pack a lunch.

Pre-registration is required.

Cost: Resident \$25; Non-resident \$31.25

Dates & Times:

Mon, Jan 21, from 10am-2pm



Spring Break Blast Grades 1-5

Spend part of your Spring break with the Children's Science Explorium! We have days filled with activities, experiments, games and more! Sign up for just one day or all week! Don't forget to pack a lunch.

Pre-registration is required.

Cost: Resident \$107/week, \$25/day; Non-resident \$134/week, \$31.25/day

Dates & Times:

Mon, Mar 18 through Fri, Mar 22, each day 9am-1pm





STARLAB Adventure Ages 6-12

Do not miss out on this world of adventure! Come join us as we enter our inflatable STARLAB to explore what lies within our galaxy. Pre-registration is required.

Cost: Resident \$10; Non-resident \$12.50

Date: Fri, Mar 22 **Time:** 2-3pm

Volunteer Here!

The Children's Science Explorium is always looking for dedicated volunteers to get involved in our community. Whether you enjoy teaching, working with kids, or have a passion for science, come find your place here at the Explorium!

Positions available:

Museum Guides, Butterfly Guardians, and Science Camp Counselors.

Process:

Applicants must be 14+ years of age (15+ for camp counselor positions).

Pick up an application or find one on our website. Complete the application and submit it in person or through email to Christie Collins: ccollins@myboca.us

Please note background checks are completed for all individuals prior to their acceptance into the Explorium volunteer program.

Volunteers under age 18 must have parent or guardian approval.

EXPLORIUM



Science Camp offers your child an exciting and fun opportunity to explore the world around us. Campers entering 1st through 5th grade will experience a different science theme, consisting of three activities, each day. We will engage in tons of exciting experiments that will be sure to entice the curious mind of your budding scientist.

All camps are hands-on, and emphasize active learning and fun. Science Camp is comprised of eight one-week sessions, running from June 10 to August 2. Due to the popularity of the program and limited number of spaces, each child will only be permitted to attend one session of camp per summer.



Open House

After you register, mark your calendar for Camp Open House on June 8. At open house, your campers will pick up their camp uniform and meet their camp counselors.

This also gives you an opportunity to learn about the camp program, ask questions and make sure that your camper is ready to go on their first day.

Open House is not required, but **highly recommended**.

Date: Sat, June 8 **Time:** 10am-noon

How to Register

Registration for residents will begin **Monday, March 25**, and registration for non-residents will begin **Monday, April 8**.

You may register in person at the Sugar Sand Park Community Center front desk, or any other Boca Raton Community Center. Online registration is available for City of Boca Raton WebTrac users.

Note: If you are not already a WebTrac user, you will have to register in person at any of Boca Raton's Community Centers.

Cost per week: Resident \$107; Non-resident \$134

Times: 9am-1pm daily. Extended hours programs are available through the Sugar Sand Park Community Center.



Dates:

- June 8
- June 10 - 14
- June 17 - 21
- June 24 - 28
- July 1 - 5
- July 8 - 12
- July 15 - 19
- July 22 - 26
- July 29 - Aug 2

Sessions:

- Open House
- Entering Grades 1 - 2
- Entering Grades 1 - 2
- Entering Grades 1 - 2
- Entering Grades 3 - 5
- Entering Grades 3 - 5
- Entering Grades 3 - 5
- Entering Grades 1 - 2
- Entering Kindergarten*

* Kindergarten Camp

Water, Water Everywhere is the theme for rising kindergarteners. They will discover the wonders of water in our bodies, in the ground, in the air and more, as they are introduced to science as a fun and exciting method of discovery. Our program focuses on learning basics and classroom skills to help prepare your child for the year ahead.

WHAT'S HAPPENING: SCOUT PROGRAMS



Do you have a Scout Group?

Whether you're a boy or girl – Wolf Cubs to Webelos and Brownies to Cadettes - we have awesome programs just for you! Any troop with Scouts ages 5-12 is welcome to participate in specially designed programs to help meet the requirements of loops, badges and other merits.

Girl Scout Programs

Brownie

- Inventor Badge (2 hr)
- Bugs Badge (1 hr)
- Senses Badge (1 hr)

Junior

- Detective Badge (2 hr)
- Gardener Badge (1 hr)*
- Geocache Badge (2 hr)⁺

Cadette

- Trees Badge (1 hr)
- Special Agent Badge (2 hr)
- Night Owl Badge (2 hr)⁺

Cub Scout Programs

Wolf Cub Badges

- Air of the Wolf (1 hr)
- Finding Your Way (1 hr)*
- Germs Alive! (1 hr)

Bear Cub Badges

- Fur, Feathers and Ferns (1 hr)
- Forensics (1 hr)
- Super Science (1 hr)

Webelos Badges

- Adventures in Science (1 hr)
- Earth Rocks! (1 hr)

⁺Denotes programs which are weather permitting. Programs canceled due to poor weather will be rescheduled or refunded.

Scheduling a Program

- Programs are available on weekdays only, and Scout leaders must ensure availability and secure date six weeks prior to desired program date. For reservations and additional information, call (561) 347-3905.
- Please arrive 15-20 minutes prior to scheduled time so that we may begin your program on time.

Note: The Night Owl Badge program must coincide with scheduled Eyes to the Skies dates (see page 9).

Cost

- Maximum of 20 Scouts, minimum of 10
- Resident Troops are those based within the City of Boca Raton and/or the Greater Boca Raton Beach and Park District.

Resident Troops

- 1 hour program: \$100 for the first 10 Scouts; \$7.00 each additional Scout.
- 2 hour program: \$150 for the first 10 Scouts; \$10.50 each additional Scout.

Non-resident Troops

- 1 hour program: \$125 for the first 10 Scouts; \$8.75 each additional Scout.
- 2 hour program: \$187.50 for the first 10 Scouts; \$13.00 each additional Scout.

Additional Information

- Troop Leader and chaperones must accompany Scouts during program and follow all Scout chaperone requirements.
- Payment will be made by the Troop Leader upon reservation. No refunds.
- Troop Leader will be responsible for collecting signed waivers from all parents of Scouts and returning them **no later than 3 days prior to the program date**. Any Scout without a signed waiver will not be eligible to participate in the program.
- Any missing payments or waivers not received within 3 days from the program date will result in cancellation of the program.
- Siblings and other age-appropriate "tagalongs" are permitted and must be registered as a Scout if they will be participating in the program.

BRING SCIENCE HOME: EASY AT HOME EXPERIMENTS

Milky Fireworks



Materials:

- 1 cup whole milk
- Food coloring
- 1 tbs dish soap
- 1 Q-tip

Directions:

1. Pour the milk into a flat container, like a pie tin. Add a few drops of food coloring the milk close to the center of the container.
2. Cover the end of a Q-tip with dish soap, then dip the soapy end into the milk and watch what happens!

What Happened? Soap can break the bonds between fat molecules. This is why soap is so great at cleaning! When this happens, it looks like the milk is running away from the soap. This effect, together with the food coloring, creates beautiful bursting fireworks!



Secret Agent Notes

Materials:

- 1 sheet of paper
- 1 lemon
- 1 Q-tip
- Hair dryer

Directions:

1. Squeeze the lemon into a bowl.
2. Using the Q-tip as a paint brush, write a secret message with the lemon juice on a sheet of paper. When the lemon juice dries, your message will disappear!
3. When you are ready to reveal your message, use a hair dryer to heat up the sheet of paper. The lemon juice will turn brown and reappear!

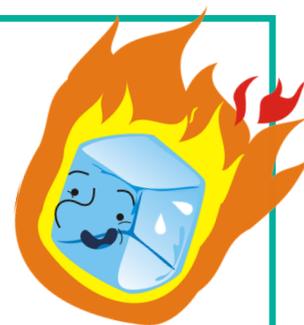
What Happened? When you heat up the lemon juice, it decomposes and releases carbon. The carbon oxidizes when it touches the air, allowing you to see the message again. Oxidation is also what causes apples and avocados to turn brown!



Hot Ice

Materials:

- 4 cups of white vinegar
- 4 tbs of baking soda



Directions:

1. Add the vinegar to a pot, then slowly add the baking soda. Watch for bubbles! Stir to mix, and we've created sodium acetate!
2. Boil the mixture until it is reduced to about 1 cup of liquid. Crystals may begin to form around the edge of the pot; sprinkle a pinch of these onto a dish.
3. Transfer the liquid to a glass measuring cup and place in fridge for 30-45 minutes. Remove *very* carefully.
4. *Slowly* pour the liquid onto the reserved crystals on the dish, and watch it crystallize like magic! Does it feel hot or cold?

What Happened? We super-cooled our sodium acetate, and then caused it to crystallize! When sodium acetate crystallizes, it releases heat.

Children's
Science
Explorium



EXPLORIUM



Children's Science Explorium



Visit Us

Monday – Friday 9am to 6pm

Saturday, Sunday and Holidays 10am to 5pm

The Children's Science Explorium is closed
Thanksgiving Day, Christmas Day and New Year's Day.

Contact Us

(561) 347-3912

Explorium@myboca.us

www.ScienceExplorium.org

Sugar Sand Park

300 South Military Trail

Boca Raton, FL 33486

Follow Us



@SugarSandPark

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



Board of Commissioners

Susan Vogelgesang

Steve M. Engel

Erin A. Wright

Craig F. Ehrnst

Robert K. Rollins, Jr.

