



2015 SPARK Family STEAM Night Program

Thursday October 22, 5:00-8:00 PM

Presentations are grouped into 7 categories and color coded by subject and/or type.

*Open exhibits cover multiple categories and do not require registration. For all other presentations, registration is **strongly encouraged**, as space is limited.*

Open Exhibits (7)	Red
The Arts (5) – ALL NEW for 2015!	Blue
Animal Biology (10)	Yellow
Human Biology (2)	Pink
Environmental & Earth Science (5)	Green
Physics and Chemistry (2)	Brown
Engineering (3)	Grey

Open Exhibits in the Courtyard and Cafeteria, 5:00 – 6:30 PM

Title	Description	Presenter
G³ Robotics	The award winning robotics team from Grady High School who design, construct and operate robotic technology will be demonstrating robots they have built and give SPARK students a chance to test drive robots and learn about building them.	Andrew Nichols, Grady High School Math Teacher and Coach of Grady's FIRST Robotics Team 1648
The FIRST® LEGO® League: Sport For The Mind	The FIRST LEGO League (FLL) and Jr. FLL introduce students to the fun and excitement of science and technology while building self-confidence, knowledge, and valuable career and life skills. Alongside adult Mentors and Coaches, FLL teams solve problems using engineering concepts, presentation techniques, programming, and robots. Come see what SPARK's FLL teams created last year and "drive" the robots on the obstacle course yourself!	David Lindabury, FLL coach and SPARK Parent of 5 th Grader Evan and 3 rd Grader Ryan
Oobleck and Vortex Ring Generator	Some of the best scientific demonstrations are things that can be put together with things from home. Watch what happens when you fill a baby pool with a non-Newtonian substance. Create "smoke" rings with a garbage can and a trash bag then watch it shoot a cup off of someone's head from 20 feet away!	Preston Ladds, SPARK Parent of 4 th Grader Herbert "Quade" and 2 nd Grader Jack
Brain Buffet	Have you ever seen a brain in real life? How about five? Come learn about neuroscience through hands-on activities. It's a no-brainer!	Jennifer Merritt, Graduate Fellow, Department of Psychology, Emory University
Bugs that Live on My Head	Learn about bugs that can live in your hair! Everyone and anyone can get head lice. Learn how people get it, ways to help prevent getting it and see real examples of mounted head lice and nits!	Jennie Lasater and Molly Brandenberger, Owners of Lice Ladies Atlanta
The Architect's Work	A talk on the architect's profession and how a home gets designed from concept to finished construction. What are the principles behind every good building design? How does the architect work within a team to get the building built successfully? We will look at preliminary sketches, finished construction drawings, a model, and during-construction and finished photos of a specific residential project.	DJ Betsill, Project Manager, Summerour & Associates, Architects
Arbonne Vegan Protein Smoothie Tasting Booth	Come taste a delicious and healthy smoothie! From Arbonne International, a SPARK Partner.	Renee Klein, a SPARK Partner and Parent of 5 th Grader Cortney and 2 nd Grader Carter

The Arts: ALL NEW for 2015!

Title	Description	Presenter	
<p>Interactive Art Experience</p> <p>Kids (3 to 103) Build Gigantic Pop-up Cup Sculptures Together!</p> <p>Olmstead Building Room 306</p>	<p>Local artist Dave Savage will share his passion for art and the many forms it takes in his life. He will first highlight two on-going projects that use nature as a medium, balanced art sculpture, and moss bonsai gardens. He will then show us how everyday objects can also lead to artistic inspiration, Parents and children will participate in building an interactive art installation out of hundreds of disposable cups!</p>	<p>Dave Savage</p>	<p>A: 6:00-6:30</p>
			<p>B: 6:40-7:10</p>
			<p>C: 7:20-7:50</p>
<p>Alliance Theater's Acting Workshop</p> <p>Olmstead Building Room 302</p>	<p>Children will be able to explore literacy by using drama techniques designed to deepen their creativity, critical thinking, communication and collaboration. Participants in this 25 minute workshop will be introduced to examining and dramatizing a story by using the tools of the actor: body, voice and imagination. There are three sessions designed to be developmentally appropriate for the budding thespians! Parents are encouraged to sign children up based on their current grade.</p>	<p>Andrea Washington, Teaching Artist for the the Alliance Theatre, Professional Actor, and Educator</p>	<p>A: 6:00-6:30 K-1st Grades only</p>
			<p>B: 6:40-7:10 2-3rd Grades only</p>
			<p>C: 7:20-7:50 4-5th Grades only</p>
<p>Your personal slogan: Why you need one, and how it can change your life</p> <p>From KNOCK Music House</p> <p>Olmstead Building Room 204</p>	<p>Most everyone can recognize the slogans of the world's major brands. What messages do those slogans tell you about the brand? How does it make you feel? Discover why major advertisers create simple slogans and why they use them to sell their products. During this workshop you will learn how to use those strategies to create a personal slogan that sets you apart from the crowd and makes you memorable.</p>	<p>Alfredo Isaac, Executive Creative Director KNOCK Music Group KNOCK Music House, a SPARK Partner</p>	<p>A: 6:00-6:30</p>
			<p>B: 6:40-7:10</p>
			<p>C: 7:20-7:50</p>
<p>Cooking with the Incredible Edible Egg</p> <p>Olmstead Building Room 202</p>	<p>Eggs are crucial in cooking, especially baking. Learn how the egg is constructed. How and why can you tell a good egg from a bad egg without cracking it open? How and why can you tell a hard boiled egg from a fresh egg without cracking it open? What roles do the yolk and the white play? Proteins - what happens when you</p>	<p>Scott Edlein, Owner, Chef, You Should Eat, Inc.</p>	<p>A: 6:00-6:30</p>
			<p>B: 6:40-7:10</p>

	boil them, cook them, whip them? Come see a "naked" egg. Come cook with us and see how incredible eggs really are.		C: 7:20-7:50
Title	Description	Presenter	
Music Explorers! Olmstead Building Room 207	Have you ever wanted to travel the world? Music give us the opportunity to explore other cultures without traveling the globe. Join us in exploring the world through music! Students will gain an understanding of basic musical concepts, in addition to exploring music from around the world. We will take a look at various composers and their compositions. In order to have a better understanding of the music, we will be teaching the fundamentals of music including: note reading, note values, rhythm, solfege, and dynamics. Other musical concepts included will be: western music, classical music, and world music. Students will be encouraged to use their critical thinking skills to describe the music and to answer other questions during the lesson.	Katie Baumgarten, B.M. Music Performance Hannah Howard, B.A. Musicology	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50

Animal Biology

Title	Description	Presenter	Time Slots
Know the Birds in Your Hood Olmstead Building Room 209	From the Barred Owls to the Ruby Throated Hummingbirds, who stays and who migrates? This is the time of the year new birds show up in our yards and parks. Through song, games, and fun facts we will become citizen scientists discovering our birds in the hood. Bring your iPhones and we will discuss the use of Apps at home and in the field.	Scottie Johnson, Master Birder Atlanta Audubon Volunteer Neighbor of Sierra Pape (3 rd Grade) and Parker Pape (5 th Grade)	A: 6:00-6:30 3-5th Grades only
			B: 6:40-7:10 3-5th Grades only
			C: 7:20-7:50 3-5th Grades only
The Philosophy of Falconry and Hunting Briarcliff Building Room 251	Come meet Redtail Hawk Witchy, a massive, newly trapped female hawk and learn the philosophy of falconry, hunting, birds' eyes.	William Mixon, GA Falconry Association	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
The Buzz about Bees Briarcliff Building Room 253	Come find out about the beehive on SPARK's own rooftop garden what the bees do inside the hive. See a hive box, frames that hold the honey and instruments that the beekeeper uses.	Jonathan Caylor, Master Beekeeper.	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50

Title	Description	Presenter	Time Slots
<p>Party Animals</p> <p>Briarcliff Building Music Room 159</p>	<p>Meet several animals including mammals, reptiles, amphibians, arachnids and insects. We will discuss interesting facts about each one. Children are encouraged to touch each animal using "two fingered" touch.</p>	<p>Jim Nark, Party Animals</p>	<p>A: 6:00-6:30</p> <p>B: 6:40-7:10</p> <p>C: 7:20-7:50</p>
<p>Alpha Team K9 Search and Rescue</p> <p>Hirsch House Driveway</p>	<p>Did you know that the average dog has 200 to 250 million scent receptors in his/her nose? Come discover more facts like this while comparing the olfactory system of the dog to that of humans. Find out why dogs are so great at search and rescue. This interesting presentation will be followed by a brief discussion of scent theory and a real, live, K9 search demonstration by Alpha Team K9 Search & Rescue, an advanced search and rescue team with the capabilities to respond to all types of missing or lost person emergencies.</p>	<p>K9 Handlers from Alpha Team K9 Search & Rescue</p>	<p>A: 6:00-6:30 3-5th Grades only</p> <p>B: 6:40-7:10 3-5th Grades only</p> <p>C: 7:20-7:50 3-5th Grades only</p>
<p>Beastly Basics</p> <p>From Zoo Atlanta</p> <p>Briarcliff Building Room 155</p>	<p>Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them. Come investigate the characteristics and basic needs of plants and animals. Compare the appearance, motion, growth, and basic needs of various animals through the process of scientific inquiry.</p>	<p>Zoo Atlanta Education Staff</p>	<p>A / B: 6:00-6:55 K-2nd Grades only</p> <p>NOTE: Takes up two sessions (A and B)</p>
<p>Georgia Goes Wild!</p> <p>From Zoo Atlanta</p> <p>Briarcliff Building Room 155</p>	<p>Investigate the various habitats in Georgia (mountains, marsh/swamp, coast, Piedmont, Atlantic Ocean) and the organisms that live in these habitats. Students will also recognize the effects of pollution and humans on the environment and identify ways to protect the environment through conservation of resources and recycling of materials.</p>	<p>Zoo Atlanta Education Staff</p>	<p>C: 7:00 – 7:50 3-5th Grades only</p> <p>NOTE: Starts mid-way through session B and takes up all of session C</p>
<p>Amazing Turtle Adaptations</p> <p>Olmstead Building Room 203</p>	<p>Ever wonder what it's like to be a Loggerhead? What do they eat? Why is the shell important for their survival? Come find out how these turtles are uniquely adapted for their environment. It</p>	<p>The Georgia Sea Turtle Center, Jekyll Island</p>	<p>A: 6:00-6:30 3-5th Grades only</p> <p>B: 6:40-7:10 3-5th Grades only</p>

	might involve a costume!		C: 7:20-7:50 3-5th Grades only
Title	Description	Presenter	Time Slots
Skulls and Scat: Learning from What Animals Leave Behind From Fernbank Museum of Natural History Briarcliff Building Room 257	Learn about present-day and ancient animals that called Georgia home. Participants will have the chance to examine skulls of herbivores, omnivores and carnivores while learning about the natural history of Georgia. Find out which prehistoric animals roamed the state before their modern relatives. By investigating the evidence animals leave behind including bones, teeth and scat we can discover our world is filled with interesting animal information.	Kate Donlon, Biology Educator Fernbank Museum of Natural History	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
Creature Feature From Georgia Aquarium Briarcliff Building Room 153	Students will encounter a few animals that call Georgia Aquarium home and explore their unique adaptations. Together, students will discuss natural history, habitat range, classification, and conservation status.	Michael Hanft and Tina Oresteen Georgia Aquarium	A: 6:00-6:30 3-5th Grades only
			B: 6:40-7:10 3-5th Grades only
			C: 7:20-7:50 3-5th Grades only

Human Biology

Title	Description	Presenter	Time Slots
Your Child's Smile, a Pediatric Perspective on Teeth From Brookhaven Children's Dentistry Briarcliff Building Room 255	Learn about children's oral health. Come look at the x-rays for decay and see models of teeth. The exhibit will also offer resources for parents to learn how to care for their child's teeth...and their own through good brushing/flossing habits and healthy eating!	Brookhaven Children's Dentistry, a SPARK Partner	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
How Wounds Heal Olmstead Building Room 201	We've all had cuts and scrapes that we can take care of at home with a band-aid. But what about more serious wounds — the kind that might involve stitches? Come see how wounds heal and what doctors can do to help them heal faster and better. See a live demonstration of sutures, stitches, staples and dermabond!	Dr. Kimberly A Singh, Plastic Surgeon, Panacea Plastic Surgery and Parent of SPARK 3rd Grader Beshoy Eldaif	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50

Environmental & Earth Science

Title	Description	Presenter	Time Slots
Turning Spoil into Soil! Rooftop Garden Olmstead Building- Third Floor	Ever wonder what it takes to grow your dinner? Look no further than the food you didn't eat. You'll get to sort some (friendly) compostables once we've taught you how and then go on the compost journey to real soil! We'll take you through the stages of live compost; from worms all the way to healthy dirt. Grab a newspaper seedling on your way out!	David Paull Chief Composting Officer, Compostwheels	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
Watershed EnviroScape Olmstead Building Room 206	We all live in a watershed with water pollution that comes from various sources. Students will discover the point and nonpoint sources of pollution that affect our bodies of water. Through the presentation, students will discover ways to mitigate these sources of pollution to make sure our waterways stay healthy.	Jackie Sherry, Program Manager Dunwoody Nature Center	A: 6:00-6:30 3-5th Grades only
			B: 6:40-7:10 3-5th Grades only
			C: 7:20-7:50 3-5th Grades only
If Rocks Could Talk, What Would They Say? Olmstead Building Room 108	How can we discover what the temperature was before thermometers were invented? How can we figure out where it was raining before we had radar? Learn how we uncover the secret history of our climate system recorded in stalagmites and fossil corals collected from the tropics.	Hussein Sayani, Ph.D. Candidate Shelby Miller, Undergraduate Researcher Georgia Institute of Technology	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
"Monster" El Nino: How Extreme Weather in the Pacific Can Affect You Olmstead Building Room 110	The tropical Pacific Ocean is thousands of miles away – yet it can dramatically change weather patterns here in Georgia. Join us for an exciting exploration of the deep blue sea (scuba gear not included!) and discover how extreme weather events on the other side of the globe can impact your neighborhood.	Pamela Grothe, Ph.D. Candidate Christopher Bosma, Research Technician Georgia Institute of Technology	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50
Measuring Champion Trees	Champion Trees is an Atlanta based program that ranks the largest trees of each species.	Tyler Bartlett, Youth Education Coordinator Trees Atlanta	A: 6:00-6:30

From Trees Atlanta Meet in ground level green space between Briarcliff and Olmstead Buildings	When measuring a possible champion tree there are three measurements to record- trunk diameter, crown spread, and height. Students will learn how to find each of these measurements using a simple 6ft tape measure and a stick from a tree.		B: 6:40-7:10
			C: 7:20-7:50

Physics & Chemistry

Title	Description	Presenter	Time Slots
Up Close with the Moon Olmstead Building Room 113	Come learn more about our only natural satellite, the moon and even see some moon rocks and meteorites up close!	Jayma Koval, NASA-JPL Solar System Ambassador	A: 6:00-6:30 3-5th Grades only
			B: 6:40-7:10 3-5th Grades only
			C: 7:20-7:50 3-5th Grades only
Gloopy Glop! Chemical Reactions in the Classroom From The Children's Museum of Atlanta Olmstead Building Room 211	Meet an Imaginator Scientist from Imagine It! The Children's Museum of Atlanta. Participants will make things fizz and foam! In this workshop. They'll watch bubbles overflow and create slime that they can bring home	The Children's Museum of Atlanta's Imaginators, a troupe of professional actors and educators	A: 6:00-6:30 K-2nd Grades only
			B: 6:40-7:10 K-2nd Grades only
			C: 7:20-7:50 K-2nd Grades only

Engineering

Title	Description	Presenter	Time Slots
The Marshmallow Challenge Olmstead Building Room 304	The Marshmallow Challenge is an 18 minute challenge in which you will work with a team to create the tallest tower using only uncooked spaghetti, string, and tape. At the end, your tower must hold a large marshmallow on top. Take on the challenge with your family and friends as we explore engineering, math, and collaboration.	Jennifer Lockwood, 3 rd Grade Teacher at SPARK and 2013 winner of Atlanta Families' Awards for Excellence in Education	A: 6:00-6:30
			B: 6:40-7:10
			C: 7:20-7:50

Title	Description	Presenter	Time Slots
<p>STEAM House</p> <p>Olmstead Building Room 111</p>	<p>How Architecture is a fun way to use all the elements of STEAM every day. In this presentation we will focus on the process of how to start, calculations needed and strategies used to design a home on a steep sloping property in Highlands NC.</p>	<p>Bryan Jones, AIA and Certified Passive House Institute US Design Consultant, Residential Studio Principal at Jones Pierce Architecture, Father of 1st grader Morgan Jones in Mrs. Madlem's class</p>	<p>A: 6:00-6:30 3-5th Grades only</p> <p>B: 6:40-7:10 3-5th Grades only</p> <p>C: 7:20-7:50 3-5th Grades only</p>
<p>Wind Energy – Powering the Future</p> <p>Briarcliff Building Room 151</p>	<p>Want to know more about how Wind Turbines are built and how they work? In this presentation, you will participate in a hands-on experiment involving Wind Turbine design. In addition, we will talk about the transport of wind turbine components, wind turbine installation, and how clean power from wind energy will help shape our world's Energy future.</p>	<p>Mike Ebner, Logistics Quality and Safety Manager, GE Wind Energy Father of Esan Ebner (1st grade, Ms. Gulledge)</p>	<p>A: 6:00-6:30</p> <p>B: 6:40-7:10</p> <p>C: 7:20-7:50</p>

The 2015 SPARK Family STEAM Night is made possible by generous support from sponsors:



Our sincere **THANKS** to the many parents and other volunteers from around the Atlanta community who generously give their time and expertise for this event as presenters and exhibitors.

Thank You!