

Science Camp

FOR BOYS AND GIRLS AGES 6-14

AMUSEMENT PARK PHYSICS (AGES 9-13)

Ever wonder how they design and build those crazy rollercoasters and other amusement park rides? Join us and learn about friction, gravity, momentum, velocity, and other effects of force and motion as they relate to theme park rides. We'll design, construct, and test loop-the-loops, marble catchers, ball machines, Ferris wheels, swinging amusement rides, and more. This is the way to experiment and build as you learn physics concepts in a fun and activity-based atmosphere! Tuition & fees: \$175.

NCSCI-CC008-01 July 30-Aug 3 1-4pm
Super Science Programs for Kids

ANIMAL ROBOTICS CAMP (AGES 6-10)

It's a LEGO® zoo in here! This is a camp sure to delight kids who love LEGO® creatures. We'll be building LEGO® models of snakes, insects, mammals and more. Each day we'll discuss fascinating facts about the animals we build, from the chameleon that changes colors to the seal model that waddles across the table. Students will love these LEGO® moving models that celebrate the wonders of the animal kingdom. On top of that, they will also learn to program their animal robot to do exactly what they want it to do. Tuition & fees: \$175.

NCSCI-CC042-01 June 25-29 1-4pm
Bricks 4 Kids

ARCHITECTURE AND ENGINEERING CHALLENGES (AGES 9-13)

Architecture and engineering are the focus of this program. You will work to design and build towers, bridges and a wide array of Lego® and K'nex™ architecture projects. Have fun building famous Lego® architectural designs from around the world. These include famous buildings such as the Whitehouse, the Capitol, and Buckingham Palace! You will also build other structures including earthquake proof towers, tall buildings of your own design, and more using a variety of materials including Zometool™, KEVA™ blocks, balsawood, straws, and even paper. Have fun learning about structural engineering principles and forces that act on structures. Develop science, technology, engineering and mathematics skills in a fun, hands-on environment. Tuition & fees: \$175.

NCSCI-CC001-01 July 9-13 1-4pm
Super Science for Kids

BATTLE-BOTS & ROBOTIC FUN (AGES 6-13)

Have fun building and creating using your imagination. Campers will construct a wide range of robot projects throughout the week. Projects will include constructing a Battle-Bot from our huge Robotix™ modular collection, participating in our robot tug-o' war, Olympic competition, soccer match, and more. Campers will learn engineering principles in a fun, hands-on atmosphere. *This camp focuses on building modular robots from your imagination. Coding is not a focus in this class. All campers will take home a Hexbug robot.* Tuition & fees: \$175.

NCSCI-CC009-01 June 25-29 8:30-11:30am
(Ages 9-13 preferred)

NCSCI-CC009-02 July 2-6* 1-4pm
(Ages 6-9 preferred)

NCSCI-CC009-03 July 30-Aug 3 8:30-11:30am
(Ages 9-13 preferred)
No class July 4. Tuition & fees: \$140.
Super Science for Kids

BRIXOLOGY CAMP (AGES 9-13)

Children will learn about different types of engineering and then team up to construct a different engineering-themed project using exclusive LEGO® bricks! Learn about aerospace engineering while assembling a space station; explore mechanical engineering as they build boats and vehicles. That's not all – from carnival rides to drawing machines, mechanical animals to truss bridges, your future engineer will build upon their creativity to solve real-world design challenges, while developing their problem-solving and team-building skills. Tuition & fees: \$175.

NCSCI-CC034-01 Aug 6-10 1-4pm
Mad Science



CHEMICAL WIZARDRY (AGES 6-10)

Get ready for a fun-filled “magical” laboratory experience *Harry Potter™* style. Enjoy making *Flubber*, *Silly Putty*, *Super Hi-Bounce balls*, and *more*. Have fun making light inside of a glow bottle, a mushroom monster, play dough, Glowing Goo, and even a tie-dye style shirt. We will create atomic worm polymers and lava lamp-like blobs. *We will also demonstrate the Big Bang Cannon, diet Coke and Mentos Geyser, Magic Genie in the bottle, volcano and more.* Learning concepts include atoms and bonding, chemical reactions, polymer chemistry, and more. *All campers will take home projects made in class, a mini-chemistry kit & recipe booklet. Please bring a 100% white cotton T-shirt to the second class.* Tuition & fees: \$175.

NCSCI-CC010-01 July 9-13 1-4pm

NCSCI-CC010-02 July 23-27 1-4pm

Super Science for Kids

COMPUTER PROGRAMMING WITH OZOBOT™, MAKEY MAKE & SCRATCH 2.0 (AGES 6-13)

Have fun expanding your horizons with the help of Ozobot™ – the tiny smart robot. There is no end to the possibilities, as you create a different landscape of adventures, games and coding with Ozobot™. Imagine, a learning toy that opens the doors of computer science, STEM education, robotics and coding with simple color-coded commands and “Ozoblocky,” a coding language powered by Google’s Blockly program. Ozobot™ Bit’s ability to learn your programs, and then play them back is a big game changer to how young minds play and learn. OzoBlockly – a block-based visual editor – offers five step up modes from Novice to Master to appeal to young kids and even to challenge the seasoned programmer. *Campers will use markers, tablets and laptops for coding.* Tuition & fees: \$175.

NCSCI-CC027-01 June 25-29 1-4pm

(Ages 9-13 preferred)

NCSCI-CC027-02 July 30-Aug 3 8:30-11:30am

(Ages 6-10 preferred)

Super Science for Kids



CREATIVE DESIGN & ROBOTICS (AGES 7-14)

The world of the future belongs to...robots! Students will learn the fundamentals of motorized mechanisms, design principles, sensors, and sound activation. Separate fact from fantasy by designing and building prototypes of task oriented robots. Learn problem-solving to improve how their robots function in a series of design challenges! *Students will work in pairs or teams for most of the program.* Tuition & fees: \$195.

NCSCI-CC003-03 July 23-27 8:30-11:30am
(Ages 7-10 preferred)

NCSCI-CC003-04 July 23-27 1-4pm
(Ages 10-14 preferred)

Black Rocket Productions

CSI (Crime Scene Investigation) SCIENCE (AGES 6-14)

Become a Super Science Sleuth! Learn about forensics, crime scene investigations and crime lab chemistry as you perform experiments designed to show you just how those tricky cases are solved. Search for evidence, gather clues, and discover how science can help solve a mystery! Dust for and classify fingerprints, analyze handwriting, test for blood type and DNA using simulated blood, and use “Glow Blood” to see where humans can’t see. Examine hair and clothing fibers, practice chemistry to identify mystery substances, and much more. Tuition & fees: \$175.

NCSCI-CC012-01 July 23-27 8:30-11:30am

(Ages 10-14 preferred)

NCSCI-CC012-00 Aug 6-10 1-4pm

(Ages 6-10 preferred)

Super Science Programs for Kids

DIGGIN' FOR DINOSAURS, ROCKIN' ROCKS & CRYSTAL CREATIONS (AGES 6-9)

Young scientists will discover the exciting science of archaeology and paleontology as they excavate and assemble complete skeletal replicas from simulated “fossilized” rock. Dig for T-Rex, Triceratops, Stegosaurus, Velociraptors, Brachiosaurus, and more! Make fossilized plaster replicas of dinosaur teeth, claws, trilobites and ancient sea creatures. Sort, classify and take home a variety of fossilized shark teeth. Unearth some fascinating facts about rocks, minerals and crystals. Break open geodes and discover crystals inside. Take home a unique mini collection of rocks, minerals, and crystals that you will learn about in the program, a rock and mineral book, unearthed treasures, fossilized shark teeth and more.

Tuition & fees: \$175.

NCSCI-CC013-01 July 9-13 8:30-11:30am

Super Science Programs for Kids

INTRO. TO LEGO® & VEX IQ™ ROBOTICS (AGES 9-13)

Have fun building, designing and programming robots with Lego Mindstorms™ and VEX IQ™ robotic systems. Build robot projects and creations that use working sensors and motors. LEGO MINDSTORMS (EV3 & NXT) combine the unlimited versatility of the LEGO building system with an intelligent microcomputer brick and intuitive drag-and-drop programming software. VEX IQ offers unique building challenges, a Wii-style remote control, and unlimited possibilities. No prior robotic or programming experience is necessary for this introductory course. Tuition & fees: \$175.

NCSCI-CC028-02 July 23-27 1-4pm
Super Science for Kids

LEGO® WeDo ROBOTICS 1.2 and 2.0 (AGES 6-10)

Students will build Lego models featuring working motors and sensors, program their models on laptop computers, and participate in new unique WeDo challenges. Students will develop their skills in Science, Technology, Engineering, and Mathematics. Students will use simple drag and drop software and a laptop computer to actually learn how to program robots made from Legos. This program will offer both Lego 1.2 and all new Lego 2.0 projects. LEGO Education WeDo 2.0 makes elementary science come to life through hands-on tasks, real-world projects, and relevant technology that engages students. Tuition & fees: \$175.

NCSCI-CC007-02 July 23-27 8:30-11:30am
Super Science for Kids

MAD MACHINES AND JR. ENGINEERS (AGES 6-9)

Mini Mad Science engineers will design and build skyscrapers using simple tools and intricate imaginations. Campers will exercise their ability to work together in order to construct a geodesic dome big enough for all of the campers to fit inside! Children will be given the opportunity to work with pulleys, wedges, screws, and levers, which they will be using to assemble their own catapults, teaching them to understand the science behind simple machines. Children will maneuver sound-activated robots around an obstacle course, play robot soccer, and even test line-tracking robots during this weeklong camp full of (robot and children) hands-on excitement! Tuition & fees: \$175.

NCSCI-CC016-01 Aug 6-10 8:30-11:30am
Mad Science

MAD MACHINES AND ROCKIN' ROCKETS (AGES 9-13)

Mini Mad Scientists will delve into a multitude of scientific subjects as they learn about the Earth and its animal inhabitants, simple machines, rocketry and flight, and chemical reactions—there's something for everyone! Children will investigate the layers of the Earth and explore how various forces combine to create rocks and minerals. They'll also build and race a car to learn about physics and construct a rocket to investigate the wonders of flight and aerodynamics and take both projects home to continue the fun! Campers will also create animal tracks out of Plaster of Paris and have creepy-crawly fun building a bughouse used to search for new tenants! The Mad Scientist will astound the children as they witness remarkable color changes, experiment with acids and bases and grow their very own crystal gardens to take home! Tuition & fees: \$175.

NCSCI-CC017-01 Aug 13-17 8:30-11:30am
Mad Science

MOTORIZED LEGO® MAKER MACHINES (AGES 6-9)

LEGO enthusiasts, have fun building and designing a wide variety of machines and mechanisms that will help to solve everyday problems! Each day our campers will be given one or more real-world or simulated problems. Campers will then design and construct solutions to these problems using a wide assortment of motorized Lego mechanisms. At the same time, we will learn about machines, gears, robotics, forces and motion, physics concepts, and more. Have fun working with a team, solving real-world problems, and building a wide assortment of unique LEGO projects! *All campers will take home a LEGO project designed and made in class.* Tuition & fees: \$175.

NCSCI-CC043-01 July 30-Aug 3 1-4pm
Super Science for Kids

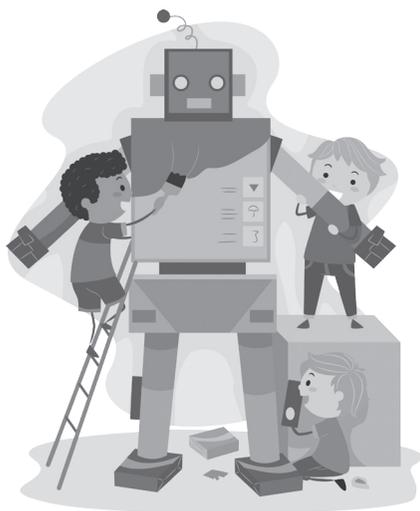


N OCEANOGRAPHY (AGES 9-13)

Come and explore the vastness of the ocean from the sandy shores to the unexplored abyss. Students will engage in multiple scientific disciplines ranging from Ecology and Anatomy to Geology and Chemistry. STEM challenges will include creating your *first submersible*, *designing the perfect plankton*, *virtual fish dissection*, *reconstructing Pangea*, *making a volcano*, *the magic of water and more*. This course offers students a challenge that is both fun and educational. Tuition & fees: \$175.

NCSCI-CC044-01 July 16-20 1-4pm

NCSCI-CC044-02 Aug 6-10 8:30-11:30am
Super Science for Kids



N RED HOT ROBOTS (AGES 9-13)

Join Mad Science for a week of fun with our marvelous machines- robots! Children will explore the fundamentals of robotics and discover the science of circuits and how robots use sensors to explore things around them. After experimenting with sound-sensing robots, line-tracking robots, amphibious robots, and even robots that can play soccer, campers will be well-equipped to build a working robot to experiment with at home. Children will also build simple circuits, test for conductivity, and discover how switches work as they participate in a variety of hands-on activities and games. Tuition & fees: \$175.

NCSCI-CC018-01 Aug 13-17 1-4pm
Mad Science

N SECRET AGENT LAB (AGES 6-9)

Look out 007- the Mad Science Secret Agent Lab is in session! From decoding messages to experimenting with metal detectors and night vision, children will have the opportunity to check out spy equipment and step into the shoes of a detective! Children will uncover the science involved in gathering and analyzing evidence and the technology behind locks, surveillance systems and alarms. To test the limits of magnified observation, junior science sleuths will build their own binoculars and develop ways to work together to refine their observation skills. Campers will use what they have learned as they find, collect, and analyze evidence and connect the dots to solve a simulated crime scene! Tuition & fees: \$175.

NCSCI-CC024-01 Aug 13-17 1-4pm
Mad Science

STEM INVENTIONS WITH LITTLE BITS™ (AGES 6-13)

In this invention workshop, students enhance their skills with a great new system of discovery called LittleBits. LittleBits is a platform of easy-to-use electronic building blocks that empower you to invent anything, from your own remote controlled car, to a smart home device. The Bits snap together with magnets, no soldering, no wiring, and no programming is needed. In our program, students will begin with several inventions designed to let them figure out how the components go together, and then they will design and create their own inventions.

Tuition & fees: \$175.

NCSCI-CC031-02 July 16-20 8:30-11:30am
(Ages 9-13 preferred)

NCSCI-CC031-01 July 16-20 1-4pm
(Ages 6-9 preferred)
Super Science for Kids

Looking For More?

Our full-day ARCHAEOLOGY AND PALEONTOLOGY CAMP offers off-campus adventures digging into the past. At SEA CAMP, students work with experienced environmental instructors in the outdoor "Laboratory" of Sandy Hook. Both camps are for ages 10-14. See pg. 24 for details.



SUPER SCIENCE MAKE & TAKE (AGES 6-9)

Discover the excitement of science and make a variety of toys designed to illustrate science concepts that make learning fun. Most of the projects can be taken home as they are made throughout the week. Make your own working telescope as you learn about optics and light. Construct an electro-magnet and a working electric motor. Build an adjustable, ball-launching catapult that changes the trajectory of a flinging projectile. Create a working model of Hero of Alexandria's fountain or a vortex tornado in a bottle. Make ultra-violet bead bracelets, a working compass, submarine divers, and more. Projects will vary by age level and instructions will be taught in more depth for older students. Tuition & fees: \$175.

NCSCI-CC020-01 July 2-6* 8:30-11:30am

NCSCI-CC020-02 July 16-20 8:30-11:30am

*No class July 4. Tuition & fees: \$140.

Super Science Programs for Kids

SUPER SCIENCE STEM CHALLENGES (AGES 9-13)

In this engineering camp, you will have fun integrating Science, Technology, Engineering, and Mathematics by building and designing a wide range of gadgets, inventive machines, towers, crazy contraptions, and more. Projects included are the *Great Tower Challenge*, the *Standing Cup Pyramid Challenge*, design a hurricane proof tower, *Wooden Coaster Challenge*, *Structural Engineering Challenge*, *Magnificent Marble Machine*, and a host of other fun contests designed to bring out the engineer in you! Campers will take home several of the projects built in class. Tuition & fees: \$175.

NCSCI-CC032-01 July 9-13 8:30-11:30am

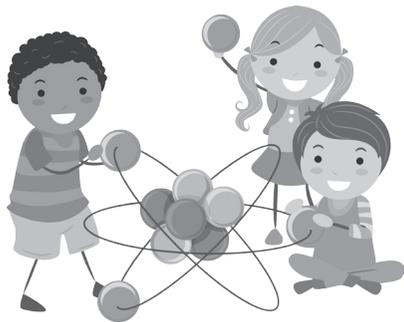
Super Science for Kids

SUPER SLIMY SMOKEY SCIENCE (AGES 6-9)

Junior Scientists will dive into a variety of scientific fields as they mix and stretch silly putty and slime, copperplate nickels, and investigate the mysteries of optical illusions. Laser experiments and dry ice demonstrations will capture their attention as they observe how fun and exciting science can be. Campers will be amazed as they observe a chemical energy display, the world's simplest motor, and a hair-raising interactive demonstration worthy of praise by Van de Graaff himself! Through hands-on experiments ranging from circuits to catapults, children will be able to experience the fascination of what happens when you mix science and fun! Tuition & fees: \$175.

NCSCI-CC021-01 Aug 13-17 8:30-11:30am

Mad Science



**New Camper
Registration Begins
January 22nd
Avoid disappointment
of filled classes.
Register early!**

SEA CAMP: MARINE BIOLOGY & SHORE ECOLOGY AT THE BROOKDALE INSTITUTE (AGES 10-14)

See page 24 for course description.

NCREC-CC002-01 July 23-27 8am-5:30pm

NCREC-CC002-02 Aug 6-10 8am-5:30pm

FULL DAY