

Homeschool Science Classes

2014-15

Guide to Homeschool Science Classes

Catawba Science Center offers hands-on learning and interactive exhibits that explore physical, natural and earth sciences.

Fresh and saltwater aquarium galleries invite visitors to touch live sharks, see exotic fish, dart frogs, and reptiles native to the Amazon River Basin.

Millholland Planetarium offers astronomy talks, digital features, laser light shows, and more.



*Changing Lives and
Inspiring Learning Through
Science and Wonder.*

Dear Homeschool Parents,

Welcome to the 2014-2015 homeschool educational experiences at Catawba Science Center!

Our goal each new school year is to maintain the high quality of instruction you have come to expect from CSC, incorporating parental input with our resources for enriching programs. For our high schoolers, it is time again for the chemistry strand. All classes are tied to the North Carolina Common Core and Essential Standards for Science.

We appreciate your patience concerning how CSC can best provide robotics and engineering opportunities for our participants; thank you for your interest and feedback as we searched for a program that would best utilize our resources and meet your needs. We are excited to announce a partnership with Charlotte-based Young Engineers of Today. For information about this organization and our offerings this year, please see page 5.

Your feedback is always welcome. Thank you for your continued support and for making Catawba Science Center your partner in science education!

Sincerely,

Erin Graves

Director of Programs

programs@catawbascience.org

Located on the SALT Block • 243 Third Ave. NE • Hickory, NC 28601
(828) 322-8169 • (828) 322-1585 (fax)
www.CatawbaScience.org

Open Tuesday—Friday, 10 a.m. to 5 p.m.

Saturday, 10 a.m. to 4 p.m. and Sunday, 1 to 4 p.m.

Closed to the public on Mondays

Registration Information

Pre-K — 8th Grade Classes

When:

Choose the Tuesday or Wednesday in the third week of each month.

Class Time:

Pre-K to 8th Grade: 1:00 PM to 2:30 PM

Check-in:

10 minutes prior to class time in the CSC Education Building lobby (adjacent to the main Arts & Science Center building.) Classes for pre-K through 8th grade are held in the West Education Building.

Class size:

3rd-8th Grade: 24 students
Pre-K & Kindergarten: 15 students
1st & 2nd Grade: 20 students

Sign-out:

To ensure student safety, we require that parents go to individual classrooms and sign out their children.

Cost:

CSC Members
\$15 per class, \$115 entire year
Nonmembers
\$25 per class, \$185 entire year

High School Classes

When:

Wednesdays in the third week of each month.

Class Time:

1:00 to 2:30 p.m.

Check-in:

12:50 PM in the HPC classroom.

Class Size is 24 students max.

Cost:

\$20 per class for CSC members
\$30 per class for nonmembers

Registration & Refunds

Payment and registration forms are required to reserve your child's space. Classes will be filled on a first-come, first-served basis. If you need to cancel a registration, you must do so at least two weeks prior to the class date in order to receive a refund, minus an administrative fee.

Please note, CSC reserves the right to cancel a class (and issue full refunds) if minimum enrollment is not met.

If you sign up for the year (\$115 for CSC Members or \$185 for non-members), refunds will not be paid for missed programs, unless they are cancelled by CSC.

Scholarships for homeschool classes are available on a first-come first-serve basis for those who are eligible. Call CSC for an application, a \$25 application fee is due with completed application which will be refunded if you are not awarded scholarship funds or will be applied to your first payment due if you are awarded funds.

An optional payment plan will allow for installments to be paid throughout the year. \$35 must be paid at time of registration. **Call (828) 322-8169 for details.**

Not a CSC member?

In addition to discounts on Homeschool Classes, CSC Members continue to receive great benefits:

FREE ADMISSION to CSC exhibits and aquaria

Free Admission does not apply when members visit as part of an organized group, for example when visiting with a school/pre-school field trip.

DISCOUNT PRICING on CSC programs

10% DISCOUNT on Science Shop purchases

FREE SUBSCRIPTION to CSC's member e-newsletter

FREE BASEBALL on two CSC Member Nights at the Hickory Crawdads

DISCOUNT RACING on CSC Member Night at Hickory Motor Speedway

RECIPROCAL ADMISSION to 300+ participating ASTC Travel Passport Program museums

Other museums' policies are subject to change without notice. Please call other museums prior to visiting to verify their current reciprocity policy.

To receive discount pricing on CSC programs, your CSC membership must be valid throughout the time you or your family member(s) will participate in the program.

CSC MEMBERSHIP APPLICATION

_____ Annual: Family/Grandparent \$75* _____ Supporting \$100+**

■ Name(s) _____

■ Address _____

■ City _____ State _____ Zip _____

■ Phone: H _____ W _____ C _____

■ E-mail _____

■ Child/Grandchild name(s) and birthdays _____

*Includes Members Benefits for two designated adults & their children/grandchildren 18 and under

**Includes Annual Member Benefits, plus additional guest(s) each visit and free passes for friends

HS1415

Science Class Descriptions

Pre-K — Kindergarten

September 16-17

Backyard Animals – What wildlife wanders your backyard? Learn about these living things, meet NC's state reptile and make an owl to take home!

October 14-15

Astronaut Adventures – Make a rocket to zoom around our solar system. Become a Catawba Science Center astronaut and walk on the moon and Mars in the Millholland Planetarium.

November 11-12

Ready for Rainbows – Who or what is ROY G BIV? What is the connection to rain storms? Discover that rainbows can be made with a little help from a prism.

December 16-17

Dinomania! – Learn about the dinosaurs that roamed the earth. Measure a dinosaur bone. Dig up a shark's tooth and make a fossil search bottle.

January 13-14

Polar Pals – Learn about the animals that live in the Arctic and Antarctic. Discover how snow feels and what lives in it. Melt an iceberg and make some magic classroom snow.

February 17-18

African Safari – Go on safari in the African savannah and meet the special animals that live there. Make your own savannah scene to take home!

March 17-18

Energy Avenue – Experiment with batteries, electricity, magnets and more. Make a magnetic game to take home.

April 14-15

How Does your Garden Grow? – Let us look at the science of gardening. We will get our hands dirty as we learn.

May 12-13

Mix and Stir – All things gooey will be explored as we look at mixtures, solutions and chemical reactions.

1st — 2nd Grade

September 16-17

Science Tool Time – Discover the world of tools around you, particularly those used by scientists. Learn how tools make our work easier and which ones we use every day.

October 13-14

Let's Get Energized – Explore heat, sound, motion and light to learn the basics of energy!

November 11-12

Awesome Animals – Become a zoologist as you examine different creature groups such as insects, sea life and more. Meet several of CSC's live animals.

December 16-17

Science Inquiry Festival – Put the scientific method to work to solve the mystery in this fast-paced science festival. This year's activities are all new!

January 13-14

Matter Hatter – Explore the various properties of the three states of matter. Watch *Molecularium* in the Millholland Planetarium.

February 17-18

Balloon Science – Things that go up must come down. Explore gases, density and flight – all with balloons.

March 17-18

Sink or Swim – Do rocks ever float? Experiment with weight and buoyancy, create a liquid density column, and make a sink or swim discovery bottle to take home.

April 14-15

Hearts and Parts – Investigate body systems, test your senses and build a balanced meal.

May 12-13

Bubble-ology – Do you know the perfect bubble recipe? Can you make a square bubble? Answer these questions and become a bubble expert in this sudsy science class!

3rd — 4th Grade

September 16-17

Lights, Heat, Action! – Track the movement of heat and discover which materials conduct the most heat.

October 14-15

Pumpkins Inside and Out – Are all pumpkins alike? Find out using math and fun experiments.

November 11-12

Science Bone-anza – Bone up on the skeletal and muscular systems of the human body. Dissect an owl pellet, discover the bony remains, and take it home!

December 16-17

Science Inquiry Festival – Put the scientific method to work to solve the mystery in this fast-paced science festival. This year's activities are all new!

January 13-14

Kooky Chemistry – Learn about physical and chemical changes as you mix, stir and shake. Watch *Molecularium* in the Millholland Planetarium.

February 17-18

Contents May Settle During Shipping – Measure volume, use grams to weigh food, and graph the results to investigate how supermarket products measure up.

March 17-18

Geology Rocks – Uncover the differences between rocks and minerals, learn about the rock cycle and where fossils are found.

April 14-15

Exploring Mars and Beyond – Explore features of Mars in CSC's Hall of Astronomy before visiting the planets in the Millholland Planetarium. Hold a Martian meteorite and learn about the Mars rovers.

May 12-13

Magnets and More – Investigate magnetic attractions and discover how magnets are related to electricity. It's electrifying!

Science Class Descriptions

5th — 6th Grade

September 16-17

Science Fair 101 – Learn the steps of the scientific method, including experimental design and data collection, while testing the force necessary to crush paper columns.

October 14-15

Rockets of the Sea – Dissect a squid as you explore this amazing marine invertebrate inside and out. Materials cost: \$2

November 11-12

Exotic Exosolar Planets – Board the spaceship in CSC's Millholland Planetarium to fly past the planets and away from the solar system. Watch *Extreme Planets* and learn about the unique worlds beyond the Sun.

December 16-17

Science Inquiry Festival – Put the scientific method to work to solve the mystery in this fast-paced science festival. This year's activities are all new!

January 13-14

Is Yeast Alive? – Use bubbly experimentation to determine whether those tiny grains that make our bread rise are alive. Taste the difference that yeast makes.

February 17-18

Close Encounters – Enhance your microscope skills and slide preparation techniques as you view a hidden world.

March 17-18

Up, Up and Away – Experiment with air pressure, kites and hot air balloons in this fun-filled class.

April 14-15

Neighborhood Watch - Investigate diverse forest and wetland ecosystems. Discover the roles of plants and animals within a community. Program held at Glenn Hilton Park. Participants will be driven in CSC vehicles; parents must sign permission slip day of class.

May 12-13

Maddening Math – Put your inquisitive mind to work investigating hands-on math problems and tricks. Explore fractals in nature, art and math in the Millholland Planetarium with our dazzling new feature.

7th — 8th Grade

September 16-17

Forensic Science – Hone your detective skills as you learn the science of fingerprints, DNA analysis and blood detection. Exercise your observation skills and powers of deduction to solve a crime.

October 14-15

The Living Cell – Investigate the structures inside a cell and learn how they function to keep the cell alive. Observe several microscopic organisms.

November 11-12

May the Force Be With You – Experiment with Newton's three Laws of Motion relating force, mass and acceleration.

December 16-17

Science Inquiry Festival – Put the scientific method to work to solve the mystery in this fast-paced science festival. This year's activities are all new!

January 13-14

Chemical Mysteries - Explore chemistry! Learn about the elements and their properties and reactivity. Discover how many elements and compounds make up common substances.

February 17-18

Astronomical Adventures - Visit the Millholland Planetarium and watch *Infinity Express*. Learn about recent discoveries and the technologies used by astronomers to study space.

March 17-18

Poke a Pigeon – Dissect a pigeon and explore bird adaptations and anatomy. Materials cost: \$4

April 14-15

Meteorology 101 – Review the factors that cause our weather and tools used to forecast. Learn why weather can turn wild while making lightning, clouds and tornados.

May 12-13

Fractal Fr frenzy – What do hurricanes, galaxies and agave cacti have in common? Explore patterns in nature and math that form fractals. Review the scale of the universe and see this math in action in the Millholland Planetarium with our dazzling new feature.

High School Classes

Chemistry

September 17

It's Elementary – An introduction to chemistry, types of chemical reactions, lab safety and equipment.

October 15

The Puzzling Periodic Table – Study the relationship between elements within a group, elemental properties, and anions and cations.

November 12

Moles and Other Critters – Learn about the Law of Conservation of Mass and limiting reactants.

January 14

pH Basics – Explore acid and base chemistry, including pH scale indicators and acid-base titration.

February 18

It's a Gas – Investigate the Ideal Gas Law: states of matter, the effects of temperature, pressure and volume changes on gas.

March 18

Hot and Cold – Gain an understanding of endothermic and exothermic reactions through experimentation.

April 15

Quality vs. Quantity – You can have both: an introduction to qualitative and quantitative analysis and identifying unknowns.

May 13

Chemistry in Today's World – Apply chemical concepts to health, home and industry.



Image: Tweenk

Young Engineers of Today

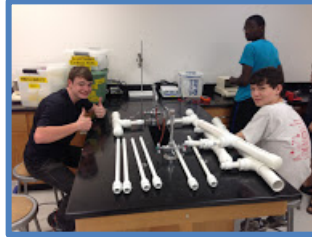
Become technology creators, not just consumers. In collaboration with Young Engineers of Today, Catawba Science Center will host an innovative program for 5th graders (ages 11-12), Middle School students (ages 12-14) and High School students (ages 15-18). Topics include 3D Printing, Bioengineering, Arduino, Nanotechnology, and much more!

Online webinars (from the comfort of your home) on Mondays & Wednesdays, lab meetings at Catawba Science Center every other Saturday. Total of 48 contact hours.

Fall Semester: September 3 – December 22, 2014 Spring Semester: dates TBA

Cost per semester: CSC members \$472; non-members \$492. 10% sibling discount.

Details and registration information at www.CatawbaScience.org or (828) 322-8169



2014-15 Featured Exhibition at CSC

November 22 – January 4, 2015

**IMAGINE
DESIGN
PLAY**



Hickory Stix spark critical thinking in all ages. Made of locally sourced durable wood, they are uncoated and safe for all ages.



Nearly 200 Imagination Playground blocks make for endless opportunities for children and adults to explore creative building play. These blocks are lightweight, non-toxic, anti-microbial and mold resistant.



**Open-ended
Free-play FUN!**

Additional Opportunities on the SALT Block



HOMESCHOOL ART CLASSES at the HICKORY MUSEUM OF ART

Classes for Grades K – 7th
2nd Thursday of the month (September – May)
10:30 – 11:45 AM (pre-registration required)
\$6 per class HMA Members
\$10 per class Non-Members

Download a Brochure at HickoryArt.org or call
Ginny Zellmer at 828.327.8576 ext. 216

HMA is located in
the same building as
Catawba Science Center
www.HickoryArt.org
828.327.8576



CSC Homeschool 2014-15 Registration Form

FOR OFFICE USE ONLY Payment Plan

ESI Patron ID _____

Pre-K — 8th Grade Classes

Please use a separate form for EACH child registering. Photocopies are acceptable, or download additional forms at www.CatawbaScience.org Return completed form with payment to: *Catawba Science Center, PO Box 2431, Hickory, NC, 28603, or fax to (828) 322-1585.*

Child's name _____ M ___ F ___ Birthdate (mo./day/yr.) _____ Grade _____

Parent/Guardian _____

Primary phone _____ Is this: Home Work Cell

Secondary phone _____ Is this: Home Work Cell

Address _____ City _____ State _____ Zip _____

E-mail: _____

CSC Member? ___Y___N *Membership must remain valid through May 31, 2015.*

Other individuals allowed to pick up your child(ren): _____

Class selections: *Please circle Tuesday or Wednesday date*

Sept. 16 17 Oct. 14 15 Nov. 11 12 Dec. 16 17 Jan. 13 14

Feb. 17 18 March 17 18 April 14 15 May 12 13

___ Entire year option, Tuesday or Wednesday (*please circle your day of choice*)

Class Cost: CSC members, \$15 per class, \$115 entire year
Nonmembers, \$25 per class, \$185 entire year

Payment method:

___ Check enclosed

___ Please call for information:

Charge my ___ Visa ___ Mastercard ___ Discover ___ Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

\$ _____	Classes subtotal
\$ _____	Fee subtotal*
\$ _____	Apply membership
\$ _____	Grand Total

___ I would like to participate in CSC's payment plan.

If choosing payment plan, \$35 per child is due at time of registration.

Refund policy: A refund minus an administration fee of \$5 will be issued if you cancel at least two weeks in advance. Cancellations made within two weeks of a class will not receive a refund. CSC reserves the right to cancel any programs in the event that minimum class enrollments are not met. If this occurs, your payment will be refunded fully.

Medical information: (Completion required)

Emergency contact (if parent can't be reached) _____ Phone: _____

H _____ W _____ C _____

Health/Accident Insurance: Employer _____ Ins. Co. _____ Policy # _____

Name of insured _____ Dr. _____ Phone _____

Currently on any medications? If so, please list and describe schedule for emergency administration. Include any asthma or allergy medications. If there are medications that must be administered by CSC staff, written directions must be sent.

Allergies _____ Medications _____

I, _____, do hereby authorize CSC staff to act on my behalf in seeking any medical treatment or medicine for my son/daughter, _____, during the 2014-15 homeschool program.

Signature _____ Date _____

CSC Homeschool 2014-15 Registration Form

FOR OFFICE USE ONLY Payment Plan

ESI Patron ID _____

High School Classes

Please use a separate form for EACH child registering. Photocopies are acceptable, or download additional forms at www.CatawbaScience.org. Return completed form with payment to: *Catawba Science Center, PO Box 2431, Hickory, NC, 28603, or fax to (828) 322-1585.*

Child's name _____ M ___ F ___ Birthdate (mo./day/yr.) _____ Grade _____

Parent/Guardian _____

Primary phone _____ Is this: Home Work Cell

Secondary phone _____ Is this: Home Work Cell

Address _____ City _____ State _____ Zip _____

E-mail: _____

CSC Member? ___Y___N *Membership must remain valid through May 31, 2015.*

Other individuals allowed to pick up your child(ren): _____

Class selections: Chemistry *Please circle your choices.*

Sept. 17 Oct. 15 Nov. 12 Jan. 14 Feb. 18 March 18 April 15 May 13

If Tuesday classes are added would you be interested? Yes _____ No _____

Class Cost: CSC members, \$20 per class
Nonmembers, \$30 per class

Payment method:

Check enclosed

Please call for information:

Charge my Visa Mastercard Discover Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

I would like to participate in CSC's payment plan.

If choosing payment plan, \$35 per child is due at time of registration.

\$ _____	Classes subtotal
\$ _____	Fee subtotal*
\$ _____	Apply membership
\$ _____	Grand Total

Refund policy: A refund minus an administration fee of \$5 will be issued if you cancel at least two weeks in advance. Cancellations made within two weeks of a class will not receive a refund. CSC reserves the right to cancel any programs in the event that minimum class enrollments are not met. If this occurs, your payment will be refunded fully.

Medical information: (Completion required)

Emergency contact (if parent can't be reached) _____

Phone: H _____ W _____ C _____

Health/Accident Insurance: Employer _____ Ins. Co. _____ Policy # _____

Name of insured _____ Dr. _____ Phone _____

Currently on any medications? If so, please list and describe schedule for emergency administration. Include any asthma or allergy medications. If there are medications that must be administered by CSC staff, written directions must be sent.

Allergies _____ Medications _____

I, _____, do hereby authorize CSC staff to act on my behalf in seeking any medical treatment or medicine for my son/daughter, _____, during the 2014-15 homeschool program.

Signature _____ Date _____



On the SALT Block
243 Third Ave. NE
Hickory, NC 28601

Nonprofit
U.S. Postage
PAID
Permit No. 173
Hickory, NC



Photo: Phil's 1stPix

Homeschool Science Classes

www.CatawbaScience.org