



Homeschool Science Classes

2011-12

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, and hear an electric eel.

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



Changing Lives and Inspiring Learning Through Science and Wonder.

Dear Homeschool Parents,

Welcome to another year of homeschool educational experiences at Catawba Science Center.

This year will require a little patience while West Education Building is being renovated. During this time, homeschool classes will be split between West Education Building and the main Arts & Science Building. *Please see page 2 for more details.*

CSC will once again offer the Chemistry strand for high school aged students. Classes for preschoolers through 8th graders are a combination of returning favorites and new, exciting options. All classes are tied to the *North Carolina Standard Course of Study*.

Your ideas and suggestions have greatly assisted us in developing this year's programs, and are always welcome. Our goal is to maintain the high quality of instruction you have come to expect from CSC, while incorporating your input with our resources for enriching programs.

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 Tuesday or Wednesday in the third week of each month.

Class Time: 1 to 2:30 p.m.

Check-in: Beginning at 12:50 p.m. in the assigned classrooms:

September 2011 – May 2012

- PreK & K—West Room 1

September – November 2011 January – May 2012

- 1st & 2nd Grade — West Room 2
- 3rd & 4th Grade — West Room 3

September – November 2011

- 5th & 6th Grade — North Classroom (Arts & Science Building)
- 7th & 8th Grade — HPC Classroom (Arts & Science Building)

January – May 2012

- 5th & 6th Grade — West Room 4
- 7th & 8th Grade — West Room 5

December 2011

- 1st–8th Grades
Arts & Science Bldg. Auditorium

Maximum class size:

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

Sign-out: To ensure student safety, CSC requires that parents go to individual classrooms and pick up their children.

Cost:

CSC Members

\$10 per class, \$75 entire year

Nonmembers

\$20 per class, \$150 entire year

High School Classes

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

Class Time: 1 to 2:30 p.m.

Check-in: 12:50 p.m.

Classes meet in Inventor's Workshop exhibit area, located on the first floor of the Arts & Science building. *Class Size is 20 students max.*

Cost:

- \$12 per class for CSC members
- \$24 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 of \$5.**

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 (\$75 or \$150 for Pre-K - 8th), refunds will not be paid for missed programs, unless they are cancelled by CSC.

An optional payment plan will allow for \$25 installments to be paid throughout the year. *Call (828) 322-8169 for details.*

Not a CSC member?

Now's a great time to join Catawba Science Center.

Not only will you save on homeschool science classes, but you'll enjoy year round, FREE admission to CSC permanent exhibits, including freshwater and saltwater aquaria, *Expedition Amazon*, *Infectious Diseases: Evolving Challenges to Human Health*, *Inventor's Workshop*, *Naturalist Center*, *Preschool Explore It*, *Energy Avenue* and more. Members also receive discounts on spring and summer science camps, birthday parties, planetarium/laser light shows and more.

Plus, members enjoy FREE admission to feature exhibits *Tech City* opening in September, and animatronic *Dinosaurs!*, invading CSC in January 2012.

CSC Annual Membership Form

Membership valid one year from joining/renewing

Family/Grandparent Member, \$70 *

New

Patron, \$100 **

Renewal

Parent/Grandparent names _____

Child/Children's name(s) and birthdays _____

Address _____ City _____

County _____ State _____ Zip _____

Phone: H _____ W _____ C _____

E-mail _____

** Includes annual admission for two designated adults & dependent children or grandchildren under 18, plus member benefits.*

*** Member benefits, plus -one free guest per visit and four one-time admission passes.*

Science Class Descriptions

Pre-K – Kindergarten

September 13 & 14

The Ants Go Marching – Find out the differences between creepy, crawly critters. Work your way through an ant maze and spin a spider’s web.

October 11 & 12

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 15 & 16

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

December 13 & 14

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

January 17 & 18

Snowflakes in My Hair – Discover how snow feels and who lives in the snow. Melt an iceberg and make some magic classroom snow.

February 14 & 15

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 13 & 14

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.

April 17 & 18

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

May 15 & 16

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

1st – 2nd Grade

September 13 & 14

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 11 & 12

Let’s Get Energized – Explore heat, sound, motion and light to get at the basics of energy.

November 15 & 16

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 13 & 14

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

January 17 & 18

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

February 14 & 15

Dinosaurs Galore – Visit CSC’s dynamic dinosaur exhibit and learn about these prehistoric creatures.

March 13 & 14

Sink or swim – Do rocks ever float? Experiment with weight and buoyancy, create a liquid density column, and discover colors and shapes.

April 17 & 18

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

May 15 & 16

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

3rd – 4th Grade

September 13 & 14

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

October 11 & 12

Let’s Experiment – Learning the scientific method can be fun. Hypothesize, experiment and understand how to apply these steps to your own science fair project.

November 15 & 16

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

December 13 & 14

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

January 17 & 18

Mammals of the Sea – Learn about arctic and marine mammals, including how they survive in extreme conditions and why many are endangered.

February 14 & 15

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

March 13 & 14

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

April 17 & 18

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 Kepler Mission.

May 15 & 16

Science Bone-anza – Bone up on the skeletal and muscular systems of the human body. Build a bone burrito!

Science Class Descriptions

5th – 6th Grade

September 13 & 14

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

October 11 & 12

Rockets of the Sea – Dissect a squid as you explore this amazing marine invertebrate inside and out.

Materials cost: \$2

November 15 & 16

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 unique worlds beyond the Sun.

December 13 & 14

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

January 17 & 18

Marine Mammals – Discover how climate change is affecting marine mammals. Visit the GeoDome to learn more.

February 14 & 15

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

March 13 & 14

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

April 17 & 18

Is Yeast Alive? – Experiment to discover whether those tiny grains that make our bread rise are alive. Taste the difference that yeast makes.

May 15 & 16

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

7th – 8th Grade

September 13 & 14

Science Fair 102 – Learn the application of the scientific method through experimentation. Get a boost for the science fair.

October 11 & 12

Chemical Mysteries – Learn about chemistry, the elements and compounds they form. Explore what elements form many common substances, properties of elements and compounds and their reactivity.

November 15 & 16

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

December 13 & 14

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

January 17 & 18

Marine Mammals – Discover how climate change is affecting marine mammals. Learn more in the GeoDome.

February 14 & 15

Genetics Jumble – Learn about genetics, traits, reproduction and survival as you trace the genetic line of a population of toothpick fish and other organisms. Learn how to predict the genetic traits organisms inherit.

March 13 & 14

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

April 17 & 18

Phenomenal Plants – Learn about the amazing plants that support us. Take a microscopic look at a plant cell, learn the chemistry of photosynthesis and dissect a flower.

7th – 8th Grade

May 15 & 16

Planetary Astronomy – Visit CSC's digital planetarium and watch *Extreme Planets*. Learn how to locate Cygnus – the constellation the Kepler Mission is focused on in the search for exosolar planets.

High School Classes

Chemistry strand

September 13 & 14

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

October 11 & 12

The Puzzling Periodic Table – Study the relationship between elements, anions and cations.

November 15 & 16

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

January 17 & 18

pH Basics – Acids and Bases: pH scale, indicators and titrations.

February 14 & 15

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

March 13 & 14

Hot and Cold – Learn about endothermic and exothermic reactions and simple calorimetry.

April 17 & 18

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

May 15 & 16

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

2011-12 CSC Exhibits Calendar



Opens September 2011 • Carpenter Hall

Engineering is a part of your daily lives, from buildings and bridges to highways, and these days, Internet traffic. This interactive exhibit allows visitors to solve real world problems faced by modern engineers, while learning about the process of designing, building, testing and modifying. Great opportunity for youth – especially girls – interested in engineering careers.

Opens January 2012 • Carpenter Hall

Slip back in time and walk among the dinosaurs in a lush primordial swamp setting of feathery ferns, hanging vines and misty pools. Exhibit features roaring, robotic dinosaurs including the king of dinosaurs – *Tyrannosaurus rex* – *Triceratops*, *Pachycephalosaurus*, *Dimetrodon*, *Stegosaurus* and a mother *Apatosaurus* protecting her newly-hatched babies. Go beyond the bones and see how these prehistoric creatures may have looked and sounded when they roamed the earth years ago.



Comets, Asteroids, Meteors

GREAT BALLS OF FIRE!

Opens September 2012 • Carpenter Hall

Asteroids and comets are messengers from space that have had a significant effect on Earth's history and are likely to influence the future as well. Visitors make comparisons between the risk of asteroid or comet impacts and the risk of more familiar natural disasters such as earthquakes and tornados. The exhibit will weave in stories of individual scientists whose work has furthered the study of asteroids and comets as well as amateur astronomers.

One World, One Sky

Big Bird's Adventure

January — May 2012
CSC Millholland Planetarium



One World, One Sky: Big Bird's Adventure, follows Sesame Street's Big Bird and Elmo as they explore the night sky with Hu Hu Zhu. Together, they take an imaginary trip from Sesame Street to the moon, where they discover how different it is from Earth.

HOMESCHOOL ART CLASSES

at the HICKORY MUSEUM OF ART

Classes for Grades K - 7th

2nd Thursday of the month (September - May)

1 PM – 2:15 PM

\$5 per class HMA Members; \$8 per class Non-Members
(pre-registration required)

Each month focuses on a different art process/ technique utilizing the Museum's various exhibitions. A broad-base knowledge of art fundamentals will be offered.



243 3rd Ave NE
On the SALT Block
Hickory, NC 28601

828.327.8576
www.HickoryArt.org



CSC Homeschool 2011-12 Registration Form

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: _____ Birthdate (mo./day/yr.) _____ Grade _____

Parent/Guardian: _____ Phone: H _____ W _____ C _____

Address: _____ City _____ State _____ Zip _____

CSC member? Y N E-mail: _____

If corporate member, company name: _____ Employee name _____

Membership must remain valid through May 31, 2012.

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

Class selections: Please circle Tuesday or Wednesday date

Sept. 13 14 Oct. 11 12 Nov. 15 16 Dec. 13 14 Jan. 17 18

Feb. 14 15 March 13 14 April 17 18 May 15 16

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

Class Cost: **CSC members**, \$10 per class, \$75 entire year

Nonmembers, \$20 per class, \$150 entire year

Payment method:

Check enclosed

Charge my Visa Mastercard Discover Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

\$ _____	Class subtotal
\$ _____	Apply membership
\$ _____	Grand Total

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

If choosing payment plan, \$25 is due at time of registration.

Refund policy: A refund 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 2011-12 homeschool program.

Signature _____ **Date** _____

CSC Homeschool 2011-12 Registration Form

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: _____ Birthdate (mo./day/yr.) _____ Grade _____

Parent/Guardian: _____ Phone: H _____ W _____ C _____

Address: _____ City _____ State _____ Zip _____

CSC member? Y N E-mail: _____

If corporate member, company name: _____ Employee name _____

Membership must remain valid through May 31, 2012.

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

Class selections: Chemistry strand Please circle Tuesday or Wednesday date

Sept. 13 14 Oct. 11 12 Nov. 15 16 Dec. 13 14 Jan. 17 18

Feb. 14 15 March 13 14 April 17 18 May 15 16

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

Class Cost: CSC members, \$12 per class

Nonmembers, \$24 per class

Payment method:

Check enclosed

Charge my Visa Mastercard Discover Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

\$ _____	Class subtotal
\$ _____	Apply membership
\$ _____	Grand Total

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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 2011-12 homeschool program.

Signature _____ **Date** _____