

# Homeschool Science Classes

2012-13

## 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.**

We are excited to start anew in the renovated West Education Building and with North Carolina's science content rewritten for a more coherent K-12 plan.

Along with these changes, we have a new strand for high school aged students this year. We will utilize the Millholland Planetarium to enhance and improve our Physical Science classes. As always, for all grade levels, classes are tied to the *North Carolina Essential Science Standards*.

Your input has greatly assisted us in developing this year's programs and is always welcome. Our goal this year is to maintain the high quality of instruction you have come to expect from Catawba Science Center, 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](http://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: 12:50 until 1 p.m.**  
in the assigned classrooms:

**PreK & K** — West Room 1

**1st & 2nd Grade** — West Room 2

**3rd & 4th Grade** — West Room 3

**5th & 6th Grade** — West Room 4

**7th & 8th Grade** — West Room 5

### Maximum class size:

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

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

### Cost:

#### CSC Members

\$11 per class, \$85 entire year

#### Nonmembers

\$22 per class, \$170 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 until 1 p.m.**  
Classes for 9th -12th Graders are in West Room 6. *Class Size 20 students max.*

### Cost:

\$14 per class for CSC members  
\$26 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 (\$85 or \$170 for Pre-K - 8th), refunds will not be paid for missed programs, unless they are cancelled by CSC.

An optional payment plan allows 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 science camps, birthday parties, planetarium/laser light shows and more.

Plus, members enjoy FREE admission to feature exhibits *Spin: The Science of Rotation*, now open, and *Great Balls of Fire*, opening in October 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 11 & 12

**Sink or Float** – Learn why some objects sink and why others float. Use a ball of clay to make a boat that floats, see raisins “bobbing” in a cup.

### October 16 & 17

**Stuck on You** – Find out what magnets will stick to and why. Make a magnet discovery bottle.

### November 13 & 14

**Drip, Drip, Hop, Hop** – Find out who lives in a rainforest. Make a tree frog and listen to the sounds of the rainforest.

### December 11 & 12

**One World, One Sky** – Explore stellar objects found in the sky first in the classroom and then in the Millholland Planetarium with Big Bird, Elmo and their new friend Hu Hu Zhu.

### January 15 & 16

**Lions and Tigers and Elephants, Oh My!** – Go on safari and discover who lives on the African savannah.

### February 12 & 13

**My Beating Heart** – Listen to your heart with a real stethoscope, make your own squishy heart and see how blood pumps through your body.

### March 12 & 13

**Soil, Rocks and Minerals** – Explore and identify objects that are made from animals, plants or rocks. Examine clay, sand and loam. “Mine” for gems to take home and start a rock collection. Make a necklace of gemstone beads.

### April 16 & 17

**Reduce, Reuse, Recycle** – Participate in an Earth awareness scavenger hunt and learn ways to help through litter education, conserving energy and stopping pollution.

### May 14 & 15

**Who’s Your Mama?** – Learn how animal mommies take care of their babies. Which baby gets licked for its bath and which baby eats worms for breakfast? Make a joey pouch just like a mommy kangaroo.

## 1st – 2nd Grade

### September 11 & 12

**Hair-raising Science** – Experiment with magnets and electricity. Construct a circuit, watch a pickle glow, and have some “hair-raising” fun with balloons and a Van de Graaff generator.

### October 16 & 17

**Going Batty** – Participate in fun activities centered around Janell Cannon’s children’s book *Stellaluna*.

### November 13 & 14

**Hear, Here** – Investigate the science of sound! Make waves as you learn about volume and pitch.

### December 11 & 12

**Science Inquiry Festival** – Explore fascinating science topics that you can relate to the everyday, real world in this year’s fast-paced science festival. All new activities this year!

### January 15 & 16

**Slithery Snakes** – Participate in fun activities centered around Janell Cannon’s children’s book *Verdi*. Meet a few of CSC’s scaly inhabitants.

### February 12 & 13

**Sensible Science** – Explore the world around you using your five senses. Compare our senses to those of animals.

### March 12 & 13

**Egg-citing Science** – “Crack” the mysteries of the egg through dissection, experimentation and other hands-on fun!

### April 16 & 17

**Star Stories** – Learn about the night sky in the Millholland Planetarium, including a viewing of *Legends of the Night Sky: Orion*.

### May 14 & 15

**Water Works** – Bubble over with fun as you experiment with water! You will get wet; you may get soaked!

## 3rd – 4th Grade

### September 11 & 12

**Fall Constellations** – Become an expert on our night sky! Make a planisphere and red light for use in the Millholland Planetarium. View the laser feature *Legends of the Night Sky: Perseus and Andromeda*.

### October 16 & 17

**Sound Science** – Make some noise and feel the waves. Create goofy musical instruments as you learn about the science of sound.

### November 13 & 14

**Space Rocks** – Explore CSC’s traveling exhibit *Great Balls of Fire!*, all about asteroids, comets and meteors. Make your own crater and learn about the formation of the moon.

### December 11 & 12

**Science Inquiry Festival** – Explore fascinating science topics that you can relate to the everyday, real world in this year’s fast-paced science festival. All new activities this year!

### January 15 & 16

**The Sensing Human Body** – Discover the ways our body learns about the world! Prepare to hear, feel, smell, taste and see science fun!

### February 12 & 13

**Two Liter Science** – You’ll be amazed at what you can do with a 2-liter bottle. (Bring two clean, clear 2-liter bottles to class with you, if possible.)

### March 12 & 13

**Weather Watchers** – Experiment with tools that help us measure and predict weather! Learn to forecast.

### April 16 & 17

**Wonderful Worms** – Discover why worms are such amazing animals. Explore their anatomy from the inside out with a dissection and experiment to learn about their behavior. (*Additional \$1 materials charge*)

### May 14 & 15

**Kitchen Chemistry** – You don’t have to leave your house to be a scientist. Find out how to use everyday kitchen products for science fun!

# Science Class Descriptions

## 5th – 6th Grade

### September 11 & 12

**Endangered Species** – Learn how scientists track population size and health, and what you can do to protect these threatened animals.

### October 16 & 17

**Great Balls of Fire!** – Explore CSC’s new exhibit and learn all about the things hurtling about in our solar system! Could you spot a meteorite? Make a comet.

### November 13 & 14

**Volts and Jolts** – Have hair-raising fun with a Van de Graaff generator! Make a game board to take home.

### December 11 & 12

**Science Inquiry Festival** – Explore fascinating science topics that you can relate to the everyday, real world in this year’s fast-paced science festival. All new activities this year!

### January 15 & 16

**Brain Basics** – Map your cortex as you explore the connections between your brain and your senses. Dissect a cow eye to see one such sense connection. *(Additional \$2 materials charge)*

### February 12 & 13

**Forecast Fun** – Learn facts about weather and identify factors that cause it. View *Force 5* in Millholland Planetarium.

### March 12 & 13

**Dive Right In** – Does a clam have a foot? Does a sea star have a mouth? Find out in this dissection class. *(Additional \$4 materials charge)*

### April 16 & 17

**Move It** – Experiment with motion using toys as you learn about Newton’s laws of motion & other physics forces.

### May 14 & 15

**It’s Earth Shattering** – Learn about one of nature’s greatest forces – earthquakes! Can your structure withstand CSC’s Epicenter?

## 7th – 8th Grade

### September 11 & 12

**Vet School** – Want to be a veterinarian? Test your diagnostic skills by “reading” animal X-rays. Learn to use a syringe and how to suture!

### October 16 & 17

**Solar System Spin** – Learn about the formation of the Solar System while exploring CSC’s new exhibit *Great Balls of Fire!* Explore space rocks of all kinds and make a comet!

### November 13 & 14

**Don’t Be Jumpy!** – Explore the anatomy of a preserved frog, inside and out. *(Additional \$3 materials charge)*

### December 11 & 12

**Science Inquiry Festival** – Explore fascinating science topics that you can relate to the everyday, real world in this year’s fast-paced science festival. All new activities this year!

### January 15 & 16

**Wild Weather** – Identify factors that cause our weather. Observe lightning, make a cloud, and view *Force 5* in the Millholland Planetarium.

### February 12 & 13

**DNA Day** – Crack the DNA “code” as you work to extract DNA from a living organism.

### March 12 & 13

**Biotech 101** – Learn some basic techniques of biotechnology, including micropipetting and gel electrophoresis.

### April 16 & 17

**Poly...what?** – Find out what polymers are and perform amazing experiments to discover how they’re used in everyday life.

### May 14 & 15

**Discovering Density** – Which is heavier, a pound of feathers or a pound of rocks? Investigate the difference between density and weight.

## High School— Physical Science/Astronomy

### September 11 & 12

**The Properties of Waves** – Explore the properties of light through the use of lenses, prisms and mirrors. Discover properties of sound waves through hands-on experiments.

### October 16 & 17

**Universal Science** – An introduction to space science including the light spectrum, black holes, astronomical measurement, and galaxy formation.

### November 13 & 14

**Great Balls of Fire** – Discover the differences between our solar system’s non-planetary bodies: comets, meteors, and asteroids. Make models and explore their properties.

### January 15 & 16

**It’s Electrifying** – Construct different types of electrical circuits and study the topics of voltage, resistance, and currents.

### February 12 & 13

**Is Anything Really “COLD”?** – Develop an understanding of heat energy and its transfer, including the insulating properties of several common substances. Observe the impact of heat change on chemical reactions. Study the connection between heat and the kinetic energy of atoms.

### March 12 & 13

**The Sun: Our Stellar Sea** – Learn about our sun, the forces that hold it together, its formation, life cycle, and processes. Discover how the sun’s magnetic storms impact planet earth

### April 16 & 17

**It’s a Matter of Density** – Develop an understanding of how matter can be described in terms of density. Can liquids be denser than solids? Make a density column.

### May 14 & 15

**Planetary Objects** – Explore the members of our solar system, their structure, their similarities and differences, and how they can impact one another.

# 2012-13 CSC Exhibits Calendar



**Now Open • Edgerton Gallery  
Through February 2013**

SPIN is an exciting exhibit that explores the fun – and science – of objects that rotate. Using interactive exhibits and real-life examples, visitors can explore how objects spin, why things spin at different speeds and how we use spinning objects in our daily lives. Learn how inertia works in The Human Centrifuge, create your own mini-laser show and more.

*Comets, Asteroids, Meteors*  
**GREAT BALLS  
OF FIRE!**

**Opens October 2012 • Carpenter Hall  
Through December 2012**

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.

## Additional Opportunities on the SALT Block

### **HOMESCHOOL ART CLASSES**

**at the HICKORY MUSEUM OF ART**

Classes for Grades K – 7<sup>th</sup>

2<sup>nd</sup> Thursday of the month (September – May)

10:30 – 11:45 AM (a PM class will be added if AM fills)

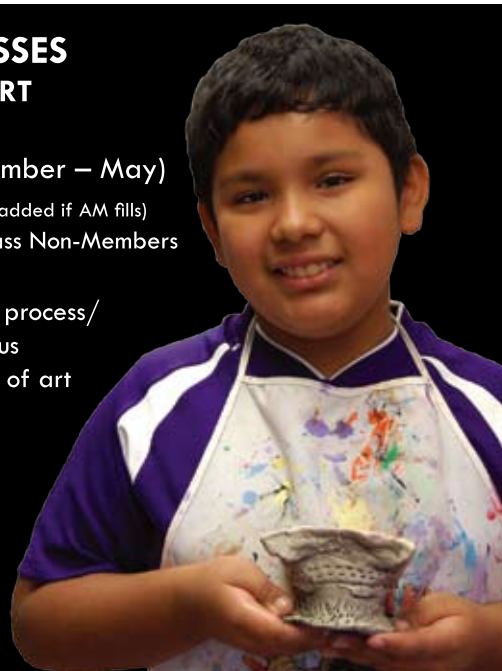
\$5 per class HMA Members; \$8 per class Non-Members  
(pre-registration required)

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](http://www.HickoryArt.org)



# CSC Homeschool 2012-13 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](http://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: \_\_\_\_\_

Name on membership card: \_\_\_\_\_

*Membership must remain valid through May 31, 2013.*

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

**Class selections:** Please circle Tuesday or Wednesday date

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

**Feb. 12 13    March 12 13    April 16 17    May 14 15**

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

**Class Cost: CSC members,** \$11 per class, \$85 entire year

**Nonmembers,** \$21 per class, \$170 entire year

### Payment method:

Check enclosed

Charge my  Visa  Mastercard  Discover  Am. Express

Name on card \_\_\_\_\_ No. \_\_\_\_\_

Exp. date \_\_\_/\_\_\_/\_\_\_ Signature \_\_\_\_\_

\$ _____	Class subtotal
\$ _____	Materials Fees
\$ _____	Apply membership
\$ _____	<b>Grand Total</b>

**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, minus a \$5 administrative fee, 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 2012-13 homeschool program.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

# CSC Homeschool 2012-13 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](http://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: \_\_\_\_\_

Name on membership card: \_\_\_\_\_

*Membership must remain valid through May 31, 2013.*

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

**Class selections: Physical Science/Astronomy strand** Please circle Tuesday or Wednesday date

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

**Feb. 12 13      March 12 13      April 16 17      May 14 15**

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

**Please note that there are no high school classes in December**

**Class Cost: CSC members, \$14 per class**

**Nonmembers, \$26 per class**

### Payment method:

Check enclosed

Charge my  Visa  Mastercard  Discover  Am. Express

Name on card \_\_\_\_\_ No. \_\_\_\_\_

Exp. date \_\_\_/\_\_\_/\_\_\_ Signature \_\_\_\_\_

\$ _____	Class subtotal
\$ _____	Apply membership
\$ _____	<b>Grand Total</b>

**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, minus a \$5 administrative fee, 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 2012-13 homeschool program.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

# Homeschool Science Classes



243 Third Ave. NE  
Hickory, NC 28601

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