

# Homeschool Science Classes

## 2013-14

### 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 astronomy talks, digital features, laser light shows and more.



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

**Dear Homeschool Parents,**

**Welcome to the 2013-2014 homeschool educational experiences at Catawba Science Center.**

This year we are offering a dissection series for ages 13 and up! Please see page 5 for more details. It is time again for the biology strand for the high school ages. All classes are tied to the North Carolina Common Core and Essential Standards for Science.

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. Your feedback is always welcome.

CSC is planning to form its FIRST Lego League Robotics team this school year for homeschool participants ages 9 to 14. The team would meet weekly during the fall and winter leading up to local competitions. If you are interested, please contact me for more details!

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](mailto:programs@catawbascience.org)

(828) 322-8169 x 305

Located on the SALT Block • 243 Third Ave. NE • Hickory, NC 28601  
(828) 322-8169 • (828) 322-1585 (fax) • [CatawbaScience.org](http://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, Dissection Series

### When:

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

### Class Time:

Pre-K to 8th Grade: 1 PM to 2:30 PM  
Dissection Classes: 10:30 AM to 12 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 Education Building.

### Class size:

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  
\$13 per class, \$95 entire year  
Nonmembers  
\$23 per class, \$180 entire year

## High School Classes

### When:

Wednesdays in the third week of each month.

### Class Time:

1 to 2:30 p.m.

### Check-in:

12:50 PM in the CSC Education Building lobby (adjacent to the main Arts & Science Center building.) Classes meet in the Education Building.

**Class Size is 24 students max.**

### Cost:

\$16 per class for CSC members  
\$28 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 (\$95 for CSC Members or \$180 for non-members), refunds will not be paid for missed programs, unless they are cancelled by CSC.

An optional payment plan will allow for \$30 installments to be paid throughout the year. **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*

*EX: visiting with a school/ pre-school field trip*

**DISCOUNT ADMISSION** to planetarium & laser shows

**DISCOUNT PRICING** on CSC programs

**10% DISCOUNT** on Science Shop purchases

**FREE SUBSCRIPTION** to CSC's member e-newsletter

**FREE BASEBALL** on 2 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 \$70 \*  Supporting, \$100+\*\*  
 Corporate Member Upgrade, \$20 (Attach Corporate Member Card)

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone: H \_\_\_\_\_ W \_\_\_\_\_ C \_\_\_\_\_

E-mail \_\_\_\_\_

Child/Grandchildren name(s) and birthdays \_\_\_\_\_

\* Includes Member 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

HS1314

# Science Class Descriptions

## Pre-K – Kindergarten

**September 17-18**

**Butterflies, Moths and Other Insect Friends** - Learn to identify the differences between a butterfly and a moth and how they change. Create a butterfly and moth wristband.

**October 15-16**

**Build It** - Hey junior engineers! Get creative using unusual construction materials including popcorn, toothpicks, gumdrops, and beyond.

**November 12-13**

**Simple Machines** - Find out how gears help things move and simple machines help us make our work easier. Explore gears with a gear train.

**December 17-18**

**Weather Wonderful** - Discover the power of the sun, the importance of rain, why the wind blows and make your own snow! Make your very own weather chart to take home!

**January 14-15**

**In the Deep Blue Sea** - Discover the animals that live under the waves. Make an ocean in a baggie. Find out which male sea creature carries the babies.

**February 11-12**

**Who Lives in the Desert?** - Explore the animals and plants that live in the sand, including a scorpion and lizard. Make a cactus to take home.

**March 11-12**

**Air, Air All Around** - Experiment with air and the many things it can do. Make your own windsock.

**April 15-16**

**Animals in the Sky** - Bring your favorite stuffed animal then let's find it in the night sky! Listen to a story about many animals. Look for shapes and colors up above.

**May 13-14**

**Some More Slimy Simple Science** Find out how to do some fun, slimy science at home. Make no-cook play dough, sidewalk chalk, slime and more!

## 1st – 2nd Grade

**September 17-18**

**Play Dead 'Possum** - Discover the fascinating attributes and behaviors of this nocturnal creature.

**October 15-16**

**Autumn Leaves** - Explore the many colors of fall and the science behind this change.

**November 12-13**

**Color my World** - Use prisms and lenses to investigate color and light. Build your own kaleidoscope.

**December 17-18**

**Science Inquiry Festival** - Put the scientific method to work in this fast-paced science festival. All new activities this year!

**January 14-15**

**Mighty Machines** - Pulleys, Levers, and screws - oh my! Investigate simple machines and put your new knowledge to the test.

**February 11-12**

**Seashore Creatures** - Get to know the invertebrates that live along the seashore. Visit our touch tanks for an up close look!

**March 11-12**

**Fun with Food** - Experiment with the things you eat and learn about nutrition. Make healthy snacks to enjoy.

**April 15-16**

**Seeds of Life** - From the tiny radish to the coconut, find out why seeds are so amazing.

**May 13-14**

**Zulu Patrol's Wild Weather Ride** Explore all things weather-related on our planet and others too. Watch The Zulu Patrol: Under the Weather in the Millholland Planetarium

## 3rd – 4th Grade

**September 17-18**

**Science Skills** - Discover the properties of liquids and learn the scientific method while experimenting with water. Make a magic star!

**October 15-16**

**Soil Secrets** - Get dirty while investigating the properties of soil. Create a soil profile. Use a Magiscope to find things in a compost pile.

**November 12-13**

**Wicked Plants** - Explore CSC's traveling exhibition to learn about some pesky plants and pests.

**December 17-18**

**Science Inquiry Festival** - Put the scientific method to work in this fast-paced science festival. All new activities this year!

**January 14-15**

**Lights and Lenses** - Uncover the properties of light and color. Experiment with polarized light and lasers.

**February 11-12**

**Astronaut** - Discover what it takes to survive in space while watching *Astronaut* in the Millholland Planetarium. Bone up on the skeletal and muscular systems of the human body. Build a bone burrito!

**March 11-12**

**Animal Safari** - Work with your team to discover the anatomy, behaviors and adaptations animals use to compete in a hostile world. Meet some of CSC's live animals.

**April 15-16**

**Swoosh!** - Explore the properties of wind using the book *Mirandy and Brother Wind*. Create a car that moves by your lung power.

**May 13-14**

**Bug Off!** - Dissect a grasshopper and learn many buggy facts.

# Science Class Descriptions

## 5th – 6th Grade

**September 17-18**

***The Essence of Bioluminescence*** -

Explore the underworld sea creatures that are truly illuminating. Watch CSC's new exciting planetarium show *Into the Deep*.

**October 15-16**

***Toying Around*** - Experiment with toys and make discoveries about convection, the law of conservation of energy and radiation.

**November 12-13**

***Reptile Round-up*** - What makes an animal a reptile? How do snakes differ from lizards? Get ready for some scaly encounters.

**December 17-18**

***Science Inquiry Festival*** - Put the scientific method to work in this fast-paced science festival. All new activities this year!

**January 14-15**

***Moon Mania*** - Learn about the moon and its phases. What is on the surface of the moon? Can we see the American flag? What do other moons in the solar system look like? Let's travel to each one!

**February 11-12**

***Ribbet, Ribbet*** - Dissect a frog and discover fascinating amphibian facts. **Additional fee of \$2.50 required.**

**March 11-12**

***Food Chemistry I*** - Learn the basics of carbohydrates, fats, sugars and proteins and how our bodies use them for energy.

**April 15-16**

***Food Chemistry II*** - Dig a little deeper into the food we eat. Explore the relationship between calories, food content and our bodies.

**May 13-14**

***Dendrology 101*** - Do trees have veins and scars? Discover this and more as you walk to Ivey Arboretum to use field guides and scientific keys to identify trees.

## 7th – 8th Grade

**September 17-18**

***What's that Smell*** -

Phew, something stinks! Discover the science behind the smell.

**October 15-16**

***Into the Deep*** - Learn the biological advantages of glowing in the dark. Watch the CSC's new planetarium show *Into the Deep* in the Millholland Planetarium.

**November 12-13**

***Dry Ice Investigations*** - Gain an understanding of matter, the nature of gases and phase changes by experimenting with bubbling, mysterious dry ice. Brrrr!

**December 17-18**

***Science Inquiry Festival*** - Put the scientific method to work in this fast-paced science festival. All new activities this year!

**January 14-15**

***Chromosomal Shuffle*** - Review the basics of Mendelian genetics and learn about the science of inherited traits.

**February 11-12**

***It's Elementary*** - The periodic table is elementary. Use molecular models and play games while learning about atoms, elements and compounds.

**March 11-12**

***Reptile Round-up*** - What makes an animal a reptile? How do snakes differ from lizards? Get ready for some scaly encounters.

**April 15-16**

***Aquatic Adventures*** - How can dragonflies and snails predict water quality? Play a game to discover the answer. Make predictions about water quality based on results of chemical testing.

**May 13-14**

***The Name Game*** - Kingdom, phylum, class, order...where do you fit in? Learn the science of taxonomy.

## High School Classes

### Biology Strand

**September 18: *Microscopic Life***

Learn the proper use of a compound light microscope. Observe protozoa, algae and invertebrate organisms in pond water, as well as living specimens of *Amoeba*, *Paramecium* and *Euglena*.

**October 16: *A Moldy Subject***

Take a macroscopic and microscopic look at molds and yeast, and experiment with the fermentation process.

**November 13: *Cell Structure and Function***

Investigate basic cell structure, and cellular functions of osmosis and diffusion. Compare cells of plants, animals and bacteria.

**December 18: *DNA Detective***

Extract DNA from bacteria, and take it home! Put together a DNA puzzle and make your own model.

**January 15: *Unzipping DNA***

Delve into the science of DNA replication and cell division. Observe mitosis microscopically in an onion root tip and whitefish.

**February 12: *Invertebrate Biology***

Examine the diversity of some invertebrate phyla. Observe preserved and dried natural sponges and living specimens of *Hydra* and *Planaria*.

**March 12: *Lock and Key Science***

Learn how enzymes act as biological catalysts in nature. Perform several experiments and discover for yourself why enzymes are such a vital part of biology.

**April 16: *Plant Parts***

Stems, roots, leaves, and much more. Hone your skills and use your knowledge of botany to solve a mystery.

**May 14: *Ramblings in Nature***

Break out your binoculars and field guides, and join our naturalist at Glenn Hilton Park. Identify trees, flowers, and insects. Sharpen your senses as you try to identify birds by sight and sound.

# Science Class Descriptions

## Dissection Classes for Ages 13 and Up

Enhance your biology curriculum with the following dissections. Classes will focus on classification, adaptations and comparative anatomy. Students will work collaboratively to investigate their specimen. The strand builds on complexity and skill throughout the year. We recommend that students bring a small 3-ring binder to class.

Please choose the Tuesday or Wednesday class. Classtime is from 10:30 AM to 12:00 PM

**Cost:** \$13 per class, CSC members; \$23 per class nonmembers.  
 \$85 entire year, CSC members; \$170 entire year, nonmembers.  
 + Additional charge covering the cost of the specimen.

DATE	SPECIMEN	ADDITIONAL CHARGE
September	Cow eye / Sheep brain	\$3.50
October	Pig heart / Sheep kidney	\$3.50
November	Squid / Sea Star	\$2.50
January	Earthworms / Marine Worm / tapeworm	\$1.50
February	Crayfish / Grasshopper	\$1.00
March	Perch / Shark	\$4.50
April	Frog	\$2.50
May	Fetal pig	\$6.00
	<b>TOTAL</b> (\$25.00 for all)	

## 2013-14 Featured Exhibits at CSC

### Wicked Plants

September 24, 2013  
 through February 16, 2014

### Body Carnival

March 8 to June 1, 2014

### RetroView

Now through March 16, 2014

### The Speed of Light

April 5 to October 26, 2014

## 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 (pre-registration required)

\$5 per class HMA Members; \$8 per class Non-Members

For Brochure: Call Ginny Zellmer at 828.327.8576 ext. 216



Located in the same building as the  
 Catawba Science Center

www.HickoryArt.org ■ 828.327.8576



# CSC Homeschool 2013-14 Registration Form

## Pre-K — 8th Grade Classes & Dissection

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 \_\_\_\_\_

Male \_\_\_ Female \_\_\_ CSC member? \_\_\_ Y \_\_\_ N E-mail: \_\_\_\_\_

If corporate member, company name: \_\_\_\_\_ Employee name \_\_\_\_\_

**Membership must remain valid through May 31, 2014.**

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

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

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

Feb. 11 12    March 11 12    April 15 16    May 13 14

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

**Class Cost:** CSC members, \$13 per class, \$95 entire year

Nonmembers, \$23 per class, \$180 entire year

**Dissection classes (Ages 13 and up): Please circle your choices. \* See specimen and fee table on page 5.**

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

Feb. 11 12    March 11 12    April 15 16    May 13 14

**Payment method:**

\_\_\_ Check enclosed

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, \$30 per child is due at time of registration.**

**Refund policy: A refund minus a 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 2013-14 homeschool program.

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

# CSC Homeschool 2013-14 Registration

## 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:

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Child's name: \_\_\_\_\_ Birthdate (mo./day/yr.) \_\_\_\_\_ Grade \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_ Phone: H \_\_\_\_\_ W \_\_\_\_\_ C \_\_\_\_\_

Address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Male \_\_\_ Female \_\_\_ CSC member? \_\_\_ Y \_\_\_ N E-mail: \_\_\_\_\_

If corporate member, company name: \_\_\_\_\_ Employee name \_\_\_\_\_

**Membership must remain valid through May 31, 2014.**

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

**Class selections: Biology strand Please circle your choices.**

Sept. 18 Oct. 16 Nov. 13 Dec. 18 Jan. 15 Feb. 12 March 12 April 16 May 14

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

**Class Cost:** CSC members, \$16 per class

Nonmembers, \$28 per class

**Dissection classes: Please circle your choices. \* See specimen and fee table on page 5.**

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

Feb. 11 12 March 11 12 April 15 16 May 13 14

**Payment method:**

\_\_\_ Check enclosed

Charge my \_\_\_ Visa \_\_\_ Mastercard \_\_\_ Discover \_\_\_ Am. Express

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

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

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

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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.

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I, \_\_\_\_\_, do hereby authorize CSC staff to act on my behalf in seeking any medical treatment or medicine for my son/daughter, \_\_\_\_\_, during the 2013-14 homeschool program.

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

# Homeschool Science Classes



catwba  
**Science**  
center  
243 Third Ave. NE  
Hickory, NC 28601

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