

Homeschool Science Classes

2010-11

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 the 2010-11 homeschool educational experiences at Catawba Science Center.

This year, we are bringing back the dissection series, open to children ages 13 and up. Please see page five in this guide for more details.

CSC will once again offer the Biology strand for the high school ages. Classes for preschoolers through 8th graders are a combination of returning favorites and new, exciting options. All classes are developed using the *North Carolina Standard Course of Study* as a guide.

Your ideas and suggestions have greatly assisted us in developing this year's programs, and are always welcome. Our goal this year 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

CSC 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 except Martin Luther King, Jr. Day,
Easter Monday, Memorial and Labor Day.

Registration Information

Pre-K – 8th Grade Classes, Dissection Series

When:

Choose the Tuesday or Wednesday in the third week of each month. Dissection classes are only offered on the second Wednesday of the month.

Class Time:

1 to 2:30 p.m.

Check-in:

12:50 p.m. 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 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:

12:55 p.m. in the CSC Education Building lobby (adjacent to the main Arts & Science Center building.) Classes meet in the Education 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.

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, *Stopping Time: An Interactive Exhibit Exploring Time & Motion*, Inventor's Workshop, Naturalist Center, Preschool Explore It, Energy Avenue and more. Members also receive discounts on science camps, birthday parties, planetarium and laser light shows.

Plus, members enjoy FREE admission to feature exhibits *Attack of the Bloodsuckers*, opening in September, and *Ancient Carolinians*, starting in January.

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 four one-time admission passes and one free guest per visit.*

Science Class Descriptions

Pre-K – Kindergarten

September 14 & 15

Butterflies, Moths & 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 12 & 13

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.

November 16 & 17

Simple Machines

– Find out how gears help things move and simple machines make our work easier. Explore gears with a gear train.

December 14 & 15

Seasons Change

– What is your favorite season? Learn about the differences between spring, summer, autumn and winter. Make a craft about your favorite season.

January 11 & 12

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 15 & 16

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 15 & 16

Air, Air All Around

– Experiment with air and the many things it can do. Make your own windsock.

April 12 & 13

Animals in the Sky

– Bring your favorite stuffed animal, then let's find it in the night sky. Listen to stories about your animal and many others, too. Look for shapes and colors up above.

May 17 & 18

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 14 & 15

Play Dead 'Possum

– Discover the fascinating attributes and behaviors of this nocturnal creature.

October 12 & 13

Autumn Leaves

– Explore the many colors of fall and the science behind this change.

November 16 & 17

Color My World

– Use prisms and lenses to investigate color and light. Build your own kaleidoscope.

December 14 & 15

Science Inquiry Festival

– Put the scientific method to work in this fast-paced science festival, featuring all new activities this year.

January 11 & 12

Mighty Machines

– Levers, pulleys, inclined planes and screws - oh my! Investigate simple machines and put your new knowledge to the test.

February 15 & 16

Seashore Creatures

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

March 15 & 16

Fun With Food

– Experiment with the things you eat and learn about nutrition. Make healthy snacks to enjoy.

April 12- & 13

Seeds of Life

– From the tiny radish to the coconut, find out why seeds are so amazing.

May 17 & 18

Weather-Related

– Explore all things weather-related on our planet and others, too. Watch *The Zula Patrol: Under the Weather* in Millholland Planetarium.

3rd – 4th Grade

September 14 & 15

Sweet Science

– Hypothesize and experiment while satisfying your sweet tooth. It's great preparation for science fair projects.

October 12 & 13

Attack of the Bloodsuckers

– Get closer than comfortable to the new CSC exhibit. What is a parasite? Why are they important? Can you make it through this class without scratching?

November 16 & 17

Soil Secrets

– Get dirty while investigating the properties of soil. Create a soil profile. Use a microscope to find living things in a compost pile.

December 14 & 15

Science Inquiry Festival

– Put the scientific method to work in this fast-paced science festival, featuring all new activities this year.

January 11 & 12

Lights and Lenses

– Uncover the properties of light and color. Experiment with polarized light and lasers.

February 15 & 16

Astronomer's Tools

– Learn about the tools you need to observe the sky. Make your own planisphere and red light. Use these tools to find stars in the Millholland Planetarium. Look through a telescope – an astronomer's favorite tool.

March 15 & 16

Animal Survivors

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

April 12 & 14

Swoosh!

– Explore the properties of wind using the book *Mirandy and Brother Wind*. Create a car powered by your lungs.

May 17 & 18

Bug Off!

– Dissect a grasshopper and learn many buggy facts.

Science Class Descriptions

5th – 6th Grade

September 14 & 15

Lever Me Up – Simple machines make our lives easier. Use simple machines to compete in the contraption competition.

October 12 & 13

Toying Around – Use toys to experiment with convection, resonance and the law of conservation of energy.

November 16 & 17

Reptile Roundup – What makes an animal a reptile? How do snakes differ from lizards? Get ready for some scaly encounters.

December 14 & 15

Science Inquiry Festival – Put the scientific method to work in this fast-paced science festival, featuring all new activities this year.

January 11 & 12

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 15 & 16

Ribbit, Ribbit – Dissect a frog and discover fascinating amphibian facts.

March 15 & 16

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

April 12 & 13

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

May 17 & 18

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 14 & 15

What's that Smell? – Phew, something stinks! Discover the science behind the smell.

October 12 & 13

Black Holes – Learn about black holes. What would happen if you fell into a black hole? How do astronomers detect them? Where is one in tonight's sky? Watch *Black Holes* in the Millholland Planetarium.

November 16 & 17

Reptile Roundup – What makes an animal a reptile? How do snakes differ from lizards? Get ready for some scaly encounters.

December 14 & 15

Science Inquiry Festival – Put the scientific method to work in this fast-paced science festival, featuring all new activities this year.

January 11 & 12

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

February 15 & 16

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

March 15 & 16

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

April 12 & 13

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

May 17 & 18

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 done in class.

High School Classes

Biology Strand

September 14 & 15

The Study of Life – Learn what defines life and the biochemistry of life through laboratory investigations, implementing the scientific method and examining organic molecules.

October 12 & 13

A View of the Cell – Examine the basic structure of life through comparison of protist, plant and animal cells, and exploration of the essential cellular processes of homeostasis and osmosis.

November 16 & 17

Cellular Processes that Provide Energy – Investigate the bioenergetic reactions of photosynthesis and respiration, the processes that power cellular activity.

January 11 & 12

Cellular Reproduction and DNA – Study the processes of cellular reproduction; the DNA molecule, its replication and how it controls cellular activity.

February 15 & 16

The Patterns of Heredity and Genetics – An introduction to the basics of Mendelian genetics and predicting patterns of heredity.

March 15 & 16

The Organization of Life's Diversity – Examine the six Kingdoms of living organisms and the classification system including practice using dichotomous keys to catalog life in pond water.

April 12 & 13

An Examination of Plant and Animal Species – Examine the simplest of invertebrates to the mammals and non-vascular to vascular species of plants. Emphasis will be placed on species of animals not covered in the dissection classes.

May 17 & 18

A Study of Ecology – Investigate the interdependence among organisms, the biogeochemical cycles essential to life, trophic levels, diversity and conservation.

Note to parents: For comparative anatomy, physiology and system function, students should take the dissection classes.

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.

Cost: \$10 per class, CSC members; \$20 per class nonmembers.
 \$75 entire year, CSC members; \$150 entire year, nonmembers.
Additional charge covers cost of specimen.

DATE	SPECIMEN	ADDITIONAL CHARGE
September 8	Earthworms & crayfish	\$3
October 6	Sea stars, sponges & clams	\$3
November 10	Squid	\$2
December 8	Perch	\$2
January 5	Sharks	\$4
February 9	Frogs	\$3
March 9	Eyeballs & brains	\$5
April 6	Hearts	\$2
May 11	Fetal Pigs	\$6
	TOTAL	

2010-11 Exhibit & Planetarium Feature Calendar

Featured Exhibits

Attack of the Bloodsuckers

September 18, 2010 – January 2, 2011

Ancient Carolinians

January 22 – May 1, 2011

Planetarium Shows

Ice Worlds

Through November 24, 2010

Stars: Powerhouses of the Universe

September 3, 2010 – March 3, 2011

Orion

October 1, 2010 – March 31, 2011

The Zula Patrol: Under the Weather

April 1 – October 6, 2011

Microcosm

January 7 – July 7, 2011

Also showing

Secret of the Cardboard Rocket

Through September 30, 2010

Force 5: Feel the Fury

Through January 7, 2011

Laser Holidays

November 26 – December 31, 2010

Laser Beatles

April 22 – May 1, 2011

CSC Homeschool 2010-11 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. 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, 2011.

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

Class selections: Please circle Tuesday or Wednesday date

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

Feb. 15 16 March 15 16 April 12 13 May 17 18

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

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

Sept. 8 Oct. 6 Nov. 10 Dec. 8 Jan. 5 Feb. 9 March 9 April 6 May 11

Payment method:

Check enclosed

Charge my Visa Mastercard Discover Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

\$ _____	Class subtotal
\$ _____	Dissection 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 2010-11 homeschool program.

Signature _____ **Date** _____

CSC Homeschool 2010-11 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, 2011.

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

Class selections: Biology strand Please circle Tuesday or Wednesday date

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

Feb. 15 16 March 15 16 April 12 13 May 17 18

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

Class Cost: CSC members, \$12 per class

Nonmembers, \$24 per class

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

Sept. 8 Oct. 6 Nov. 10 Dec. 8 Jan. 5 Feb. 9 March 9 April 6 May 11

Payment method:

Check enclosed

Charge my Visa Mastercard Discover Am. Express

Name on card _____ No. _____

Exp. date ___/___/___ Signature _____

\$ _____	Class subtotal
\$ _____	Dissection 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 2010-11 homeschool program.

Signature _____ **Date** _____