

Field Trip & Program Guide 2011 – 2012



DINOSAURS! Invade CSC • January – September 2012

A Teacher's Guide to
Pairing NC Standard Course of Study
with Hands-on Science

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reservations

Monday — Friday, 9 a.m. to 5 p.m.

(828) 322-8169

Fax: (828) 322-1585

E-mail: scheduling@catawbascience.org



Changing Lives and Inspiring Learning Through Science and Wonder.

Catawba Science Center is a nonprofit science and technology museum, offering hands-on exhibits to explore physical, natural and earth sciences.

Featured amenities include the Inventor's Workshop, freshwater and saltwater aquarium galleries – including a marine touch pool with LIVE sharks and stingrays, Hall of Astronomy, two temporary exhibit halls, a digital planetarium theater and special events room for school group lunches and community gatherings.



Located on the SALT Block • Arts & Science Center
243 3rd Avenue NE • Hickory, NC 28601

*Only 2.5 miles from I-40, follow the directional signs,
or download directions from www.CatawbaScience.org.*

Phone: (828)322-8169 **Fax:** (828)322-1585

Web site: www.CatawbaScience.org

Email: schools@catawbascience.org



Public Hours:

Tuesday – Friday

10 a.m. – 5 p.m.

Saturday

10 a.m. – 4 p.m.

Sunday

1 p.m. – 4 p.m.

CLOSED TO THE PUBLIC ON MONDAYS

Except Labor Day 2011

Catawba Science Center is a member of:
Association of Science & Technology Centers
NC Grassroots Science Museums Collaborative
Funded Affiliate of United Arts Council of Catawba County



Offerings at a Glance

CSC programs feature grade-specific, hands-on experiences in natural, physical and earth sciences. **All programs complement the NC Standard Course of Study Science, Math and Language Arts curriculum goals**, as listed below each description. All CSC programs are designed to further students' understanding of the nature of Science.

Classroom Programs

A field trip to Catawba Science Center is an exciting opportunity for groups to share interactive learning experiences. In addition to your chosen program, your group is free to explore the entire museum. Staff is located throughout CSC to enrich your group's visit.

Length: 50 or 80 minutes (noted in descriptions)
Group size: 30 students maximum per program
Available between 9 a.m. & 4 p.m., Tuesday - Friday
Classes begin on the hour or half-hour only.

Outreach Programs

Instead of scheduling a field trip to CSC, we can bring the same exciting classroom programs to your site. Please note within each class description whether or not the program is offered as outreach.

Length: 50 or 80 minutes (noted in descriptions)
Group size: 30 students maximum per program
Available between 8:30 a.m. & 3:30 p.m., Tuesday - Friday

Assembly Programs

These programs will both educate and entertain large groups. Learn fascinating facts about live reptiles or observe exciting physical science demonstrations.

Length: 50 minutes
Group size: 200 students maximum per outreach program; 100 students maximum per program at CSC.
Available between 9 a.m. & 3:30 p.m., Tuesday - Friday

Planetarium Programs & Shows

The planetarium/digital theater brings the night-time sky alive indoors. Programs are available for grades K-12, and focus on stars, the moon, planets and constellations. Groups can also choose to book a digital theater show, for the program fee.

Length: 50 minutes for programs, shows vary in length
Location: CSC
Available between 9 a.m. & 12 p.m., Tuesday - Friday
Group size: Planetarium programs can accommodate two classes at a time, up to 65 total participants. For programs, only groups from the same school will be combined. For digital theater shows, groups from different grades/schools may be combined. Programs held within the planetarium/digital dome theater have limited seating. The number of chaperones admitted per group will vary depending on available space.



Offerings at a Glance

Park Programs

Students, in grades kindergarten through eighth, will use their science investigation skills to explore ecosystems, including wetlands, field, forest and/or stream. Located in northwest Hickory, Glenn Hilton Park affords great learning opportunities, picnic shelters and play areas for visiting school groups.

The City of Hickory requires registration and a fee for groups from outside Catawba County to use picnic shelters.

For more information about park guidelines, or to make a reservation, call Hickory City Parks at (828) 322-7046.

Length: 50 minutes to 1 hour, 20 minutes (see description under grade level)

Location: Glenn Hilton Park

Group size: 30 students maximum per program

Maximum 2 groups per time slot

Available between 9 a.m. & 4 p.m., Tuesday - Friday;

August - October and April - June

Museum Exploration Only

(No Program)

Self-guided explorations without programs are available to any group of 10 or more. A special group rate for this self-guided experience is \$5 per student.

Please note: CSC Member benefits do not apply for visiting students or chaperones.

Preschool Programs

CSC preschool educators use puppets, puzzles, live animals and more to introduce science to your students. Programs are available on site and as outreach.

Cost: \$75 per program

(contract for entire year available at varying rates)

Length: 45 minutes

Group size: 25 students maximum per program

For more information about preschool programs, contact preschool@catawbascience.org.



Kindergarten — 2nd Grade

LAB-TASTIC TOOLS (Kindergarten): Explore the world of scientific tools. Work in the CSC “lab” and learn to use the tools of science to measure and compare. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 4.01, 4.03 - 4.05

Math Goals: 3.04, 5.01

Language Arts Goals: 2.06, 4.01, 4.02

CREATURE FEATURE (Kindergarten): Students will become zoologists as they explore and discover different animal groups such as insects, sea life, mammals and more. Meet some of CSC’s resident live animals. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 1.01-1.03, 1.05

Math Goals: 2.01, 3.04, 4.01, 4.02, 5.01

Language Arts Goals: 2.06, 4.01, 4.02

BODY CONNECTIONS (Grades K-2): Investigate body systems, test your senses, learn the importance of good nutrition and exercise, and discover the microbes that can make you sick. Program available for Outreach and at CSC.

Time: 50 minutes

Kindergarten Science Goals: 1.01, 2.04, 5.01, 5.03, 7.02

First Grade Science Goals: 1.02, 5.01, 5.02, 8.02

Second Grade Science Goals: 1.02, 1.03, 3.02, 5.01, 5.02, 7.03, 8.03

EXPLORING NATURE (Grades K-2):

Explore wetland and forest habitats. Discover the similarities and differences between plants and animals. Learn about their needs and how they change over time.

Program held at Glenn Hilton Park.

Available August - October, April - June

Time: 50 minutes

Kindergarten Goals: Science 1.01-1.03, 1.05, 3.03; Math 2.01, 3.02, 3.03; Language Arts 2.06, 4.01, 4.02

First Grade Goals: Science 1.01-1.05; Math 5.01, Language Arts 2.07, 3.01

Second Grade Goals: Science 1.01-1.04; Math 5.01, Language Arts 2.04, 2.08, 3.01, 3.03, 4.04, 4.05

UP IN THE SKY (Grades K-2): Gaze upward and identify the things found in the sky during night and day. Investigate constellations and watch the story of Orion.

Program available only at CSC.

Time: 50 minutes

Kindergarten Goals: Science 2.02, 2.03; Math 2.01, 3.01, 3.02; Language Arts 2.01, 3.04, 4.01, 4.03, 4.04

First Grade Goals: Science 4.01, 4.03; Math 2.01, 3.03; Language Arts 2.06, 2.07, 3.03, 4.01

Second Grade Goals: Math 2.01; Language Arts 2.08, 3.01, 3.03, 3.04, 4.04, 4.05

EARTHY MATTERS (Grade 1): Classify and make discoveries about soil, rocks, and minerals. Encounter creatures that live in the soil. Program held at CSC.

Time: 50 minutes

Science Goals: 2.01-2.04, 3.02

Math Goals: 2.01(a), 5.01

Language Arts Goals: 2.07, 3.01

MAD MIXTURES (Grade 1): Explore the properties of solids and liquids, and find out what happens when you mix them together. Sort materials of all kinds, experiment with weight and buoyancy, and create a liquid density column. *Pair this class with a viewing of Molecularium in the Millholland Planetarium. Program available for Outreach or at CSC.*

Time: 50 minutes

Science Goals: 3.01-3.05

Math Goals: 2.01, 3.03, 5.01, 5.03

Language Arts Goals: 2.06, 2.07, 2.09, 3.03, 4.01

SHAPE DETECTIVES (Grades 1-2): Use observation skills to study geometric shapes in animals, plants and natural objects in the world around you. Practice non-standard units of measurement and find the area of an animal’s track. Examine evidence and chart your results to determine the culprit in a shape mystery! Program available for Outreach or at CSC.

Time: 50 minutes

First Grade Goals: Math 1.01(b), 1.04, 2.01, 3.03, 3.04, 4.02

Second Grade Goals: Math 1.01(e), 1.03, 2.01(a), 4.02

SLIME MATTERS (Grade 2): Explore the properties of the three states of matter and make some fascinating discoveries about how matter changes. Create your own slime and take it home. *Pair this class with a viewing of Molecularium in the Millholland Planetarium. Program available for Outreach and at CSC.*

Time: 50 minutes

Science Goals: 3.01, 3.02, 3.04, 3.06

Math Goals: 1.05, 2.01

Language Arts Goals: 3.03, 4.04, 4.05

SOUNDS GOOD (Grade 2): Make waves and vibrations while investigating the science of sound. Experiment with simple instruments and observe changes in pitch and volume. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 4.01-4.05

Language Arts Goals: 2.04, 3.01, 3.03, 4.04, 4.05

3rd — 5th Grade

BODY CONNECTIONS (Grade 3): Investigate body systems, including a look at the skeleton and joints. Learn the importance of good nutrition and exercise, and discover the microbes that can make you sick. *Pair this class with a viewing of Astronaut in the Millholland Planetarium.* Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 4.01-4.04;

Language Arts Goals: 1.04, 2.06, 2.08, 3.05, 4.01, 4.02

DIRTY SCIENCE (Grade 3): Investigate properties of soil and create a soil profile. Use a microscope to discover organisms that live in a compost pile. Program held at CSC.

Time: 50 minutes

Science Goals: 2.01, 2.02, 2.04, 2.05

Math Goals: 2.02 (a)

Language Arts Goals: 1.04, 2.08, 4.02

EARTH, MOON & STARS (Grades 3-5): Astro-adventurers will explore the relationship between the earth, moon and stars. You'll also master the meaning behind the moon's movement. Program available only at CSC.

Time: 50 minutes

Third Grade Goals: Science 3.01-3.06; Math 2.02, 3.01, 5.01; Language Arts 1.04, 2.06, 2.08, 4.01, 4.02

Fourth Grade Goals: Science 2.03, 2.04; Language Arts 2.09, 4.01, 4.02

Fifth Grade Goals: Science 2.06, 4.01, 4.02, 4.04, 4.05; Language Arts 2.09

SUPERMARKET MATH (Grades 3-4): Attention shoppers! Feeling cheated by your chips? Seriously short on cereal? Use balances to weigh food, and graph the results to investigate how supermarket products measure up.

Program available for Outreach and at CSC.

Time: 50 minutes

Third Grade Math Goals: 1.01(c), 1.02, 1.06, 2.01(b), 2.02(c), 4.01, 5.04

Fourth Grade Math Goals: 1.01(c), 1.04(a), 1.05, 4.01, 4.03, 5.01

Fifth Grade Math Goals: 1.01(c), 1.02(a), 1.03, 2.01, 4.01, 4.02

ECOSYSTEMS IN DEPTH (Grades 3-5): Explore the living and nonliving factors in forest and wetland ecosystems. Third graders will focus on soils and seeds, fourth graders will focus on adaptations, while fifth graders will study the interactions of plants and animals. Program held at Glenn Hilton Park.

Available August — October, April — June.

Time: 50 minutes for 3rd and 4th graders, 1 hour 20 minutes for fifth graders

Third Grade Goals: Science 1.01, 1.02, 2.01, 2.03, 2.04; Math 3.01; Language Arts 1.04, 2.06, 2.08, 4.02, 5.03

Fourth Grade Goals: Science 1.01-1.05; Math 2.01; Language Arts 2.09, 4.02

Fifth Grade Goals: Science 1.01-1.07; Language Arts 2.01, 2.02, 2.08, 2.09, 4.02

MAGNETRICITY (Grade 4): Learn about current electricity by building simple circuits and discover the relationship between electricity and magnetism. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 3.02-3.04, 3.06, 3.08

Math Goals: 4.04

Language Arts Goals: 2.01, 2.02, 2.06, 2.09, 4.02

SQUID SCIENCE (Grade 4): Dive in and discover the many characteristics of a squid and learn how their adaptations make them suited to life in the ocean. Take a peek at the inside, too. Additional materials fee of \$24 per class required. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 1.01, 1.03, 1.04

ROCK HOUNDS (Grade 4): Become a geologist as you uncover the differences between rocks and minerals. Investigate the properties of minerals and discover everyday products in which minerals are used. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 2.01-2.05

Math Goals: 4.01, 4.03

Language Arts Goals: 1.02, 1.03, 2.02, 2.09, 4.02

WEATHER UNDER PRESSURE (Grade 5): Learn about the different factors that affect our weather. Discover how cloud formation is related to weather patterns and precipitation. Observe convection currents and the amazing effects of air pressure. *Pair this class with a viewing of Force 5 in the Millholland Planetarium.* Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 3.02-3.04

TOYING WITH MOTION (Grade 5): Experiment with things that fly, roll and balance, exploring concepts of force, gravity and inertia. Good introduction to units on forces and motion. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 4.01-4.07

Math Goals: 1.03

Language Arts Goals: 1.03, 2.01, 4.02

ANIMAL INNARDS (Grade 5): Let a CSC educator guide your students through the dissection of an animal or organ of your choice. Students work in teams of 2-4. Specimen options and their additional cost that will be added to the program fee are listed below.

Program available for Outreach and at CSC.

Time: 1 hour, 20 minutes for organisms, 50 minutes for organs.

Squid — \$4 each, Frogs — \$4.50 each

Cow eyes — \$3 each, Pig hearts — \$7 each

Perch — \$3 each, Fetal pigs — \$21 each

Science Goals: Nature of Science

Language Arts Goals: 2.09

6th — 8th Grade

ANIMAL INNARDS (Grades 6-8): Let a CSC educator guide your students through the dissection of an animal or organ of your choice. Students work in teams of 2-4. Specimen options and their additional cost that will be added to the program fee follow. Program available for Outreach and at CSC.

Time: 1 hour, 20 minutes for organisms, 50 minutes for organs.

Squid – \$4 each, Frogs – \$4.50 each
Cow eyes – \$3 each, Pig hearts – \$7 each
Perch – \$3 each, Fetal pigs - \$21 each

Sixth Grade Goals: Science 1.03, 7.03, 7.06

Seventh Grade Goals: Science 1.03, 4.03

Eighth Grade Goals: Science 1.03

Sixth – Eighth Language Arts Goals: 1.03, 1.04, 2.01, 6.01, 6.02

TOYING WITH ENERGY (Grade 6): Unleash a genie in a bottle, experiment with conduction blocks and boil liquid with your bare hands as you experiment with convection, sound and the Law of Conservation of Energy. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 6.01-6.04, 6.07

Math Goals: 1.02(b), 1.07, 4.03, 4.05, 5.04

Language Arts Goals: 1.03, 2.01, 6.01

SOLAR SYSTEM 101 (Grades 6-8): There's lots to learn about space. See the sun, moon, stars, planets, asteroids and comets in a new and dynamic way. After this crash course, we'll wrap space up with the forces that unite it all. Program available only at CSC.

Time: 50 minutes

Sixth Grade Goals: Science 1.09, 2.01, 2.03, 5.01-5.05, 6.05; Language Arts 1.03, 2.01

Seventh Grade Goals: Science 1.09, 2.01, 2.03, 3.01, 6.03, 6.04; Math 3.01; Language Arts 1.03, 2.01

Eighth Grade Goals: Science 1.09, 2.01, 2.03, 4.01; Language Arts 1.03, 2.01

HYDROMANIA (Grades 6-8): Investigate aquatic ecosystems. Capture and identify macro-invertebrates and explore how they interact with other living things and their habitat. Eighth graders will test for dissolved oxygen, pH and turbidity. Wear shoes that can get wet.

Program held at Glenn Hilton Park.

Available August – October, April – June.

Time: 1 hour, 20 minutes

Sixth Grade Goals: Science 1.01-1.03, 2.03, 7.01-7.03; Math 1.02(b), 2.01;

Language Arts 1.03, 1.04, 2.01

Seventh Grade Goals: Science 1.03; Language Arts 1.03, 1.04

Eighth Grade Goals: Science 1.01, 1.03, 1.05, 1.08, 1.09, 3.04, 3.05, 3.07, 3.08; Math 1.02, 4.01; Language Arts 1.03, 1.04, 2.01, 6.01

WILD WEATHER (Grade 7): Learn about the different factors that affect our weather. Observe "lightning" and sling a psychrometer to determine humidity. *Pair this class with a viewing of Force 5 in the Millholland Planetarium.* Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 1.01, 1.05, 1.07, 1.08, 3.05, 3.06

Language Arts Goals: 1.03, 1.04, 2.01

DNA DETECTIVES (Grade 7): Learn the basics of genetics and biotechnology as you work in science teams to isolate and extract real DNA. Specify *E.coli* or strawberry DNA extraction when scheduling. Discover more about our human genetic code.

Program available for Outreach and at CSC.

Time: 1 hour, 20 minutes

Science Goals: 1.01, 5.01, 5.02, 5.05, 5.06

Math Goals: 1.01, 1.03

Language Arts Goals: 1.03, 2.01, 6.01

NEWTON'S AMAZEMENT PARK (Grade 7): Experiment with gravity and Newton's laws of motion and discover what really holds you in your seat on a rollercoaster. Program available for Outreach and at CSC.

Time: 50 minutes

Science Goals: 1.01, 1.05, 1.08, 6.03-6.05

Math Goals: 1.03, 5.04

Language Arts Goals: 1.03, 2.01, 6.01

RADICAL REACTIONS (Grade 8): Review chemistry with a peek at the periodic table of elements and explore the basics of reactions with fiery demonstrations. Experiment with systems to test the Law of Conservation of Mass. Program held at CSC.

Time: 50 minutes

Science Goals: 1.03, 1.06, 4.03, 4.06, 4.07

Math Goals: 1.02, 4.01

Language Arts Goals: 1.03, 1.04

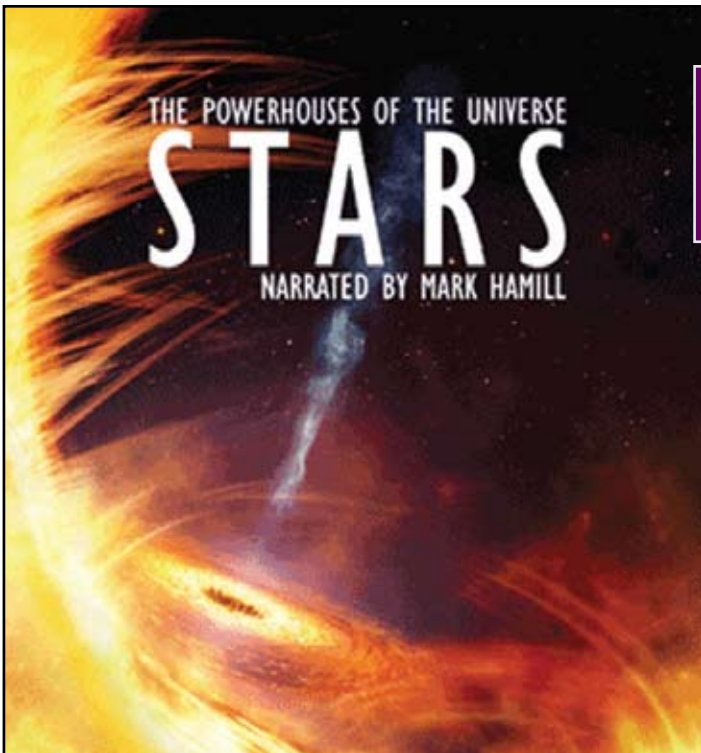
MICRO-INVESTIGATIONS (Grade 8): Review the basics of plant and animal cells and their contents. Watch organelles in action to keep the cell alive. Observe several living microscopic organisms. Program held at CSC Wednesday through Friday only. Additional materials fee of \$20 required (will cover multiple classes per day.)

Time: 1 hour, 20 minutes

Science Goals: 1.03, 6.01, 6.02, 6.04

Math Goals: 1.02, 4.01

Language Arts Goals: Language Arts 1.03, 2.01



High School

THE UNIVERSE – STARS (Grades 9-12): Dive deep into the science of space, star evolution and their characteristics, beginning with the digital film *Stars: The Powerhouses of the Universe*. The stuff of the universe will be put in front of a telescope.
Program available only at CSC.

Earth/Environmental Science Goals: 6.01-6.05

Physical Science Goals: 2.01, 2.02

Physics Science Goals: 2.01, 6.01

SCIENCE INQUIRY FESTIVAL : *Our Earth, Our Friend*

Can you do the waggle dance? Do roaches really hiss? Discover the answers to these questions and many more when your school books a **Science Inquiry Festival**.

Each of the six stations features guided scientific investigations into environmental concerns that affect our earth, challenging students to hone their inquiry skills as they general hypotheses, make observations and interpret their findings.

Students will experiment with solar energy, make fascinating discoveries about solutions and mixtures, investigate the “mystery” of the dying fish, and much more in this exciting and popular outreach program.

You can book a school-day or evening festival (or multi-day event) at a low, per-student cost.

Grade levels: Kindergarten – 8th Grade

Length: Up to five, one-hour sessions per day, or one three-hour evening session

Cost: \$450 first day or evening; \$250 for a second day/evening option

Mileage (Outside of Catawba County): current federal mileage rate + per diem charge and hotel cost if overnight stay is required

Program Requirements: School must provide a gymnasium-sized room with access to water and electricity, 12 tables and chairs, and a minimum of 12 adult or high school volunteers to manage stations.

The Science Inquiry Festival complements the following NC Standard Course of Study goals for Science, Math and Language Arts: The Nature of Science; Science as Inquiry; Science and Technology; Science in Personal and Social Perspectives; Number Sense, Numeration, and Numerical Operations; Spatial Sense, Measurement, and Geometry; Patterns, Relationships and Functions; Data, Probability, and Statistics; Oral Language; and Written Language

PLANETARIUM SHOWS



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.



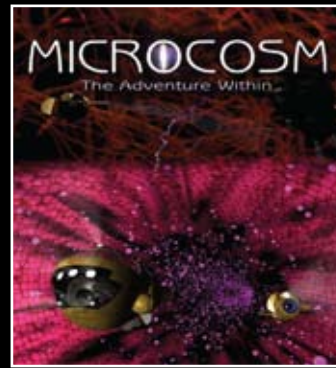
Ice Worlds

Ice Worlds is a tour of the icy landscapes of our solar system, especially our home planet Earth. Audiences explore the critical relationship between ice and life — a tale of friend and foe, enabling, challenging, supporting and adapting — that has developed over millions of years.



The Zula Patrol: Under the Weather

Join The Zula Patrol on an exciting expedition across the sky. When the nefarious Dark Truder steals the weather from the Solar System planets, The Zula Patrol goes after him, discovering both terrestrial and planetary weather along the way. Suit up and get ready to learn with The Zula Patrol!



Microcosm: The Adventure Within

In Microcosm an armada of nanoshells, displayed as yellow submarines, sets out in the blood stream, through the eye, ear and brain, in search of a deadly virus. The virus is found, a fierce battle wages over the Planetarium dome, and the patient is saved. *Available for schools starting in January.*

Additional Titles Available:

Astronaut — An investigation on the effects of space on the human body, what it takes to become an astronaut and survive in the vacuum of space.

Black Holes: The Other Side of Infinity Journey through one of the most mystifying, awe-inspiring phenomena in the Universe — a black hole. Where do they come from, and how do we find them?

Extreme Planets

From water worlds to molten landscapes, inhabitable moons to planets with multiple moons, these exotic worlds aren't just science fiction anymore.

Force 5: Feel the Fury — Extreme weather takes center stage in this full-dome digital feature. See and feel what it would look like while standing in the middle of a deadly storm.

Heart of the Sun — An examination of our nearest star from the cultures of ancient sky watchers to present day astronomers and astrophysicists.

Infinity Express — A grand tour of the latest from the world of astronomy — from Mars and Jupiter to the Space Program and structure of the Universe.

Molecularium — Review the states of matter, and learn all about atoms and molecules in this animated feature.

Stars: Powerhouses of the Universe

Every star has a story. Some are as old as time, faint and almost forgotten. Others burn bright and end their lives in powerful explosions. New stars are created every day, born of vast clouds of gas and dust.

The Search for Extra Terrestrial Intelligence

Explore all sides of this topic, from the planets we are finding around other stars, to the feasibility of traveling to the stars, and what aliens might actually be like.

The Secret of the Cardboard Rocket

Embark on an outstanding adventure as two children spend a night touring the solar system alongside their ship's navigator, an astronomy book, in this animated feature.

The Little Star That Could

Journey with "Little Star" as he meets other stars, learns what makes them special and discovers how they combine to form star clusters and galaxies in this animated feature.

PLANETARIUM SHOW + PROGRAM

Combine any digital planetarium feature with a classroom program. Pairings can reinforce the content received in your class or expand the objectives covered during your CSC visit.

SUGGESTED PAIRINGS:

- Molecularium* + Mad Mixtures (1st Grade)
- Molecularium* + Slime Matters (2nd Grade)
- Astronaut* + Body Connections (3rd Grade)
- Force 5* + Weather Under Pressure (5th Grade)
- Force 5* + Wild Weather (7th Grade)

PLANETARIUM
PAIRINGS

Featured Exhibits



Infectious Diseases: Evolving Challenges to Human Health • Now Open

Interactive displays offer a rarely seen view of our microbial world. Students will gain an understanding of how scientists develop tools and strategies to treat diseases. Displays also allow students to explore the distribution of microbes, both in our bodies and around the world, see how vaccines are used to control and eradicate disease and learn how bacteria develop resistance to antibiotics.



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 *Apatasaurus* 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.



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.

| Program | Max. # students per program | Fees Contract Schools | Fees Non-Contract Schools |
|-------------------------------------|------------------------------------|--|---|
| Program at CSC or Glenn Hilton Park | 30 | \$90 per program <i>includes exhibit exploration</i> Admission for teachers & aides covered by program cost; 1 chaperone/10 students = free; additional = \$5 ea.* | \$105 per program <i>includes exhibit exploration</i> Admission for teachers & aides covered by program cost; 1 chaperone/10 students = free; additional = \$5 ea.* |
| Outreach Class at Your School | 30 | \$125 per program, or \$450 for 4 programs <i>(same topic & day)</i> + current federal rate per mile outside Catawba County | \$140 per program, or \$500 for 4 programs <i>(same topic & day)</i> + current federal rate per mile outside Catawba County |
| Science Inquiry Festival | 400 per day | \$450 first day \$250 second day Current federal rate per mile outside Unifour area + per diem charge outside Catawba County | \$450 first day \$250 second day Current federal rate per mile outside Unifour area + per diem charge outside Catawba County |
| Science Assembly | 200 - Outreach 100 - CSC | \$300 per assembly Additional same day, \$250 ea. (limit 3) Outreach charges apply | \$400 per assembly Additional same day, \$350 ea. (limit 3) Outreach charges apply |
| Self-guided CSC Exhibit Exploration | N/A | \$5 per person* 1 adult/10 = free; additional = \$5 ea. | \$5 per person* 1 adult/10 = free; additional = \$5 ea. |

Payment

All payments are due in full when your group arrives at Catawba Science Center (or when CSC staff arrive to deliver a program at your school) unless prior arrangements are made for invoicing.

**Membership admission not applicable with group visits.*

Programs Outside the Unifour

Outreach programs conducted in counties other than Alexander, Caldwell and Catawba must total at least \$250 (plus mileage) per day. Mileage will be charged for all programs outside of Catawba County. For programs that require an overnight stay by CSC staff, a possible per diem and hotel fee may be charged.

Planning Your Visit

Fill out this worksheet prior to contacting Catawba Science Center for an easier scheduling experience. Once scheduled, visit CSC's website to better prepare for the day of your field trip.

Program Title _____

Number of programs needed _____

You will need all teacher names. Group size for most programs is limited to 30 participants.

Date _____

Alternate #2 _____

Alternate #3 _____

Please note, CSC has the highest group visitation in March, April and May, between the hours of 9 a.m. and noon.

While there are no guarantees, it is more likely that there will be fewer other groups visiting if you schedule *outside* of the above months, days and times.

Time range available for your programs _____

Do you want your program at CSC, or at your school? _____

The Special Events Room (located in the planetarium building) can accommodate groups of 50 at a time for lunch. **Reserve in 30 minute time slots, on a first come, first served basis.**

No other lunch facilities are available at CSC.

Special Events Room Yes No

Time range needed _____

Now you're ready to make a reservation:

We encourage you to schedule well in advance. **To make a reservation, e-mail scheduling@catawbascience.org, or call (828) 322-8169, ext. 301.**

Please do not fax this worksheet in lieu of a phonecall or e-mail.

Cancellations:

Please notify us immediately if you need to reschedule or cancel your visit. "No shows" and groups canceling within 24 hours of their scheduled visit will be charged the full amount. In the event of a rained-out program at Glenn Hilton Park, groups are encouraged to reschedule or have a self-guided exploration of CSC exhibits.

Family Science Nights

Looking for a fun & educational event for your school?

Catawba Science Center would love to host your students and their families for an exciting evening, featuring an after-hours visit of exhibits and planetarium programming, or a series of themed classes. *Call (828) 322-8169 for pricing information.*

Assemblies

PHYSICS PHUN (suggested upper elementary — middle school):

See a variety of physical science demonstrations that appear magical and then learn the science behind them. Featured demos include tablecloth yank, Van de Graaff generator, giant lever and more.

Program requirements: two 6' tables, access to electricity

ROCKIN' REACTIONS (suggested upper elementary — middle school): Learn some basics of chemistry through these sometimes fiery demonstrations. Program includes liquid nitrogen favorites, exploding silo, elephant toothpaste and more.

Program requirement: one 6' table

REALLY RAD REPTILES (elementary – middle school): Get up-close and personal with a variety of live animals as your students discover the fascinating world of reptiles. Find out which characteristics alligators, snakes, lizards and tortoises share with each other and other animals, along with what makes each unique.

Program requirement: at least one 6' table

Assembly Programs available as Outreach, or at Catawba Science Center

Teacher Services & Benefits

Customized Workshops

Let us design a special in-service workshop for your teachers or group. CSC Educators cater the workshops to meet your needs, and can cover any science topic and integrate it with the *NC Standard Course of Study*.

Cost is based on the number of hours of instruction. *Call (828) 322-8169, ext. 305 for more information.*

Special Member Rates & Discounts

Receive a 10 percent discount on purchases in the Science Shop gift shop, with your teacher ID.

Certified public & private school teachers (K-12) with current school ID in North Carolina are also eligible for a CSC Membership at a reduced rate. *Call (828) 322-8169, or visit www.CatawbaScience.org to download an application on the Membership page, under Join/Support.*

Supplement Your Income

CSC seeks certified K-12 educators to teach engaging science classes during the school year for evening groups and during scheduled holidays. During summer vacation, CSC also has opportunities for educators to teach throughout its annual Summer Fun Science Camp in June, July and August. Classes for youth in grades Pre-K through rising ninth are Monday — Friday, from 10 a.m. until noon.

Download an application at **www.CatawbaScience.org** on the employment page.



Visit CSC minus the students...

Science After Dark, a series of social and educational programs for adults, offers a chance to explore exhibits, see a planetarium or laser show, attend a workshop or Science Cafe. Topics include: Alternative Medicine, Neurobiology, Science of Tattoos and more.

Information about Science After Dark programs and laser shows at **www.CatawbaScience.org**, or (828) 322-8169.

Shop for Science



Don't forget to visit CSC's Science Shop gift shop, with two locations.

Teachers will find a variety of resources for the classroom, including science kits, colorful guidebooks, telescopes, ideas for science projects and a series of workbooks with engaging science experiments that support *National Science Education Standards*.

The Science Shop also features science-related gifts with aquatic and astronomy themes, as well as puppets, puzzles, posters, T-shirts, tote bags, coffee mugs and more. Prices start as low as 25-cents for young shoppers.

Themed grab bags are also available for order in advance. To learn more about these and other items specially priced for student shoppers, contact the Science Shop manager at (828) 322-8169, x 309.

**While you are at the Catawba Science Center...
INCLUDE A TRIP to the HICKORY MUSEUM OF ART!**

The Art Museum offers curriculum related tours and hands-on projects to school groups of all ages. Programs incorporate competency goals from language arts and social studies to engage students through visual learning.

**Tours will include the new interactive exhibition —
DISCOVER FOLK ART: Unique Visions by Self-Taught Southern Artists!**

Tour Options:

- \$2 per student for a 1½ hour visit (includes tour plus hands-on art activity)
- \$1 per student for a 45 minute tour

Call Ginny Zellmer to schedule your visit: 828.327.8576

Located in the Arts & Science Center of Catawba Valley
243 3rd Ave NE • Hickory, NC 28601
828.327.8576 • www.HickoryArt.org



Partners in Science

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Space Science

Corporate Management Services
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Thank You to our Partners in Science for providing the essential support that allows CSC's educational programming fees to remain as low as possible for schools in the community.

For more information about CSC's Partner in Science program, call (828) 322-8169.