



*School Program Catalog  
And  
Visit Planner  
2011-2012*



# How to Schedule Your Visit

(please call at least 2 weeks in advance)

Call 606-886-7398 or 606-889-8260

Please have the following information on hand when you call:

1. Your contact information (school name, phone #, fax #, grade level and number of students).
2. When you would like to visit (date, arrival and departure times).
3. What programs you would like to do (the exhibit, specific planetarium and/or classroom programs).
4. Number of chaperones (all teachers, bus drivers and up to one chaperone for every 10 students receive free admission to the Science Center during your visits— Additional adults will be charged a fee).
5. How you will make your payment (Please make one group payment for everyone from your school— students plus extra chaperones. The Science Center accepts school checks, school PO's, major credit cards, personal checks or cash—No envelopes with loose change please!).

## Cancellation & Late Arrival Policies

Reservations may be canceled up to **48 hours** prior to reserved date with no penalty. Cancellations less than 48 hours prior and no-shows will be charged a **\$50** cancellation fee. There will be no penalty for weather related cancellations.

Please keep in mind that the science center follows the BSCTC schedule. If they are on a delay or closed due to weather, the center will also be opening late or closed. If you are unsure of our schedule, call the center before leaving your school.

**Please arrive on time.** The Science Center schedules multiple school groups and if your class is late we may not be able to provide all of your programs.

## Planetarium Programs

Full dome system new for 2011-2012 year!

Planetarium shows last from 20-60 minutes. Due to Fire Marshal regulations, seating is limited to a **total of 85** students, teachers and chaperones. More shows will be added as they become available.

### Oasis in Space

**Recorded Program**-Be transported on a startling and beautiful voyage through our universe, galaxy, and solar system in search of liquid water, a key ingredient for life on Earth.

### Two Small Pieces of Glass

**Recorded Program**-Trace the history of the telescope from Galileo's modifications to a child's spyglass-using two small pieces of glass-to the launch of NASA's Hubble Space Telescope and the future of astronomy. Explore the wonder and discovery made by astronomers throughout the last 400 years including Galilean Moons, Saturn's rings, and the spiral structure of galaxies.

### IBEX

**Recorded Program**-Investigate the boundary between our Solar System and the rest of our galaxy by following the creation of NASA's Interstellar Boundary Explorer (IBEX). Get an in-depth look at the mission, and how IBEX is mapping our Solar System's boundary. Hear from the developers of the IBEX mission, and get the latest updates on the mission's discoveries.

### The Sky in Motion

**Live Program**-Discover the sky on a guided tour through the current sky to find out how the sky changes throughout the day and night. Examples include moon phases, how the sun rises and sets throughout the year, and the constellations that are seen at different times of the year.

### Stories in the Sky

**Live Program and Laser Show**-A live presentation highlighting constellations as seen by many different cultures, followed by an exciting laser show that features a mythical storytelling of seasonal constellations.

Note: Choice of *Legends of the Night Sky: Perseus and Andromeda* or *Legends of the Night Sky: Orion*.

### Legends of the Night Sky: Perseus and Andromeda

**Laser Show**-Perseus and Andromeda is a fun-filled retelling of the tale of the beautiful but unfortunate princess Andromeda, who in divine punishment for her mother's bragging, is sacrificed to a sea monster - and rescued by the Greek hero Perseus.

### Legends of the Night Sky: Orion

**Laser Show**-Orion takes an imaginative look at the stories and legends about the great hunter of the winter sky.

### Colors of the World

**Laser Show**-With authentic instruments and sounds, students will explore music from many cultures.

### Peter and the Wolf

**Laser Show**-An entertaining story that teaches children of all ages about music and the instruments of the orchestra.

## Laser Light Shows

Laser shows last from 20-55 minutes. Due to Fire Marshal regulations, seating is limited to a **total of 85** students, teachers and chaperones. Complete song list is available in our Laser Show catalog. *\*Note: Content of some shows may be inappropriate for specific audiences.*

### **Beatles**

Music from the Beatles

### **Fright Light**

Halloween themed music

### **Holidays**

Christmas themed music

### **Hypnotica**

Music from Fat Boy Slim, The Chemical Brothers, Bjork and others

### **Laser Magic**

Music from Shania Twain, Will Smith, Celine Dion, No Doubt and more.

### **Laser Mania**

Music from Santana, Will Smith, Weird Al Yankovic, Beck and more.

### **Laseropolis**

Music from Alanis Morissette, the B-52's, Boston, REM and more.

### **Laser Pop**

Music from N'Sync, Pink, Sting, 3 Doors down and more.

### **Laser Retro**

Music from the Police, Duran Duran, the Cure, INXS and more.

### **Laser Creed**

Music from the band Creed.

### **Laser Praise**

Contemporary Christian music from Tobymac, U2, The Doobie Brothers, Stephen Curtis Chapman and more.

### **Laser Spirit**

Patriotic music from U2, Madonna, Kansas, Lee Greenwood and more.

### **Laser Vinyl**

Rock music from Van Halen, Queen, Kiss, Aerosmith and more.

### **Led Zeppelin**

Music from the band Led Zeppelin.

### **Pink Floyd's Dark Side of the Moon**

Music from Pink Floyd's Dark Side of the Moon.

### **Pink Floyd's The Wall**

Music from Pink Floyd's The Wall.

### **Laser Country**

Music from Garth Brooks, Rascal Flatts, Carrie Underwood, and more.

### **Laser Metallica**

Music from the band Metallica.

### **Laser Tool**

Music from the band Tool.

### **U2**

Music from the band U2.

### **Laser Rock**

Music from Santana, Foo Fighters, U2, Nickelback and more.

### **Pop 08**

Music from Gnarls Barkley, Nelly Furtado, Justin Timberlake, and more.

## **Hip Hop**

Music from Black Eyed Peas, Cherish, Fergie, and more.

## **Laser X**

Alternative music from Rage Against the Machine, Smashing Pumpkins, Foo Fighters, and more.

## **Classroom & Outreach Programs**

All programs available at the science center or as an outreach and last 30-60 minutes. Maximum of 30 students for each.

### **Riverworks Discovery (K-8)**

Go on a journey of exploration and imagination while learning about the commerce, culture, and conservation of America's rivers and their watersheds. Observe what happens to rain by doing the hands-on activity!

**Note:** This program is free during the Fall semester and includes the planetarium show *Oasis in Space*.

### **Cartesian Divers (4-12)**

Have you ever wondered why ice floats? Learn about density and how it is calculated by conducting density experiments. Create a cartesian diver to see what happens when pressure is added to the equation.

**Please Note:** 2-liter bottles are required for this activity.

### **Good Vibrations (K-12)**

Sound is produced by vibrations of objects. Determine the speed of sound with these hands-on experiments that include tuning forks.

### **Rock & Mineral Identification (4-12)**

Become a geologist and learn the simple techniques for identifying rocks and minerals including testing for hardness and streak color.

### **Animal Adventures (K-12)**

Learn about the animals of the science center! Lessons include: classification of animals, care and nutrition, predator versus prey, and food chains. Please specify age and topic when reserving.

**Note:** Teachers choosing this program will be given the opportunity to participate in the "Adopt a Roach" program for free.

### **Size Matters (3-12)**

See our place in space by building a scale model of our solar system completely out of Play-Doh! Then put on some walking shoes for a visual demonstration of just how far away Pluto really is!

### **Star Time (3-12)**

How did people keep time before clocks and calendars? Learn about the way the Sun, the moon, and stars were used for these purposes while creating a star clock and a solar clock. This program includes a visit in the planetarium for a demonstration.

### **Phun Physics (6-12)**

What happens to objects placed in a vacuum? Can a person lie on a bed of nails and survive? See these demonstrations, as well as do some hands-on activities to find out how fun physics can be!

### **Photosynthesis Fundamentals (4-12)**

How do plants make their own food? Students will conduct experiments in order to learn what nutrients and energy are required for plant photosynthesis.

### **See the Light (4-12)**

Learn about the color spectrum. Find out if white light is really white when looking through diffraction glasses. Using a spectroscope, determine the wavelengths and colors of some common gases and create charts to show their differences.

### **energee! (K-12)**

Learn about renewable and nonrenewable energy sources. Activities include solar beads and chocolate chip cookie coal mining!

**Note:** Compliment to our Fall Exhibit.

### **Healthy Habits (K-12)**

Find out about the importance of healthy eating habits and regular exercise.

**Note:** Compliment to our Spring Exhibit.

### **Comets in the Classroom (2-12)**

Can carbon dioxide gas turn into a solid?

Come and observe how a comet can be created with common ingredients! Learn about the history of comets, as well as the different parts that make up these celestial wonders.

### **Mystery Planet (K-6)**

Journey to far away worlds without ever leaving the classroom and learn how astronomers study these places without ever going there. Observe our mystery planet up close with a telescope and send a probe for samples to sift through! The importance of the scientific method, including data collection and observation, as well as improvements in technology will also be discussed.

### **Forces and Motion (3-12)**

Find out how Newton's Cradle works and explore Newton's Laws of Motion through a series of demonstrations and hands-on experiments.

### **How does my body work? (K-6)**

Learn how the human body works by examining bones, viewing tissues under the microscope, and examining real organs! (30-45 minutes)

**\*Programs can be scheduled on Monday and Wednesday mornings (9-11am) and Fridays.**

### **Germs, Germs Germs!! (K-6)**

**Students learn basic information about bacteria and viruses and how these organisms can be both beneficial and harmful. (30 min-2 hours)**

Students will observe bacteria under the microscope, water samples, and prepared cultures of bacteria. They will also get to participate in a mock epidemic and see what germs reside on their own skin.

**Please note:** After swabbing their skin the bacteria will require a 24-48 hour growth period. I can arrange to visit the classroom for a short discussion and viewing of the results or students can return for a second day of activities.

**\*Programs can be scheduled on Monday and Wednesday mornings (9-11am) and Fridays.**

### **Cells: The Universe Inside Us (4-12)**

(30min-2 hours depending upon age and activities selected)

Journey into the microscopic world of cells and learn the fundamental difference between the two types of cells that comprise all life; Eukaryotic (plant, animal and fungal cells will be discussed) and Prokaryotic (bacteria).

Students will be introduced to the microscope and learn the proper steps to focus prepared slides as well as slides they make themselves! **(Grades 4-12)**

Students can take a more in depth view of the inner workings of a cell by performing additional hands on activities. Focus will be on the plasma membrane, organelles within the cells, and the structure of DNA. **(Grades 6-12)**

**\*Cell programs can be scheduled on Monday and Wednesday mornings (9-11am) and Fridays. Programs also available as outreach.**

### **Whose Bone Is It? (7-12)**

Put your CSI cap on and learn how to look at bones to figure out if the remains are female or male.

**\*Program lasts about an hour and is only available on Tuesday and Thursday afternoons.**

## **Special Programs**

These programs are offered at \$9.00 per student and include a planetarium show. Please read each note carefully for each program's specifications. Maximum of 30 students for each.

### **Genes in a Bottle (7-12)**

Learn about how genetics makes us unique. Extract DNA from your cheek cells to create a necklace with your own DNA. Learn about enzymes and biochemistry techniques.

**\*Program lasts about two hours and is only available on Friday mornings.**

### **DNA Fingerprinting/Electrophoresis (9-12)**

What is the structure of DNA? How can the techniques of using restriction enzymes and electrophoresis be used to solve crimes? Come and develop your CSI skills.

**\*Program lasts about two hours and is only available on Friday mornings.**

### **Polymerase Chain Reaction (9-12)**

Learn the DNA amplification process used in forensic science and genetic studies.

**\*Program lasts about two hours and is only available on Friday mornings.**

### **Explore the exciting world of Microbiology (7-12)**

**Learn about the biology of microbes and examine their role in disease and the environment. (2 hours)**

Students will learn basic principles and techniques commonly employed in the field of microbiology by culturing the bacteria *E. coli* and *S. aureus*, performing a gram stain, and learning how to use the microscope.

Students will also conduct antibiotic susceptibility tests and learn about *E. coli* as an environmental indicator by processing water samples.

**Please note: This program requires you to come to the science center on 2 consecutive Fridays but you will only pay one fee. (2 hours each day)**

**\*Microbiology program available on Fridays only.**

### **Hands on Anatomy and Physiology Fun! (7-12)**

**Explore the Anatomy and Physiology of the human body.**

Choose from one of the following 3 activities:

#### **Cardiovascular and Respiratory systems**

Explore the cardiovascular and respiratory systems by performing heart dissections, examining real lungs and performing blood typing activities. (2 hours)

#### **Urinary System**

Learn about the urinary system by performing kidney dissections and urinalysis experiments. (1.5-2 hours)

#### **Nervous System**

Learn about your nervous system and special senses by dissecting an eye and brain and doing hands on activities with smell and taste.

**\*Anatomy and Physiology programs can be scheduled on Monday and Wednesday mornings (9-11am) and Fridays. Programs also available as outreach.**

## Power Point Presentations

Each presentation is approximately one hour in length with a question and answer session included. These can be viewed at the science center or as an outreach program. PC and projector are not required.

### **Solar System Adventures (K-12)**

Take a journey through the solar system starting at the sun and ending at the Oort cloud. Along the way, each planet will be visited to discuss their various characteristics. Other space objects included in the program are the sun, natural satellites, asteroids, and comets. Find out what the problem with Pluto is and what it takes to be a planet.

### **History of Space Flight (6-adult)**

Journey back in time from the early days of spaceflight starting with the launch of the Soviet Sputnik through the Mercury, Gemini, and Apollo Moon Landing programs. Included in this presentation is the Space Race with the Soviets, the Space Shuttle, and the International Space Station. Learn about discoveries made by unmanned space missions such as the Voyagers, Vikings, Mariners, and the Hubble Space Telescope. Also see how spaceflight technology is used in everyday life.

# School Admission Rates

## Center Programs

Planetarium-Exhibit-Classroom

Maximum total of **85** students and adults in planetarium.

	<b>One Program</b>	<b>Two Programs</b>	<b>Three Programs</b>
<b>Student</b>	\$3.50	\$6.00	\$9.00
<b>Teachers and Chaperones (1 Per 10 Students)</b>	Free	Free	Free
<b>Bus Drivers</b>	Free	Free	Free
<b>Additional Adults</b>	\$3.50	\$6.00	\$6.00

## Outreach Programs

Maximum of 30 students per program

Programs last 30-60 minutes each.

Two Programs minimum and four programs maximum

\$75.00 per program within our five county service area  
(Pike, Floyd, Johnson, Martin and Magoffin Counties)

Please call for pricing if you are located outside of these 5 counties.

## Gift Shop

Please tell your students to bring money for the gift shop if you plan to allow them to shop.  
We have items priced as low 25 cents.

The Gift Shop offers items that will excite your budding scientist and reinforce the learning experience at the science center.

Items range from educational books and activities, exotic imports from around the world, to things that are just plain fun.

EKSC is part of the Prestonsburg campus of the Big Sandy Community and Technical College.

\*BSCTC is an equal opportunity employer and education institution.