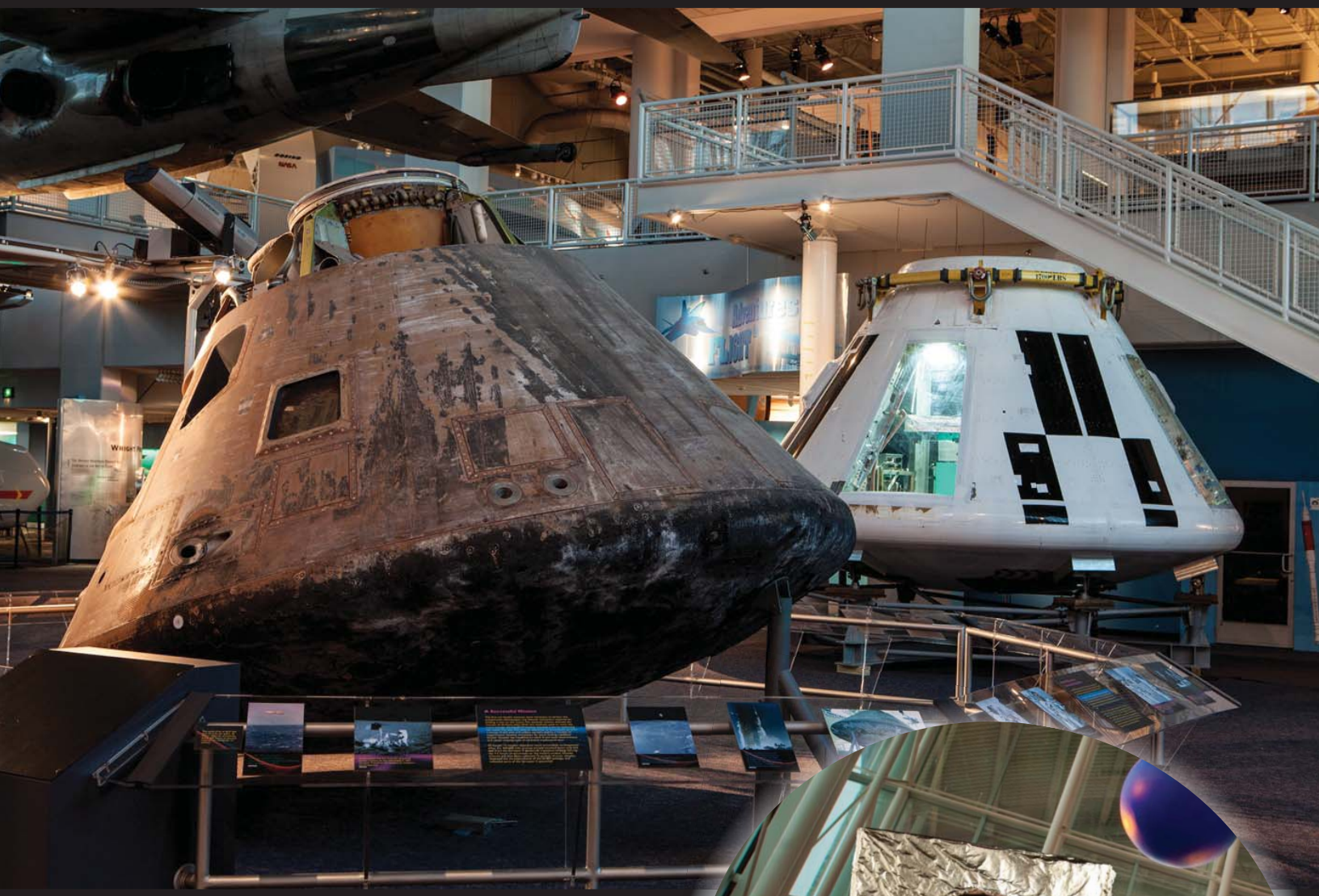
VIRGINIA AIR & SPACE CENTER

# EDUCATIONAL PROGRAMS 2013-2014




Visitor Center for NASA Langley Research Center
& Langley Air Force Base

# Welcome

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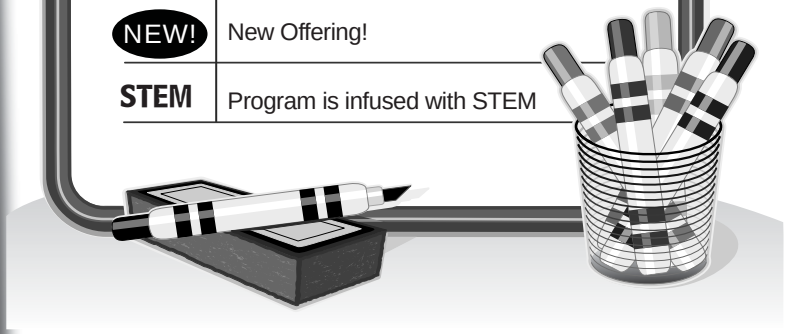
## Legend of Symbols

| | |
|---|---|
|  | Science on the Move Outreach program |
|  | Program meets Virginia's Standards of Learning guidelines |
| NEW! | New Offering! |
| STEM | Program is infused with STEM |



## Scheduling your group visit

Advance reservations are required for educational tours, demonstrations, programs, and IMAX films. Dates fill up quickly, so schedule your visit as early as possible. To make your reservation please do one of the following:

**Call:** (757) 727-0900 ext. 780 or (800) 296-0800 ext. 780

**Fax:** (757) 727-0898
Attn.: Group Sales

**Mail:** Virginia Air & Space Center
Attn.: Group Sales
600 Settlers Landing Rd. • Hampton, VA 23669-4033

**E-mail:** groupsales@vasc.org

After scheduling your visit, you will receive a reservation confirmation and directions on how to access pre-visit materials on-line. (Please provide two weeks notice.)

## Group Fees

*(per person)*

**Programs - $2**
**IMAX - 45-minute film - $6**
**IMAX - full-length feature film - $7.50**
**Exhibits - $7.50**
**Carousel Ride - $1**

## Educational Program Offerings

We offer an array of educational programs for grades pre-K through 12, designed to meet the Virginia Standards of Learning guidelines and National Science Education Standards, and stimulate your students' interests in STEM Careers (science, technology, engineering and math). Our informal science education approach promotes "learning through doing" which allows students to explore the basics of scientific principles in a fun and engaging environment. Students are challenged to develop inquiry skills and use hands-on investigation to find solutions to scientific problems through interactive, curriculum enhancing programs.

## Science on the Move - Museum Outreach

Let us bring the Virginia Air & Space Center to **you** through our **Science on the Move** outreach program. Nearly all of our regular educational programs are available as an outreach for those schools that are unable to travel to the Center. Programs can be held in classrooms, gymnasiums, libraries, cafeterias or other demonstration halls.

For additional information and pricing please contact Swee Hart, **shart@vasc.org** or **(757) 727-0900, ext. 759**.

**Look for this symbol throughout this guide for available outreach programs!**

**Thanks to our community partner:**

# Educate, Entertain, & Inspire

Langley Chapter #323
Air Force Association

## Science Teacher of the Year Award

Co-sponsored by the Virginia Air & Space Center


**Purpose:** Recognize a local educator for success in promoting greater student interest in science or mathematics.

**Guidelines:**

Open to any K-12 public or private, science or mathematics teacher on the Peninsula (Hampton, Newport News, Poquoson, York County, James City County, and Williamsburg)

**Winner will be honored as the Langley Chapter Teacher of the Year at a luncheon and will receive:**

- A certificate of excellence and a check for **$750**
- A one-year AFA membership (includes subscription to Air Force magazine)
- A one-year VASC membership
- Recognition on an engraved star displayed at the VASC

- First runner-up will receive a check for **$250** and second runner-up will receive a check for **$100**
- Four runner-ups will also each receive a one-year AFA membership and four exhibit/IMAX passes to the VASC.

VIRGINIA AIR & SPACE CENTER

Applications accepted Dec. 1, 2013 through March 1, 2014
Application forms are available after November 1 at
www.vasc.org/teacher or at www.langleyafa.org

## Opportunity Program, Inc.

*Find out if your group qualifies for free or reduced admission!*

The ***Virginia Air & Space Center Opportunity Program*** is a Virginia State Department of Education Neighborhood Assistance Act Tax Credit Program for Education. The program's main focus is to provide STEM programming to Pre-K through 12th grade students who show financial need.

To determine if your group qualifies for assistance, contact **groupsales@vasc.org** to obtain a program application at least 30 days in advance of your intended program date.

Free and reduced services are provided by the Virginia Air & Space Center Opportunity Program through the generosity of astute donors such as:

**VuBay Foundation**,

**Dominion Virginia Power,** and

**Langley Federal Credit Union.**

**757-727-0900, ext. 780 or e-mail - groupsales@vasc.org**

Proud supporters of the Virginia Air & Space Center's Educational Programs:

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THIS IS Hampton VIRGINIA

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*Virginia Enterprises*

# Pre-K

## Space Cadets

**Foundation Blocks: Science 4a**

STEM

Junior astronauts will identify the life needs of people and living things on Earth. They will see a real-life astronaut suit and learn how NASA engineers have designed space suits, spacecraft, and the International Space Station to meet the life needs of people and other living things in space. Students will see what space food is like and take their own astronaut puppet home.

## Spud Senses

**Foundation Blocks: Science 1a , Mathematics 4a, 6a**

STEM

Using a life size, cuddly spud, students will have a great time using their senses! As a face is created out of our friendly "potato," observations will allow students to classify shapes, develop picture graphs, and identify different smells. Simple tools, such as a magnifying glass, help enhance the sensory experience.

## It Matters

**Foundation Blocks: Science 1a, b, d, 3f**

STEM

The students will investigate the properties of matter that make solids, liquids and gasses. They will learn the terms solid, liquid, and gas, and identify objects as such. The students will witness how ice turns into water and then steam, and what happens when a solid and liquid mix.

## That's Attractive!

**Foundation Blocks: Science 2a, b**

STEM

Students will experiment with magnets to see first-hand the effects they have on objects. Through various activities, students will learn that magnets are "attracted to" some objects and "not attracted to" other objects. Students will also discover that magnets have poles, and the effects that magnets have on other magnets when the poles are involved.

## Wee Weather

**Foundation Blocks: Science 6a**

STEM

Through various activities students will recognize that what we wear depends on the weather. Students will investigate weather patterns of various seasons, and temperatures associated with those seasons. They will choose appropriate clothing based on daily weather.

## Measure Me

**Foundation Blocks: Mathematics 3a, b, c**

STEM

Students will learn about different types of measurement. They will identify a clock, balance scale, ruler, measuring cup, and thermometer and discuss what each item measures. The students will match a measurement to the item used, and will experience how the measuring cup, balance scale and thermometer work through hands-on group investigation.

## Shaping the Stars

**Foundation Blocks : Mathematics 4a, b, c, d**

STEM

Students will explore how a constellation is made. They will see familiar constellations and will identify common shapes within them. Students will observe familiar shapes from deep space. Each child will create their own constellation using shapes within the stars.

## That's How It Grows

**Foundation Blocks: Science 1b, 6c**

STEM

Students will be able to recognize the stages of plant growth from seed to flower using pictures and words. They will observe the necessary elements needed to sustain a plant's life such as sun, water, and soil. Students will name the four basic parts of a flowering plant.

That's How It Grows!

# Grades K-2

## Balls, Ramps & Rolling Things

**Science SOL - K.1a, c, d, K.4b, d, 1.1c, 1.2**

STEM

Students will explore the world of force and motion, and investigate gravity, magnets and friction. They will use their senses to identify heavy and light objects. Students will predict how gravity will make objects move, then conduct experiments with ramps to check their prediction.

## Space Colony

**Science SOL - K.1, K.4, K.6, 1.1, 1.5, 2.1, 2.5**

STEM

Through active game participation, students will identify what living things need to survive (food, water, air and shelter), and how NASA provides those needs for astronauts in space. They will learn that animals, including people, cannot survive in space unless their needs are met, and that they depend on the surroundings to meet these needs.


Space Colony

## Wee Weather

**Science SOL - K.9a, 1.7, 2.6**

STEM

Students will collect weather data (temperature, wind and precipitation) provided by simulated weather instruments. They will identify these readings with the actual pattern of weather or climate represented and will choose appropriate clothing for the various weather conditions indicated. Students will also explore water cycles.

## Space Freeze I

**Science SOL - 1.1, 2.1, 2.3**

STEM

Students will witness the effects of extremely cold temperatures on different types of matter. They will learn how NASA uses liquid nitrogen to test if materials will work in space. Students will predict and observe the results as air-filled balloons are submerged in a container of liquid nitrogen. They will observe how liquid nitrogen causes a physical change in water.

## Structures

**Science SOL - 2.1, Social Studies SOL: 2.1, 2.3, Mathematics SOL: 2.20**

STEM

Using pictures and models, students will identify three dimensional figures used in the architecture of ancient civilizations including pyramids (Egypt), columns and arches. They will also identify the use of these basic structures in modern construction. Conducting an experiment, students will first predict the ability of structures to support increased weights, and then observe the result of the experiment. Students will learn how NASA engineers helped design the big structure in outer space: the International Space Station!

## Jr. Mad Scientist

**Science SOL - K.1, 1.1, 2.1**

STEM

The students will experience the nature of science using the scientific method and observing simple experiments that emphasize observation and prediction. Students will see how a gas is made from mixing a solid and a liquid. They will guess what is in the mystery box and use a balance scale to prove how we rely on our senses for science. They will make predictions and test what would happen to a marshmallow if it ever went into space, and learn how NASA astronauts perform science experiments in space.

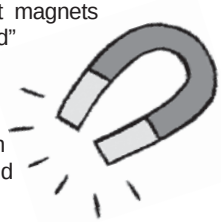
# Grades K-2

## Magnets

**Science SOL - K.3, 1.2c, 2.2**

STEM NEW!

Through various activities, students will learn that magnets are “attracted” to some objects and “not attracted” to others. They will experiment with magnets and learn how they can move objects. Students will discover the different applications of magnets and how they are used in every day life. Through interactive play, students will use a compass to find their way around town.



## It Matters Too!

**Science SOL - K.5a, 1.3, 2.3a, c**

STEM NEW!

Students will investigate the properties of matter that make solids, liquids, and gasses. Discover why some solids dissolve in water and some do not. Witness water travel back and forth through its different phases.

## Down to Earth

**Science SOL – K.1, K.5, K.10, 1.1, 2.1, 2.5d, 2.7b**

STEM NEW!

Get “down to earth” and explore your world! Discover what makes up the Earth and how it changes daily. Sort and classify rocks, and discover how fossils provide information about living systems that were on earth years ago. Learn how soil is created and use our stream table to learn about erosion.

Roamin’ Robots

Balls, Ramps & Rolling Things

## How’s It Growing

**Science SOL - K.7 a, b, c, d, 1.4, 1.5, 2.4**

STEM NEW!

Students will discover the life cycles of plants, butterflies and deer. They will recognize the similarities and differences within. While separating plants into different categories based upon characteristics, they will learn the parts of a plant and its function. During game play, students will complete the life cycles by collecting cards of the different life cycle stages.

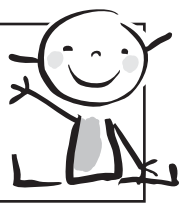
## Roamin’ Robots

**Science SOL – K.2, 1.2, 2.1**

STEM NEW!

What are robots? Can robots see color? Why do we need robots? We’ll answer these questions and more with this robotic presentation. Come face-to-face with different types of robots. Experiment with robots and program a robot to do a simple task. Discover if robots can really do everything humans do, and then turn one of your classmates into a robot!

Teachers!
Earn re-certification points!
See page 10 for details



# Grades 3-5

## Under the Weather

**Science SOL - 3.9b, c, 4.6, 5.1g, i**

STEM

While studying cloud and storm formation, students will use charts and weather instruments to collect data in order to predict future weather conditions. Students will use weather symbols to map their predictions. Using a model, students will also observe the water cycle.

## Scream Machines

**Science SOL - 3.1a, g, j, 4.1a, 4.2, 5.1i**

STEM

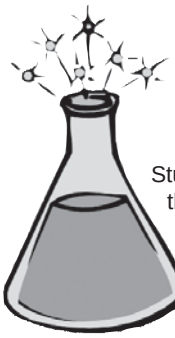
Students will explore the science concepts engineers apply in building fantastic roller coasters. They will investigate the inertia & force concepts at work in our everyday lives. Students will be introduced to force, motion, and energy through interactive demonstrations featuring gravity, potential and kinetic energy and friction. They will work in collaborative teams to design and model a simulated roller coaster ride, and then use the scientific method to improve the performance of their designs.

## Moon Colony

**Science SOL - 3.9d, 3.11, 4.8d, 5.7a**
**History SOL - 3.10**

STEM

Take a trip to the future as we colonize the moon. Students will compare and contrast surface conditions of the moon and Earth, and identify energy sources and actions and actions required to sustain a lunar colony. Students will work in teams to build a model lunar colony.



## Mad Scientist

**Science SOL- 3.1, 4.1, 5.1, 5.4**
**Math SOL - 3.14, 4.10, 4.11, 4.12, 5.11**

STEM

Students will investigate the nature of science using the scientific method to perform an experiment. They will conduct preliminary observations using scientific instruments and form hypotheses about the materials on which they will experiment. Students will gather data to graph results and draw a conclusion.

## Living Planet

**Science SOL - 3.5, 3.6, 3.9d, e, 3.10a, 4.5**

STEM

Through active game participation, students will explore habitats and discover how animals' behavioral and physical adaptations help them survive their environment. Using a terrarium, students will study a closed environment and the interdependency of plants and animals, discovering why photosynthesis is so crucial to life.

Moon Colony

## Radical Robots

**Science SOL - 3.2, 4.2, 5.1i, k**

STEM

Robotics are compound machines designed and programmed to make life easier. Students will learn the parts of a robot and be able to identify them. They will see how robots, sometimes programmed with sense, are utilized in the medical field and by NASA. Students will observe robots that interact with each other, including Mindstorms, and participate in small group challenges to program a robot to perform specific tasks.

## Our Solar System

**Science SOL - 4.7, 4.8**

STEM

Students will demonstrate the rotation and revolution of the Earth and understand why we have the seasons. Students will identify phases of the moon and see a demonstration of how they occur. Using a time line, the class will learn about the Space Race and the Apollo missions that sent man to the moon. Students will see a model of the solar system and identify the planets. Using common objects, they will construct a large scale model based on relative sizes and distances between planets.

## Space Freeze II

**Science SOL - 3.1, 4.1, 5.1d, i, 5.4a, b**

STEM

Students will learn that two different elements which comprise the largest components of the Earth's atmosphere are gases at normal ambient temperature. They will learn that matter changes state as temperature decrease or increases, and how NASA engineers use this information to determine which materials can go into space. Students will predict and observe the results as water vapor hits the extreme cold of liquid nitrogen.

# Grades 3-5

## Bring on the Noise

**Science SOL - 5.1d, i, 5.2**

STEM

Students will listen to and "see" sound waves pass through different materials. They will experiment with sound waves and explore how to change their frequency and wavelength. Students will make predictions and observe how the pitch of a sound changes with different musical instruments. They will discover how to transform other forms of energy into acoustic energy, and how we use sound every day.

## LIGHTen Up

**Science SOL - 5.3**

STEM

What are the colors of the visible spectrum of light. Using a chart, students will identify the relationship between wavelength and color. By observing how the path of a laser beam is altered experimentally by a mirror, a prism and while passing through water, students will discover the principles of reflection and refraction. They will identify whether an object is transparent, translucent or opaque by observing whether or not light and image passes through the object.

## Shake, Rattle and Roll

NEW!

**Science SOL -4.1, 5.1, 5.7**

STEM

Students will use real seismic data and satellite images (using the Magic Planet) to understand how plate tectonics create earthquakes and volcanoes. They will discuss the major types of plate boundaries and use the rock cycle to compare/contrast the origins of igneous, sedimentary, and metamorphic rocks. Students will study the major features of the ocean and their relationships to the motions of the plates.

## The Wright Stuff

**Science SOL - 3.1, 3.2, 4.1, 4.2, 5.1d, i, k**

STEM

Students will identify simple machines that compose complex machines, like airplanes. They will discover how aircraft use energy to overcome the force of gravity and how they are made to adjust from the effect of heat from friction. They will explore the forces and principles of flight and learn how aircraft are similar to natural flying machines like birds and bats.

## Master Machines

**Science SOL - 3.1, 3.2, 4.1, 4.2c**

STEM

Students will be introduced to the six simple machines (levers, pulleys, screws, wheels and axles, inclined planes and wedges) and how they can be combined to make complex machines. They will study ordinary tools and vehicles to find out which simple machines they contain. Students will use a simple machine, applying force to move an object.

## Magic of Electricity

**Science SOL - 4.3a-d**

STEM

Modeling an atom, students will learn about insulators and conductors by observing the flow of electrons between atoms. Using an energy ball, students will learn about open and closed circuits. By experimentally removing bulbs from series and parallel circuits, students will differentiate between the circuits. To study static electricity, students will observe how a Van de Graaff generator delivers electrical charge to develop an electrostatic force, and how such force attracts or repels objects.

NEW!

## Virginia's Natural Resources

**Science SOL - 3.7, 4.8**

STEM

Students will examine Virginia's wide variety of natural resources and their impact on our everyday lives. They will be introduced to how the waterways, minerals, soils, and renewable resources, like forests, shape the way we live and work in Virginia. Students will learn how everyone can help prevent pollution and help conserve our ecosystems by recycling our natural resources.

## Gross Science

NEW!

**Science SOL -3.4a, 3.5a, 4.5c, f**

STEM

Students will take a close look at the producers, consumers and decomposers of the food chain. Examine owl pellets and see what happens to the rodents an owl eats, learn about mosquitoes and why they bite you, and see how phytoplankton makes up the base of the marine food web. Discover why the world needs dung beetles and dare to eat a grub!

Magic of Electricity

# Grades 6-12

## Mars Colony

STEM

**Science SOL: 6.2c-e, 6.5e, 6.8b-c, 6.9a-b, LS.11a, d, e**

Identify, compare and contrast conditions and needs on the red planet and Earth. Acting as long duration explorers, students work in cooperative teams to plan for their outpost's survival. Consideration must be given to meeting social structure needs, power supply, physical demands for food, water and warmth, as well as exploration.

## Spaceship Earth

STEM

Science SOL - 6.8 d-h, ES.3

Explore unique characteristics of the Earth and why life exists here. Students will model and describe day and night, and how the Earth's tilt causes the seasons. The students will model and observe why and how the phases of the moon occur, and discuss the relationship between the moon's gravitational pull and the cycle of the tides. Students will gather information to be used in school to create and interpret a time line highlighting advancements in space exploration over the past half century.

## Kitchen Chemistry

STEM

**Science SOL: 6.1a-b, PS.1a, j, PS.2b, d, e** (available for grades 6-8 only)

Working in groups, students will analyze many different compounds and perform scientific experiments to determine the identity of the unknowns. Logical and critical reasoning, accurate lab technique, precise results and conclusion reporting are all part of this hands-on lab.

## May the Force Be With You

STEM

**Science SOL: 6.1e-f, 6.2, PS.6a, PS.10a-b, PH.5d, e, g, PH.6a, PH.7**

Experiment with forces to observe Newton's Laws of Motion in action. Find out why we wear seat belts. Apply equal force to objects if different mass and observe the difference in their motion. Experiment with the force of friction to discover how it resists movement as we do work. Teams of students will design, build, and test roller coasters to demonstrate their knowledge of energy, friction, inertia, acceleration and gravity.

## Mysteries of Flight

**Science SOL: 6.6b, PS.10, PH.4, PH.5d, e**

Students will participate in interactive demonstrations on the physics of flying. Students will attempt to create enough thrust to drive a pencil through a block of wood. Teams will put Bernoulli's principle to the test and discover that higher velocity air creates lower pressure areas and has the capability to move objects. They will investigate the four forces of flight and have fun developing ideas about gravity (and weight), lift, thrust and drag. Teams will demonstrate Newton's third law of motion (action-reaction) to each other, and discuss how airplanes and rockets fly.

## Zap: Electrons on the Move

STEM

**Science SOL: 6.2e, PS.6, PS.11**

Students will observe and identify the the transformation of electrical energy into other forms of energy, including heat, light and mechanical. They will identify a battery as a source of chemical potential energy. Students will compare and contrast series and parallel circuits. The Van de Graaff generator will be used to show students how electrostatic charges will be generated, and how such force attracts or repels objects. Additionally, they will discover how a generator transforms mechanical energy into electrical energy.

## Space Freeze III

STEM

**Science SOL: 6.1e, j, PS.1a, n, PS.2c, d, e, f, PS.7a, b**

Students will predict and observe physical changes (volume) as the state of matter changes when temperature is decreased or increased, with related changes in molecular motion. They will learn the temperature for nitrogen phase change between liquid and gaseous states, and that this physical property is characteristic for nitrogen. Students will compare and contrast the boiling point of nitrogen on the Celsius and Kelvin temperature scales.

## Energy U

STEM NEW!

**Science SOL: 6.2, PS.6**

Students will compare and contrast potential and kinetic energy from examples taken from nature. Using ramps and balls, students will conduct experiments to convert potential energy into kinetic energy. Students will also compare and contrast transfers of the same form of energy between objects, and transformation of energy into new forms. Observing common tools and equipment, students will identify the energy transformations that take place, including the transformation of light into other forms of energy.

## Virginia's Waterworld

NEW!

STEM

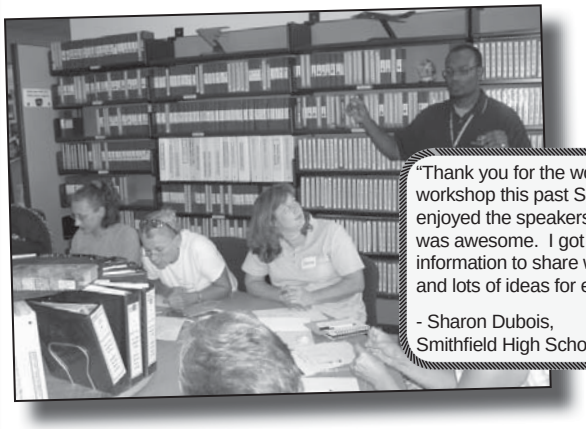
**Science SOL: 6.7, ES.9**

Can you locate your watershed on a topographic map? How important is it to have clean water for humans and the environment? Learn how the Earth actually helps us filter our water to recycle it. Decide how humans can help the natural processes around us protect our environment. Find out how everyone "lives downstream" and what you can do every day to improve the health of the Chesapeake Bay Watershed.

Mysteries of Flight

# Teacher Workshops & Resources

We provide professional development through teacher workshops and in-service training, some in conjunction with **NASA Langley Research Center**. We make difficult concepts fun and easy to understand. And, you may be able to earn **recertification points** while you gain tools and activities you can use in your own classroom.



"Thank you for the wonderful teacher workshop this past Saturday. I thoroughly enjoyed the speakers and the IMAX film was awesome. I got some wonderful information to share with my students, and lots of ideas for exploratory projects."

- Sharon Dubois,
Smithfield High School

**2013-2014:**

Teacher workshops are held monthly and are added periodically.

For the latest schedule visit vasc.org or e-mail Swee Hart - shart@vasc.org

**E-mail Swee Hart shart@vasc.org or call 727-0900, ext. 759 for more information.**

**Sign up to receive e-mails with discount promotions and VASC news @vasc.org**

## Educator Resource Center for NASA Langley

The Educator Resource Center (ERC) for NASA Langley Research Center provides free instructional information, materials and consultation, and training workshops on NASA educational products, programs and services. Using a subject/grade level approach, educators obtain standards based technology in print, video and web-based instruction formats. For more information call 727-0900, ext. 757.

**Contact information:**

ERC for NASA Langley at the Virginia Air & Space Center
600 Settlers Landing Road, Hampton, VA 23669-4033

Phone: (757) 727-0900, ext. 757

www.vasc.org/erc • E-mail: erc@vasc.org

### Free Resources Available:

- Educator's guides & classroom activities for all grade levels
- NASA publications from wall posters to information pamphlets
- Reference books and unique items for use in the ERC
- NASA videos available on DVD
- Computer lab for browsing the Internet
- CD-ROM programs for previewing
- Educator workshops and briefings to include:
  - Internet resource training
  - Lunar & meteor sample certification
  - NASA educational product use

***Call or visit website for operating hours***

# Exhibits

## Adventures in FLIGHT

Presenting Partner: Langley Federal Credit Union

- Come face-to-face with a replica of the *1903 Wright Flyer*
- "Wing- walk" on a recreated Curtiss Jenny
- Fly an *F/A-22* simulator
- Take a virtual tour of the *USS Ronald Reagan*
- Explore the physics of flight, test paper airplanes in our flight lab, and much more!

Step aboard an AirTran Airways DC-9, sit at the controls of a Boeing 717 Glass Cockpit Flight Simulator, and become an air traffic controller.

See the original Lunar Excursion Module Simulator used by Apollo Astronauts training to land on the moon.

## SPACE QUEST

Exploring the Moon, Mars & Beyond

Presenting partner: Langley Federal Credit Union

- Travel to the red planet with the Mars transporter
- Program Mars Rovers for a mission
- See a Mars meteorite or land the space shuttle
- Train for a lunar mission, land on the moon & create a crater
- Take a ride in a time machine and much more!

**Email the group sales office**
**groupsales@vasc.org**
**to schedule your group visit today!**

## MaxFlight®

Interactive Ride Systems

Get Ready for the flight of your life!

The simulator allows riders complete control to 360º pitch, roll, loop, spin and spiral action while viewing MaxFlight's thrilling dynamic Virtual Flight Combat program on a huge 58" screen in the cockpit.

**Group Discount Rates Available!**
Call 757-727-0900, ext. 780 or e-mail groupsales@vasc.org

## Hampton Carousel

Take a spin on the Hampton Carousel, a restored, turn-of-the-century carousel adjacent to the Virginia Air & Space Center. One of only 200 antique carousels still in the United States, the Hampton Carousel was built in 1920 & features 48 intricately decorated horses.

**A carousel ticket may be added to your group visit for only $1.00 (per person)**

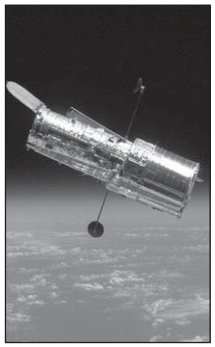
# Digital IMAX Film Library

RIVERSIDE IMAX THEATER
VIRGINIA AIR & SPACE CENTER

In addition to our featured IMAX films, we offer a variety of films in our IMAX library that may be scheduled at 9 a.m. for groups of 60 or more, or at other times for larger groups. Please call for information on IMAX films that are currently available in our library or new IMAX features that may be coming soon.

## HUBBLE 3D

**SOL: 4.8e, 6.8, ES.3, ES.13b**



***Hubble 3D*** recounts the amazing journey of the most important scientific instrument since Galileo's original telescope and the greatest success in space since the Moon Landing, the Hubble Space Telescope. Join space walking astronauts as they attempt some of the most difficult tasks ever undertaken in NASA's history. See the cosmos as never before.

## SPACE STATION 3D

**SOL: 3.1j, l, m, 4.1e, m, 6.1, PS.10, PH.4**

Join astronauts & cosmonauts as they travel 220 miles above Earth to experience one of the most challenging engineering feats in history: the in-orbit construction of the International Space Station. Take a space walk and see how astronauts live and work in space.

## AIR RACERS 3D

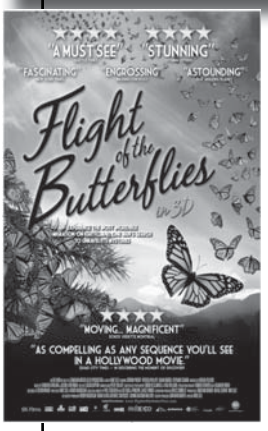
**SOL: 3.2, 4.2, PH.4**

Take your students on an amazing journey through 100 years of flight as engineers develop and build the new Boeing 787 Dreamliner. See how a century of aviation trial and error, and airplanes of the 20th century, influenced the design of the Dreamliner.


## Born to Be Wild 3D

**SOL: K.7a, c, 1.5a, 2.5b, 3.4, 3.10, 4.5a, f, LS.11d**

Come face-to-face with some of the wildest and cutest animals on the planet! Since 1969, the animal orphanage at the Mount Kenya Wildlife Conservancy continues to be home to countless animals that were orphaned, injured or needed special care. ***Born to Be Wild*** follows some of these special animals, many who are successfully returned to the wild.



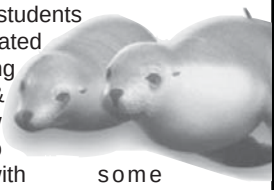

## FLIGHT OF THE BUTTERFLIES 3D

**Science SOL: 1.5a, 2.4a, 2.5a-c, 3.4, 4.5e**

Take an extraordinary journey as you follow the migration of the magnificent Monarch butterfly and one man' s 40-year-search to uncover the mystery of their final hiding place in the remote mountains of Mexico.

## UNDER THE SEA 3D

**SOL: 2.5a, 3.5, 4.5a, b, 5.6c, LS.6c, LS.11d**



***Under the Sea 3D***, transports your students to some of the most exotic and isolated undersea locations on Earth, including South Australia, the Great Barrier Reef, & the Coral Triangle islands of Papua New Guinea and Indonesia, allowing them to experience face-to-face encounters with some of the most mysterious and stunning creatures of the sea. It offers a uniquely inspirational and entertaining way to explore the beauty and natural wonder of the oceans, as well as the impact of global climate change upon them.

## Galapagos 3D

**SOL: 5.7, LS.8, LS.9c, ES.9**

An amazingly immersive cinematic experience, ***GALAPAGOS 3D*** delves deep into the largely unknown waters surrounding this famous volcanic archipelago to explore the natural wonders of a realm that is truly a living natural science laboratory. Enjoy a fantastic voyage to an alien world hidden within our own. Uncover the mysteries of the deep, explore caverns buried beneath the earth and engage primitive wildlife previously unknown to mankind.

## TO THE ARCTIC 3D

**SOL: 2.5c, 3.6d, 4.5a, b, f, LS.10b, c, LS.11e**

An extraordinary journey to the top of the world, *To The Arctic 3D* tells the ultimate tale of survival. Follow a mother polar bear and her twin seven-month-old cubs as they navigate the changing Arctic wilderness they call home.

# From the Sea to the Stars

Just minutes from Williamsburg & Virginia Beach, Hampton offers a "Sea to the Stars" experience for your student tour!

At first glance it might seem that the English explorer John Smith, Blackbeard the Pirate, President Abraham Lincoln, educator Booker T. Washington, John Glen, Alan Shepard and America's first astronauts—the Mercury Seven—have little in common. But ever since the first boatload of English tourists set foot on American soil in 1607, pausing at Strawberry Banks for some fresh fruit and dry land before sailing up river to found Jamestown, people in search of relaxation, water sports, and educational fun have visited Hampton. That connection, from exploring the New World to exploring space, gave birth to Hampton's motto, "First from the sea. First to the stars."

Tour Assistance with one phone call!

Contact: Bruce Newton, CTP, Group Sales Manager

800-487-8778, 757-728-5319

bnewton@hamptoncvb.com

www.visithampton.com

Hampton Convention & Visitor Bureau will be glad to point you in the right direction in developing an exciting Hampton and Coastal Virginia itinerary. From assistance with event information to coordination of accommodations, from the selection of performance venues to step-on guide resources, Hampton CVB stands ready to assist!

Come to ***Visithampton.com/Tour*** to request your free Group Destination Kit.

## Hampton University Museum & Campus

**Hampton University Museum's** collection of more than 9,000 objects and works of art is representative of cultures and nations from around the world and is the largest of its kind in southeastern United States. The campus contains five National Historic Landmarks. Be sure to see Emancipation Oak, where Hampton residents gathered in 1863 to hear President Abraham Lincoln's "Emancipation Proclamation" read for the first time. FREE!

## Miss Hampton II Harbor Tour

Cast off for a nautical adventure aboard Hampton's longest running Harbor Cruise. This well-narrated three- hour tour includes Fort Wool—a circa 1819 island fortification location in the Hampton Roads harbor, Blackbeard's Point, the Chesapeake Bay, moat-enclosed Fort Monroe, history of the Battle of the Monitor & Merrimac, and an in-depth review of the mighty warships at the Norfolk Naval Base.

Grades K-5: $12.50, Grades 6-12: $14.00

All fees are subject to plus 10% admission tax.

One teacher & driver are admitted free per motorcoach.

Additional teachers/chaperones admitted for $5 off the published adult rate.

## Teen Party Cruises on the Miss Hampton II

Teen groups love this popular, fun-filled two or three-hour evening adventure cruise! Enjoy breathtaking views of the scenic Hampton Roads Harbor, see the world's largest fleet at the Norfolk Naval Base, and dance away under the stars!

Party packages for cruise, DJ and unlimited Soda Bar start at $22.00 per person, plus tax for the two-hour cruise, or $25.00 plus tax for the expanded three-hour cruise. For a pizza buffet of assorted pies, add $8.00 per person.

**Call 888-757-BOAT. www.misshamptoncruises.com. A fifty-cent per-person fuel surcharge may be imposed on all cruises.**

Hampton is geographically centered between Williamsburg and Virginia Beach.
Both cities are located within a half-hour drive of Hampton hotels and attractions.
Accessed by Interstate 64 from I-95 or I-85, Hampton makes a perfect spot for a "hub and spoke" tour of Coastal Virginia!

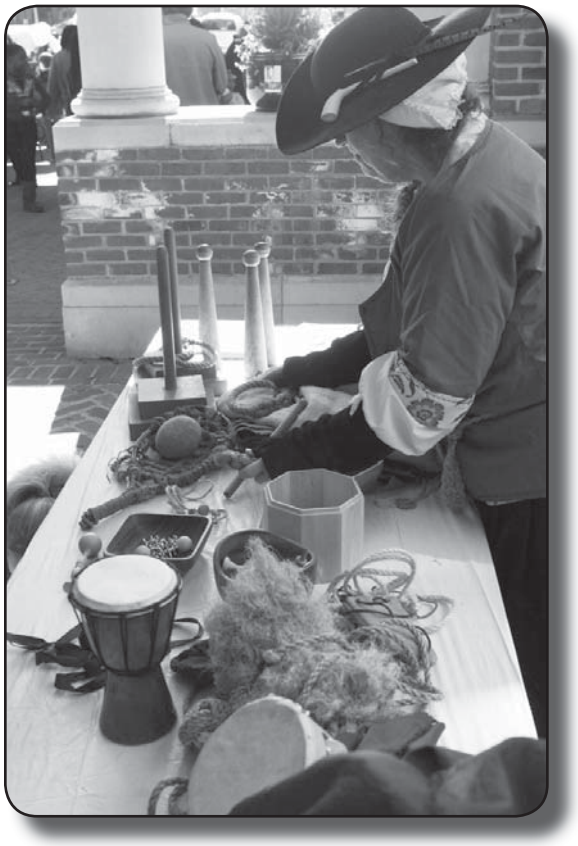
# Legacy Projects

## Legacy Projects for Young People

The Hunt for Hampton History Legacy Project is a year-round program empowering the Hampton community to explore, preserve, and share its past. The Hampton History Museum will provide support for your legacy projects that document community history, preserve historic and natural resources, share history with a wider audience, and serve the community by creating a lasting legacy.

The museum will also share your project with the public at the next Hunt for Hampton History in March. These projects are an excellent way to have children work on research, develop presentation skills, and learn about a specific time or place in Hampton's past or how they can impact Hampton's future.

We recommend picking up a Legacy Project Toolkit, which contains all the information you will need to get started on a legacy project with your group including different project ideas, resources to use for gathering information, and how to connect your project with the Virginia Standards of Learning- including lesson plans you can use in your classroom! You may choose one of our projects or come up with one of your own.



Our project ideas include:

- Compile a photographic history of a street or block in your neighborhood
- Use maps to study how an area of Hampton has changed
- Create a rain garden
- Create a historic garden
- Create a time capsule
- Create public art or a live production about people, places, or events
- Create an exhibit for display at a local school, library, place of worship, or the Hampton History Museum

Legacy Project Toolkits can be found at www.HamptonHistoryMuseum.org

# Make History With Us!

# Archaeology Club

Do you think a child you know might be a future archaeologist?

Encourage him or her to join Hampton History Museum's Archaeology Club to cut through the myths about archaeologists and learn what being an archaeologist is all about.

Children between the ages of 8 and 16 will explore how archaeologists work - from the early phase of identifying possible sites up through analyzing artifacts to better understand the people of the past and their activities. They will explore the world of archaeology by completing hands-on activities and experiments, meeting modern archaeologists, and taking field trips to visit some of the many archaeologoical sites in our area.

# Teacher Workshops

Our workshops are designed to increase your knowledge of history, improve teaching skills and demonstrate how to use Museum programs and exhibits to enhance history curriculum. You'll explore topics relevant to your curriculum and return to the classroom with new ideas, greater confidence and resources to make history engaging.

Available Workshops

We offer a number of half-day sessions during the year on a variety of topics. These will be announced on our website and through special mailings to the schools. In addition, we will present a workshop titled **HHM 101: Useful History** a number of times throughout the year. If you are curious about what the Museum offers for teachers and schools, please join us for an exploration of field trips, teacher professional development programming and standards-based activities that will tie the Museum visit to classroom instruction.

Contact Sarah Heinsman at sheinsman@hampton.gov for availability.

# Second Saturdays

## Second Saturday of every month – 10 a.m. to 2 p.m.

Families are welcome to come out to the museum on the second Saturday of each month from 10 a.m. to 2 p.m. for special child-friendly programs. Children will explore a new topic each month through historical crafts, hands-on activities, games, and trips through our museum.

Each month, children will have the chance to make a take-home craft related to the topic we are exploring. Admission is free for the activities, but we will follow regular pricing for visiting the museum galleries unless otherwise noted.

## Second Saturdays 2013 Schedule:

**July 13 -** The British are Coming! - Revolutionary Family Fun

**August 10** - Grow It Yourself! - Hands-On Gardening

**September 14** - To the Rescue! - Firefighting in Hampton

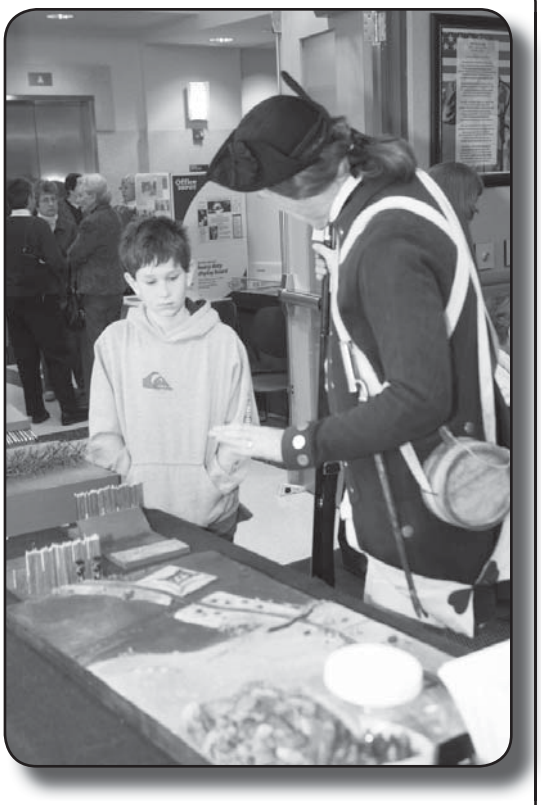
**October 12** - Dia de los Muertos - Celebrating Hispanic Heritage

**November 9** - Thanksgiving - More than Just Turkey!

**December 14** - The Trading Post - Shopping Long Before Walmart

2014 Schedule Coming Soon! Call 757-727-1610 for details.

Follow us on Facebook/HamptonHistoryMuseum



# Traveling Trunk

If you can't make it out to the museum, our Traveling Trunk Program is a great way to give your students primary source materials and valuable visuals to help them learn about the cultures and events that shaped Virginia history. Trunks may be borrowed for up to two weeks free of charge. They include background information on each topic, replica artifacts, source documents, worksheets and activities for students, and SOL-based lesson plans for your use.

We are currently offering trunks for the following topics: Virginia Indians, Cultures in Contact, English Settlers, Civil War

For $25 per 30-minute session, we will send a staff member out to your school to conduct a special program for your students to accompany the information and artifacts in the trunk.

# Our Story, Our Time

Our Story, Our Time, Oral History Project:

Through this project the Hampton History Museum is collecting those stories in each of us that illuminate who we are as a community. The ultimate goal is to create a collection of oral histories – by searching out and recording individuals of all ages.

Working with the Museum, students can create their own oral history project at school or be a part of the Museum's projects and become trained interviewers (high school students only).

In conjunction with recording stories, a series of community events are the public face of these efforts (4th Thursday of each month) and students and teachers are invited to attend.


## Oral History Open Call

Tuesdays, from 1 p.m. to 4 p.m. each week at the Hampton History Museum

Join us to share and record your memories at our Oral History Open Call!

Visit **hamptonhistorymuseum.org** for details!

# Guided Tours

**Standard Museum Tour:**

Trips to the Hampton History Museum are designed to illuminate the history of the region and its powerful role in the history of America from the first English settlers to the 20th century's exploration of space.

Students are encouraged to analyze history from different perspectives while exploring the beliefs, motivations, and decisions of Hampton's citizens in the past.

A standard tour will include all 10 of our permanent galleries on the main floor chronicling over 400 years of Hampton history from the Kecoughtan Indians before the arrival of English settlers up to Hampton in the 20th century. You may also want to check our website or contact the museum to learn what is on display in our changing gallery upstairs. That gallery may also be included in your tour. Tours typically last 45 minutes – 1 hour.

**Themed Tours:**

We also provide tours targeted to specific themes in the Virginia Social Studies curriculum. These visits may also include examination of artifacts, participation in hands-on historical activities and games, and walking tours of downtown Hampton. Additional fees may apply for hands-on activities. Examples of themed tours are included below, but we can work with you to develop a program that meets the needs of you and your students.

**Community-** (Recommended for grades K-3) Students investigate the Hampton city seal, see replica artifacts from different periods in Hampton's history, and use knowledge gained from touring the museum to design their own city seal.

**The Powhatan Indians-** (Recommended for grades 4-12) Students see and touch replica artifacts related to the Powhatan Indians, and learn about how their society was organized and how Chief Powhatan gained and wielded power before and after the arrival of the English colonists at Jamestown. You may choose to allow students to participate in a hands-on craft activity as part of this tour.

NEW! **African-American Tour-** (Recommended for grades 4-12) Students learn about the experience of African-Americans in Hampton from the arrival of the first Africans through Reconstruction, including information about slavery, the contraband, education before and after the Civil War, and community involvement. A classroom portion will allow students to learn about the determination of runaway slaves and the dangers they faced on the road to freedom.

NEW! **Civics Tour-** (Recommended for grades 8-12) Students explore what it has meant to be a citizen throughout Hampton's history. They will learn about how citizenship and voting rights have expanded over time to include new groups of people, how information was shared to create an educated citizenry, and what contributions individuals and groups have made to better the city throughout its history. Throughout the tour students are asked to make connections with their own lives and how think about how they can be better citizens themselves.

**Combination Tours:**

The Hampton History Museum can also coordinate visits to St. John's Church, the Casemate Museum at Fort Monroe, and the Emancipation Oak on the campus of Hampton University in combination with any of our tours.

# Hampton History Museum

**Welcome!**

At the Hampton History Museum, we work daily to be a true partner with teachers and strive to help you reach the academic goals of your students. By helping children learn about history we believe we build a better future by exploring and preserving our past. The City of Hampton, long-known for its unparalleled history and being a part of every key moment in America's story has created a special Museum that illuminates the American experience. Our programs illustrate the dynamism of history and the past's influence on the world of today. Within this guide, you will find programs, activities and ideas that are designed to support the work you do in the classroom every day.

Designing and Scheduling Your Visit, In-School Activity or Project

Advance reservations are required for any educational activity.

Dates fill up quickly, so contact our Museum Educator as soon as possible.

After coordinating with our educator, you will receive a written confirmation and other pertinent information.

Sarah Heinsman, Museum Educator

Call: 727-6838

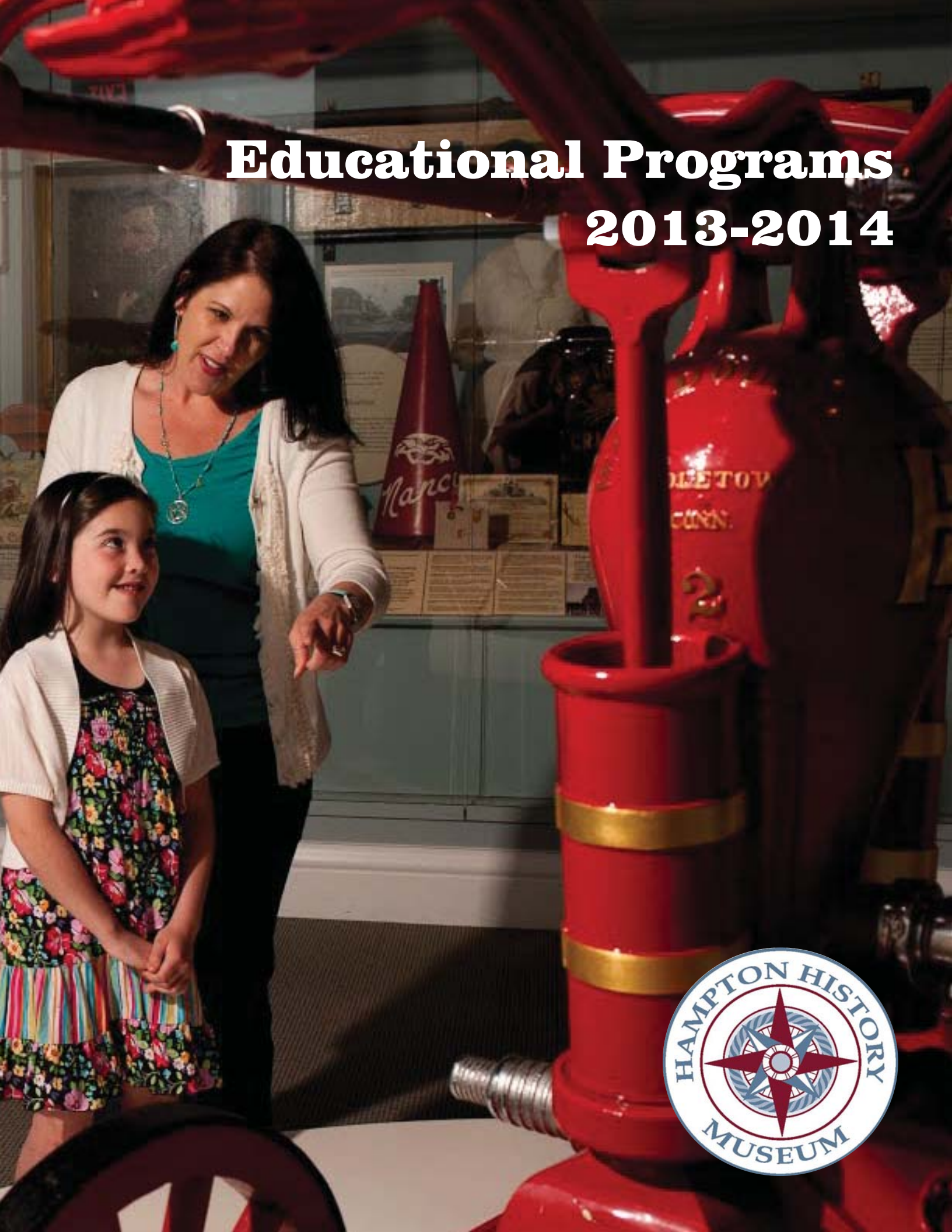
Email: sheinsman@hampton.gov

For more information about all of our educational programs, please visit our website at www.hampton.gov/history_museum.


**Online Collection**

The Hampton History Museum's collection is now online to explore selections from some of our premier collections, as well as images, documents, and artifacts collected at the Hunt for Hampton History. Hampton citizens as well as historians and researchers from around the world can search our collection in a variety of ways including: neighborhood or place; individual's name; and keyword; as well as view images in the collection. In the next few months we will also provide access to our oral history videos and create the ability to search topics like education and schools, civil rights, seafood industry, and more. New materials are published weekly, so come back often and see what's new! www.hamptonhistorymuseum.org

1. **Cheyne Studio Collection** – Photographs taken by Christopher Ethelbert Cheyne and William Ethelbert Cheyne between 1894 and the 1960s. Explore images of businesses, historic sites, and street scenes.
2. **Girard Chambers, Jr. Collection** – Selections of maps and surveys of Hampton and Elizabeth City County. A few maps date to the mid- to late-19th century, while most trace the suburban development of Hampton in the first half of the 20th century. New maps are added regularly, so check back often.
3. **Hunt for Hampton History Collections** – Images, documents, and artifacts contributed by members of the community at annual Hunt for History events.



# Educational Programs 2013-2014

HAMPTON HISTORY MUSEUM