PENINSULA FINE ARTS CENTER

April 8 -
June 25
2017

EDUCATOR'S GUIDE

SOARING - Works from the NASA Art Program

"Art is about what words cannot express. Many things have happened in the exploration of space that people cannot know through photographs or newspapers/television reporting. It is the artist's task to bring forth the mysterious, the exalted, the great beauty and power surrounding these events."

- Peter Nisbet
Artist in the NASA Art Program

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To download a copy of this guide, and for other info about the exhibition and Peninsula Fine Arts Center visit us online at www.pfac-va.org

Virginia Standards of Learning

SOARING - Works from the NASA Art Program aligns with Virginia SOL Standards as follows:

Grades K-5:

Science: K.7, 1.6, 2.6, 3.7, 3.8, 4.6, 4.7, 4.8

Visual Art: 2.5, 2.15, 2.16, 2.17, 3.7, 3.18, 3.19, 3.20, 4.5, 4.16, 4.17, 4.18, 5.5, 5.17, 5.18, 5.19

Middle School:

Science: 6.8
Visual Art: 6.5, 6.13, 6.14 and 6.15

Tours for high school students can be adjusted to meet the specific requirements of the curriculum. Please feel free to discuss your objectives upon scheduling the field trip.

Overview

Dear Educators,

On July 17, 2017 a hundred years will have passed since the **National Aeronautics and Space Administration** was created to explore the atmosphere and space. It has been an amazing history that carried humans into space and onto the moon. A giant space station was constructed, servicing as a micro-gravity laboratory and home to astronauts from many nations (model on view at PFAC).

The Peninsula Fine Arts Center (PFAC) is proud to celebrate NASA Langley's anniversary by hosting ***Soaring: Works from the NASA Art Program***. In 1962, NASA began commissioning artists to help tell the agency's story of adventure as the US began a race to space and the moon. Since then, painters, musicians and conceptual artists have been with NASA every step of the way, strolling along launch pads, training in flight simulators, talking with engineers and technicians and visiting with astronauts before and after their flights. The program resulted in over 3,000 works of art collected over 50 years. The exhibition your students will view will feature 30 works of art including paintings, photographs, drawings, and mixed media.

For example, in Henry Caselli's "When Thoughts Turned Inward," the artist captures the serene, almost spiritual moment before takeoff, when an astronaut must prepare mentally for a mission. In Chakaia Booker's "Remembering Columbia," the tragedy and pain of the lost Space Shuttle Columbia and its crew are transformed in the twisting tire remnants preserved from one of the shuttle's earlier missions. And Andy Warhol melds Buzz Aldrin's historic steps on the lunar surface with the unbridled exuberance and flashiness of the 1960s in his neon-highlighted "Moonwalk" silkscreen.

NASA Langley Research Center in Hampton, VA, established many of the basic building blocks of aeronautics, changed the shape of aircraft and helped jets to fly at supersonic speeds.

As students view the artworks, Docents will lead a brief discussion about NASA. Ask students:

- What does the acronym NASA stand for?
- Who works at NASA?
- What kinds of things do people at NASA do?

Genesis and Prefaces juried art exhibitions from college and high school students will also be included in the tour. While visiting this exhibition, students will analyze various artworks and discuss the following elements of art appropriate to their grade level.

A Brief History of Aeronautics and NASA

Aeronautics - the science of flight

400 B.C.
Kites were invented in China and humans became interested in finding a way to fly.

1485
Leonardo di Vinci created hundreds of drawings of flying machines inspired by bird wings. None of them were created, but his ideas led to the invention of the helicopter.

1783
A hot air balloon was invented by brothers Joseph Michel and Jacques Etienne Montgolfier

1903
The Wright brothers were the first to fly an aircraft successfully in Kitty Hawk, North Carolina.

1917
The United States developed the first civilian laboratory dedicated to unlocking the mysteries of flight in Hampton, Virginia. NASA Langley Research facility will celebrate it's 100th anniversary this year!

US and Soviet race to space

1957- Soviets launch the first satellite in space NASA established by President Eisenhower and catalyzed the development of the US space progrm.

1958- US launches first satellite (Explorer 1) into space

1959- USSR Vostok Program (manned spacecraft) begins

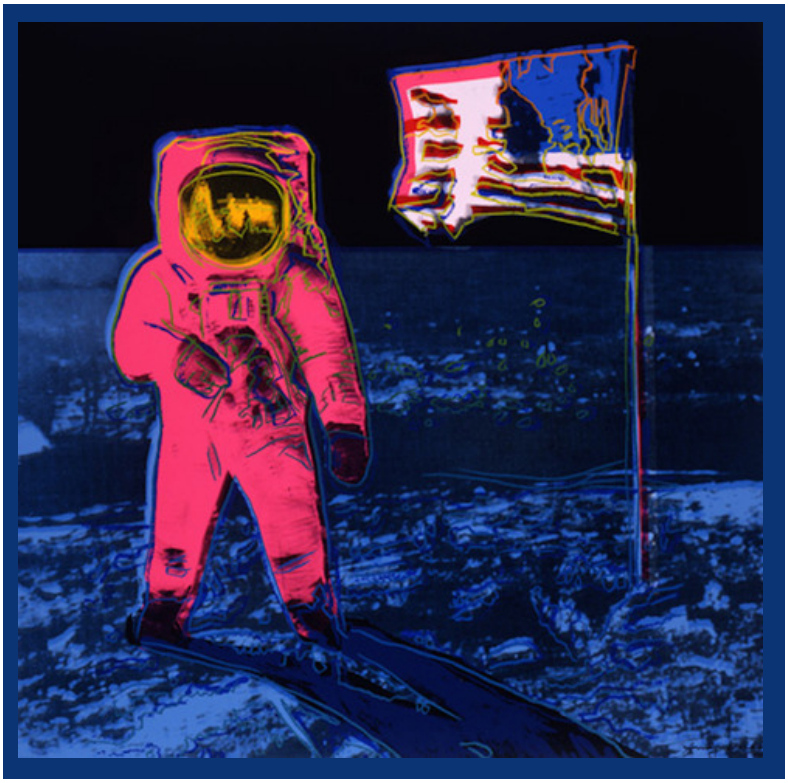
1961- Yuri Gagarin was the first man in space (USSR's Vostok Program)

1961- Alan B. Shepard Jr was the first American man in space. John Glenn Jr. was the first American to orbit the earth(1962). (USA's Mercury Program)

1969- Neil Armstrong first man to walk on the moon as part of the space mission, Apollo 11.

L to R: Neil Armstrong, Michael Collins and Buzz Aldrin

NASA Art Program



Andy Warhol – Moonwalk (1987). Pink version.

On first consideration, the concept of NASA commissioning pieces of art may seem far-fetched. However, reflecting the tradition of the military's art programs, NASA began commissioning artists to document and capture on canvas the drama of its missions. The catalyst behind NASA leaving an artistic legacy was NASA Administrator James Webb. Upon seeing a deftly executed portrait of Alan Shepard, Webb came up with the idea of an arts program. Webb felt that NASA should actively seek out artists to show a different side of the space agency, reflecting that "Important events can be interpreted by artists to give a unique insight into significant aspects of our history-making advances into space. An artistic record of this nation's program of space exploration will have great value for future generations and may make a significant contribution to the history of American art."

A NASA art commission was modest, a mere $800, but artists were not motivated by the financial gains but rather at the prospect of witnessing American history and documenting it. They were also given free reign to create works of art. NASA was not going to dictate a certain style as was the case of socialist realism of the Soviet Union. In fact, artists interested in participating in the program were quite a diverse group, ranging from the avant garde Robert Rauschenberg to the figurative Norman Rockwell - both with pieces that can be seen as part of the SOARING exhibition.

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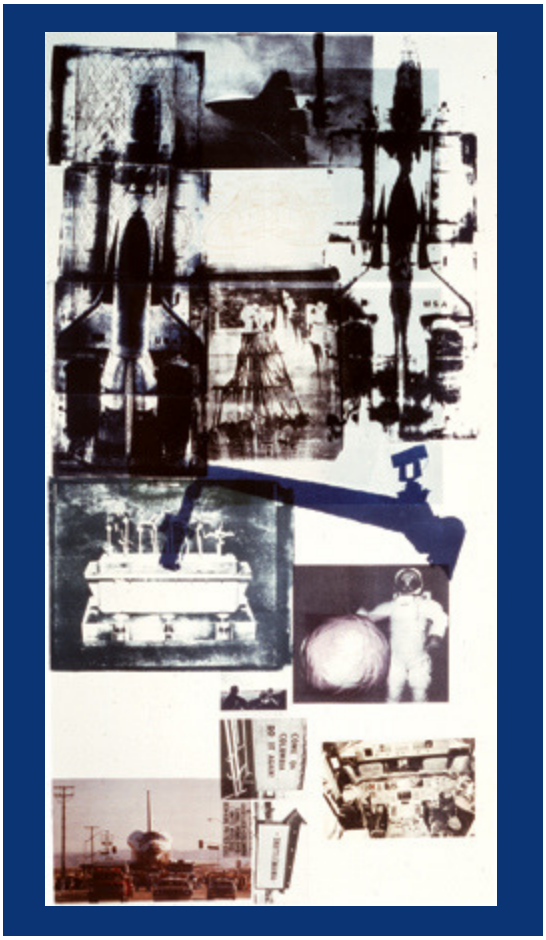
—Jim Webb, NASA Administrator

NASA Art Program

The first group of NASA artists traveled to the Kennedy Space Center, Fla., in 1963 to witness the last Mercury launch, transporting Gordon Cooper on orbit. Artists commissioned included Peter Hurd, George Weymouth, Paul Calle, Robert McCall, Robert Shore, Lamar Dodd and John McCoy. Mitchell Jamieson was assigned to a recovery ship to artistically document splashdown and landing operations. Although NASA staff needed to get used to artists being around, after a while they welcomed them into the NASA community, which afforded the artists amazing access, including suit-up activities. Artist Peter Hurd reflected on the whole experience: "For the next five days, we painters, seven in all, roamed the Cape, sometimes with guides, sometimes by ourselves. We had been invited … to make notes, sketches and paintings … to form an archive of potential historical value. I am certain that I speak for all when I say we were, each of us, tremendously stirred and often awed, by the things we saw and heard during those five crowded days."



"Hot Shot" - Lithograph by Robert Rauschenberg. This work was created to share and express the artist's belief in the spiritual and physical improvement of life and the mind through curiosity. - On View at PFAC

In the 1990s the program was turned over to Bert Ulrich, who was tasked by Administrator Dan Goldin to embrace new art forms. Works included video art by **Nam June Paik (who also has a work on view in SOARING at PFAC)**, an Ode to NASA by Ray Bradbury, and photography by **Annie Leibovitz (part of SOARING at PFAC**). Patti LaBelle performed a song commissioned by NASA that would eventually be nominated for a grammy.

The art program was scaled back, but commissions continued into 2008 for a modest honorarium of $2,500. The collection currently comprises of some 3,000 works divided between the National Air and Space Museum and NASA. They still share something new with the public, and tell NASA's story in a unique way. They also provide a historical record. After all, what often is left over of great ages in history is art. As Lester Cooke, one of the NASA art program's original founders, wrote, "I hope that future generations will realize that we have not only scientists and engineers capable of shaping the destiny of our age, but also artists worthy to keep them company."

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- Lester Cooke, one of the NASA Art Program's original founders

NASA Langley Research Center

In 1915 NACA (National Advisory Committee for Aeronautics) was established by Congress, and in 1917 construction began on NACA's home at the Langley Memorial Aeronautical Laboratory in Hampton, VA.

In 1958, NACA entered into the space race with the launch of Project Mercury, and NACA was renamed NASA - National Aeronautics and Space Administration.

Since that time NASA has accomplished many great scientific and technological feats in air and space. NASA technology also has been adapted for many non-aerospace uses by the private sector. NASA remains a leading force in scientific research and in stimulating public interest in aerospace exploration, as well as science and technology in general.

Perhaps more importantly, our exploration of space has taught us to view Earth, ourselves, and the universe in a new way. While the tremendous technical and scientific accomplishments of NASA demonstrate vividly that humans can achieve previously inconceivable feats, we also are humbled by the realization that Earth is just a tiny “blue marble” in the cosmos.

What Does Hidden Figures have to do with NASA Langley?

NASA's "Human computers" pose for a photograph in 1953. You can also find a photograph Katherine Johnson by artist Annie Liebovitz on view. The movie and book Hidden Figures is based on Katherine Johnson's work with NASA.

NASA employed an elite team of female mathematicians, engineers and scientists tasked with turning numbers into meaningful data at what would later become NASA's Jet Propulsion Laboratory (JPL) and Langley Research Center. Their calculations would chart the course of many ground-breaking missions, carrying U.S. astronauts to the moon and beyond.

A remarkable group of African American women, working at what would become NASA's Langley Research Center in Virginia, were breaking down their own gender and racial barriers. Dorothy Vaughan joined the team in 1943. Already having to ride in the colored section of a segregated bus, she was put to work in the "colored" computers section. In 1951, Vaughan became the first African American manager at Langley and started, like her cohorts on the West coast, to hire women. That same year, Mary Jackson joined her team, working on the supersonic pressure tunnel project that tested data from wind tunnel and flight experiments. Katherine Johnson— who was awarded the Presidential Medal of Freedom in 2015 by President Barak Obama—joined the team at Langley in 1953.

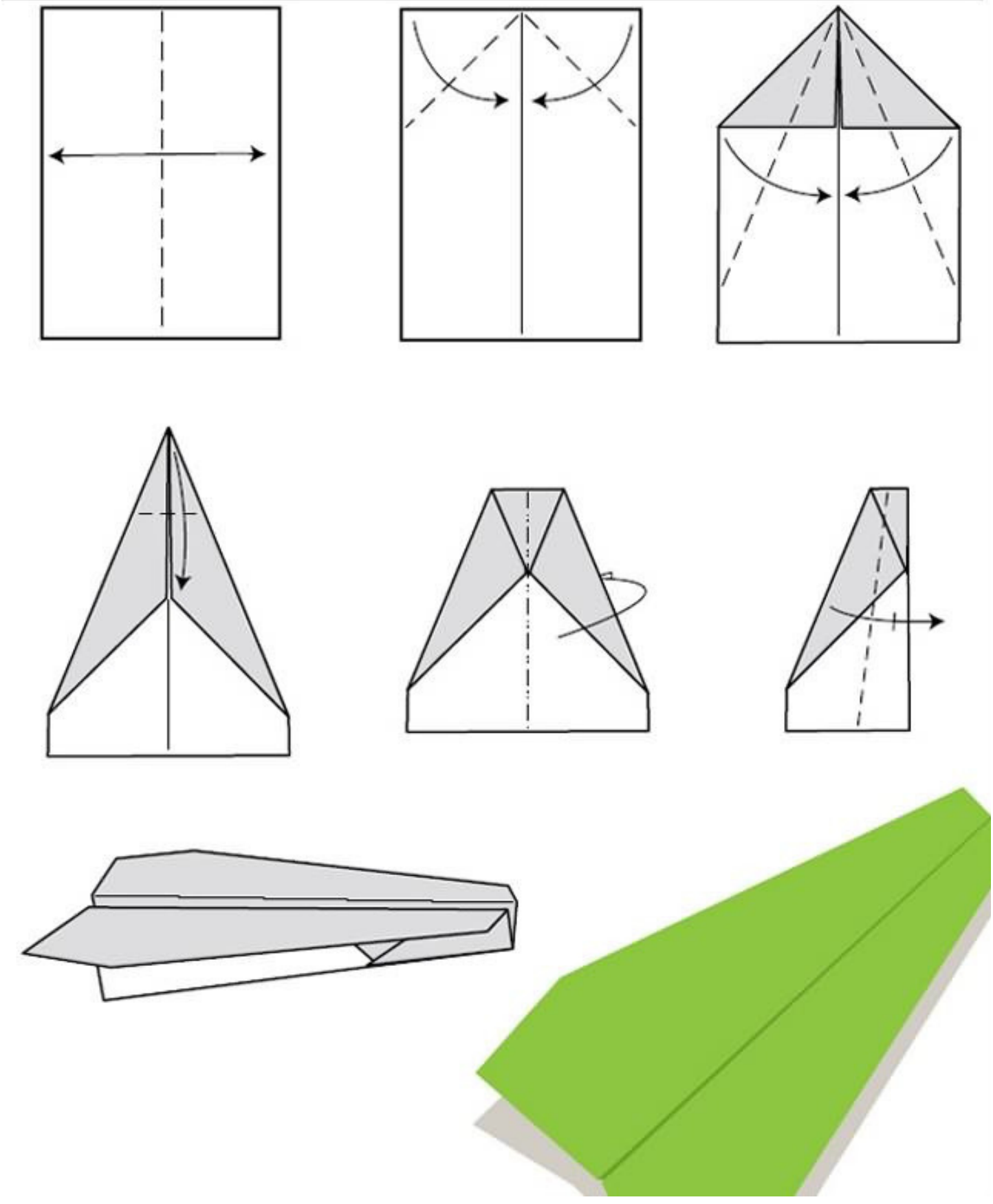
A physicist, space scientist and mathematician, Johnson provided the calculations for Alan Shepherd's historic first flight into space, John Glenn's ground-breaking orbit of the earth and the trajectory for Apollo 11's moon landing.bama—joined the team at Langley in 1953.

Mary Jackson

Dorothy Vaughan

Katherine Johnson

Activity: Make Your Own Glider



Activity: Rain Cloud in a Jar

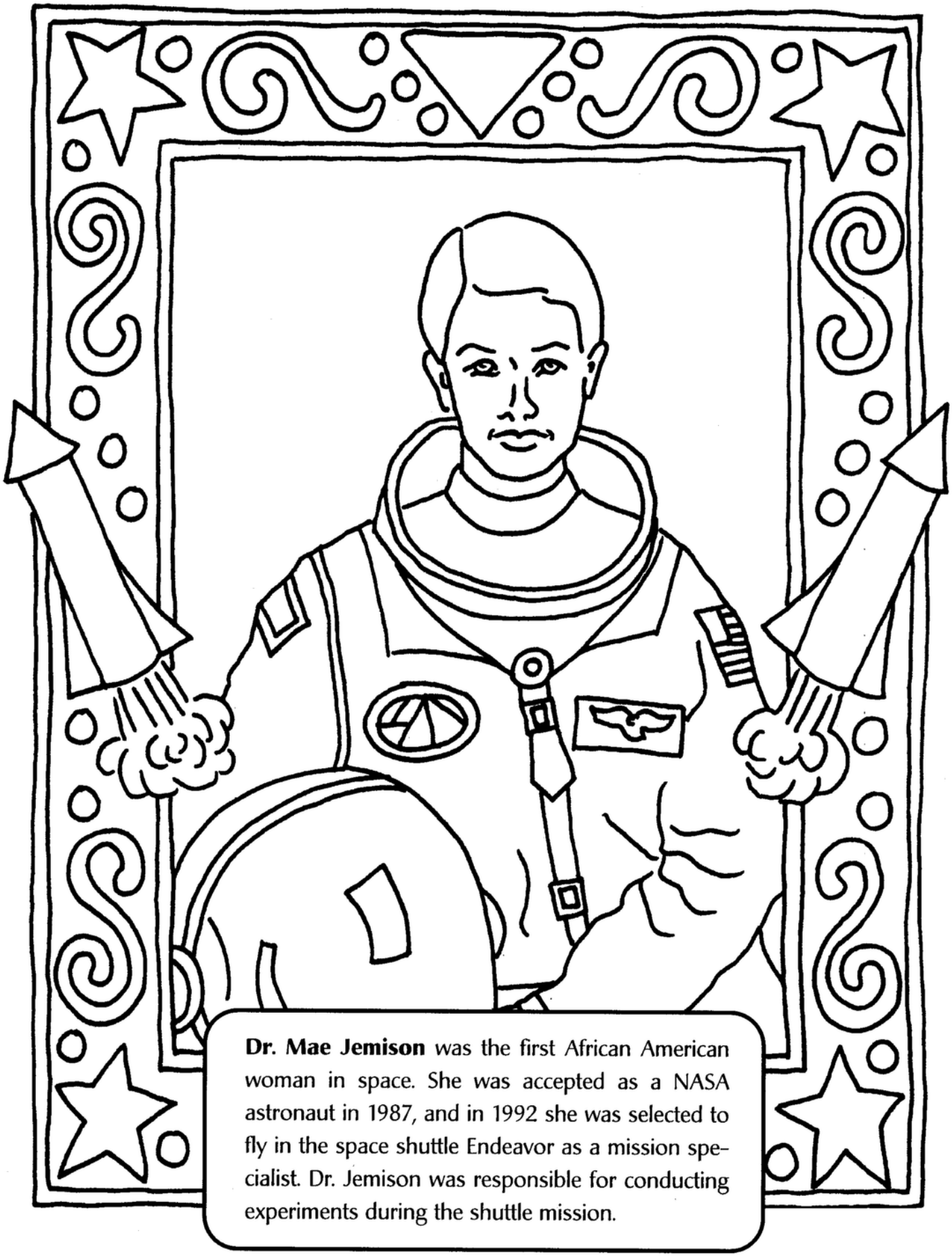
Materials:
1 jar
tap water
shaving foam
blue food coloring
pipette or glass dropper (if your food coloring doesn't have one)

Activity:
1. Fill your jar about three quarters full with water from the tap.
2. Use the shaving foam to create a cloud on top of the water.
3. Let the foam settle a bit.
4. Now drop food coloring into the 'cloud'. As your cloud fills up, the food coloring will fall down into the water creating a rain-like effect.

How do clouds work?

Clouds are formed when water vapor rises into the air. When the vapor hits cold air, it turns back into droplets of water. Those tiny drops of water floating in the air collect and "stick" together to form clouds. When clouds get so full of water that they can't hold any more, the water falls back to the ground as rain.

Activity: Coloring Sheet



Dr. Mae Jemison was the first African American woman in space. She was accepted as a NASA astronaut in 1987, and in 1992 she was selected to fly in the space shuttle Endeavor as a mission specialist. Dr. Jemison was responsible for conducting experiments during the shuttle mission.

Additional Resources

The NASA website www.nasa.gov offers educators a large number of free resources. Please see the “For Educators” section of the website for lesson plans, posters, images, websites and YouTube videos.

NASA S’COOL Precipitation Education Program can be found at www.pmm.nasa.gov and includes interactive lessons, articles, images, videos and activities focusing on:

- The Water Cycle
- Weather and Climate
- Technology
- Societal Applications

NASA Aeronautics Educator’s Packet: Science, Math and Technology Activities
https://www.nasa.gov/pdf/58152main_Aeronautics.Educator.pdf

The True Story of “Hidden Figures”
http://www.smithsonianmag.com/history/forgotten-black-women-mathematicians-who-helped-win-wars-and-send-astronauts-space-180960393/

NASA for Educators
https://www.nasa.gov/audience/foreducators/index.html

NASA YouTube channel for Educators
https://www.youtube.com/channel/UC9SM7V7J1pAhPabOUST01fw

NASA Fact Sheets
https://www.nasa.gov/news/media/factsheets/index.html

Careers in Space
https://www.nasa.gov/centers/langley/news/factsheets/FS-2001-09-68-LaRC.html

The history of NASA Langley Research Center
https://www.nasa.gov/centers/langley/news/factsheets/LaRC_History.html

SOARING - Post-Visit Classroom Activity

SPACE MISSION: Definitions

Define the following words based on what you've learned on your tour of the art and in your classroom!

Astronaut:

Astronomer:

Exploration:

Gravity:

Micro-gravity:

Outpost:

Planets:

Probe:

Space:

Space Shuttle:

Space Walk:

Telescope:

BONUS:

Use three words in a story. Remember to use complete sentences when you are writing. Your teacher will tell you how long your story should be and if you should write your story on the back of this worksheet or on another piece of paper. Use your imagination and have fun writing your story!

About Peninsula Fine Arts Center

About PFAC:

The Peninsula Fine Arts Center (Pfac), located in Newport News, VA, was established in 1962 by a passionate group of art supporters from the Hampton Roads area looking for opportunities to create and exhibit artwork. The center was originally located in downtown Newport News at the former John W. Daniel School Building – the first home of Christopher Newport College. In 1983, the PAA became the Peninsula Fine Arts Center and was named an affiliate of the VMFA.

Why it called a center and not a museum? We are called a center because we do not have a permanent collection of art. Our exhibitions change 4 times each year

What will I see at Peninsula Fine Arts Center?

The museum is divided into 4 galleries: the Ferguson Gallery, the Ranhorne Gallery, the Ascending Gallery and the Halsey Gallery There is a sculpture garden at the center where students and teachers can enjoy lunch outdoors during pleasant weather. We have a Hands On For Kids gallery as well that can be reserved for smaller groups for an additional restocking fee.

Art Education and Outreach:

Pfac's Art Education Department seeks to provide balanced and stimulating programs of exhibition-based art appreciation that appeals to both children and adults. Inquiry-based and participatory learning coupled with related hands-on art making components help to instill aesthetic values found throughout the artwork on view. The extensive lessons in looking at art are facilitated by a strong docent program that provides tours for each exhibition series.

Hands on for Kids: Discover a place where budding artists can enjoy a full range of artistic experiences.

Discovery Baskets: Free and fun educational tools for teachers and classrooms that enhance student's learning about historic cultures.

ARTreach: Experience Mali is an exciting distance-learning initiative designed to enhance Standards of Learning-based education.

Teacher Resources: Audio-visual library of a wide range of art-related topics, including Mali, famous artists and the principles and elements of art.

Virginia Department of Learning Standards of Education: PFAC is attentive to the needs of teachers in meeting the Virginia SOL requirements. Our changing exhibition schedule reflects well researched programs that satisfy state mandated standard of learning requirements.

Your Visit

Our goal at PFAC for visitors to experience rare works of fine art and artifacts in a friendly and educational atmosphere. We are not a collecting institution, so the art you see does not belong to PFAC. Most is on loan from other museums, collectors or the artists themselves. It's very important that we preserve the artworks and artifacts that you see in the exhibitions.

Museum Etiquette

1. Eating and drinking are prohibited in the gallery spaces. Also, gum and candy are not allowed in exhibition areas.
2. Photography and video are allowed, but please refrain from using flash photography.
3. Please refrain from touching the artworks. The oils that are on our hands and skin can damage the museum's pieces. Also, damage can occur if pieces are bumped or moved. Please be careful moving around the galleries.
4. Please listen to the docents and raise your hand if you have a question. We are happy to answer questions, but it's important to refrain from talking so that others can enjoy their visit.
5. Be respectful of our docents, other visitors and each other.

Accessibility:

PFAC welcomes all visitors and is committed to making its programs and services accessible to everyone. Wheelchairs and gallery stools are available at no charge. Guide Dogs are permitted in the galleries and a water bowl is available upon request. Large caption panel copy and gallery guides are available - advance notice is needed.

Most tours take around 50 minutes. Visiting schools are normally divided into groups of 25 students or less, rotating through each gallery and led by a trained Gallery Host.

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