A Reproducible Learning Guide for Educators

This guide is designed to help educators prepare for, enjoy, and discuss Once Upon a Moon. It contains background, discussion questions and activities appropriate for ages 3-7.

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Fun Facts about the Moon!

- The Moon is the Earth’s only natural satellite. A natural satellite is a space body that orbits a planet, a planet like object or an asteroid.
- It is the fifth largest moon in the Solar System.
- The average distance from the Moon to the Earth is 238,857 miles.
- The Moon orbits the Earth every 27.3 days.
- The first person to set foot on the Moon was Neil Armstrong.
- The Moon is very hot during the day but very cold at night. The average surface temperature of the Moon is 107 degrees Celsius during the day and -153 degrees Celsius at night.
- The Earth’s tides are largely caused by the gravitational pull of the Moon.

Moon Myths from Around the World

Chang’e: The Chinese Goddess of the Moon

The Jade Emperor, ruler of Heaven, had ten unruly sons. One day, they transformed themselves into ten suns, heartlessly scorching the earth from high up in the heavens. Unable to stop their mischief, the Jade Emperor summoned Houyi, an archer renowned for his marksmanship. The emperor commanded the immortal to teach his sons a lesson.

Houyi descended to Earth and saw its suffering with his own eyes. Everything was charred and lifeless, and the people were in agony. Filled with righteous indignation, he acted. Plucking an arrow from his satchel, he took aim at the suns. First one fell down, then another. In the end, nine of the Jade Emperor’s sons were dead. Houyi left only one sun alive, to give the earth light and warmth.

Upon hearing the news, the Jade Emperor was furious. He banished Houyi and his beautiful wife Chang’e from Heaven, stripping them of their immortality. The pair found human life hard and miserable. Though a hero to mankind, Houyi had a single wish: to avoid the death that awaited all mortals and return to heaven with his beloved wife. She, at least, did not deserve to suffer.

Fortunately, Houyi recalled that the immortal Queen Mother of the West, who lived on Earth, had a rare supply of the elixir of immortality. The hopeful archer left on an arduous journey to seek her aid.

After countless difficulties, he finally reached her palace on sacred Mount Kunlun. Learning of their plight, the merciful Queen Mother gave Houyi two things. One was the elixir; the other was a warning.

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Once Upon a Moon

“Drinking half the elixir will grant everlasting life. The entire elixir, however, will make one ascend to heaven as a full-fledged immortal.”

Half for himself; half for his wife. It was all Houyi could have hoped for. When Houyi reunited with Chang’e, she was thrilled over his success. Yet while her husband was resting from his journey, she could not resist peeking at the elixir he brought back. Her eagerness to become immortal tempted her into drinking the entire potion. Before long, she felt her limbs grow weightless, and she began to float into the sky against her will.

As a banished deity, she could no longer return to heaven. Earth was now beyond her grasp as well. With nowhere else to go, Chang’e drifted to the desolate Moon, where she spent the rest of her days in a lonely palace accompanied by a white rabbit. She wept bitterly for her husband Houyi, who was condemned to live the rest of his days on Earth as a common man.

Read this story and more online at www.shenyunperformingarts.org.

Why the Sun and the Moon Live in the Sky: a Nigerian Folktale

Many years ago, the sun and the water were great friends, and both lived on the earth together. The sun very often used to visit the water, but the water never returned his visits. At last the sun asked the water why it was that he never came to see him in his house. The water replied that the sun's house was not big enough, and that if he came with all his people, he would drive the sun out.

The water then said, “If you wish me to visit you, you must build a very large compound; but I warn you that it will have to be a tremendous place, as my people are very numerous and take up a lot of room.”

The sun promised to build a very big compound, and soon afterward he returned home to his wife, the moon, who greeted him with a broad smile when he opened the door. The sun told the moon what he had promised the water, and the next day he commenced building a huge compound in which to entertain his friend.

When it was completed, he asked the water to come and visit him the next day. When the water arrived, he called out to the sun and asked him whether it would be safe for him to enter, and the sun answered, “Yes, come in, my friend.”

The water then began to flow in, accompanied by the fish and all the water animals. Very soon the water was knee-deep, so he asked the sun if it was still safe, and the sun again said, “Yes,” so more water came in.

When the water was level with the top of a man’s head, the water said to the sun, “Do you want more of my people to come?”
The sun and the moon answered, “Yes,” not knowing any better, so the water flowed in, until the sun and moon had to perch themselves on top of the roof. Again, the water addressed the sun, but, receiving the same answer, and more of his people rushing in, the water very soon overflowed the top of the roof, and the sun and the moon were forced to go up into the sky where they have remained ever since.

Read more online at: [www.library.si.edu/exhibition/artists-books-and-africa/african-folktale-full](http://www.library.si.edu/exhibition/artists-books-and-africa/african-folktale-full).

**Activities**

**New Moon Game (2 players)**
This game is great for practicing motor skills and learning some of the phases of the moon!

**Materials:**
- 5 pieces of paper
- Black marker

**Directions:**
Using your marker, draw each of the moon phases below on a different sheet of paper (examples below)

1. New Moon
2. Crescent Moon
3. Quarter Moon
4. Gibbous Moon
5. Full Moon

6. Lay them on the ground in a circle.
7. One player will call out the names of the moon phases listed above. The other player will stand in the center of the circle and jump onto the picture of that moon phase.
Make moon dough!

Materials:

- baking soda
- water
- black and silver glitter
- black liquid watercolor paint or food coloring

Directions:

1. Add the baking soda and glitter to a large mixing bowl.
2. Slowly add water, pouring in just enough to make the baking soda stick together.
3. Add food coloring and mix with your hands until the dough is the color you want.
4. The moon dough is done when it is formable and holds shape.

Find this activity and more online at: www.learnplayimagine.com/2014/06/moon-dough-recipe-for-play.html.

English to Spanish Vocabulary

- Moon – la Luna
- Earth – la Tierra
- Astronaut – el/la astronaut
- Planet – la planeta
- Full moon – la luna llena
- New moon – la luna nueva
- Space ship – la nave espacial
- Comet – el cometa

Check out the Smithsonian Learning Lab for Once Upon a Moon here: www.learninglab.si.edu/q/ll-c/NGHiesz8iMJD0M6N

Also, check out the Talk with me Toolkit! Designed for parents & children. www.learninglab.si.edu/collections/looking-at-the-moon/N4J9c86fN8Gv8bDt#r
Read...

*Ladder to the Moon*, by Maya Soetoro-Ng with illustrations by Yuyi Morales

Little Suhaila wishes she could have known her grandma, who would wrap her arms around the whole world if she could, Mama says. And one night, Suhaila gets her wish when a golden ladder appears at her window, and Grandma Annie invites the girl to come along with her on a magical journey. In a rich and deeply personal narrative, Maya Soetoro-Ng draws inspiration from her mother’s love for family, her empathy for others, and her ethic of service to imagine this remarkable meeting. Evoking fantasy and folklore, the story touches on events that have affected people across the world in our time and reaffirms our common humanity. Yuyi Morales’s breathtaking artwork illuminates the dreamlike tale, reminding us that loved ones lost are always with us, and that sometimes we need only look at the moon and remember.

Watch...

*Space Compilation: Crash Course Kids*

Learn about the sun, the stars, the universe, and how constellations work in this exciting, half-hour long video produced by Crash Course. Visit [www.youtube.com/watch?v=Td_A9H6geE8](http://www.youtube.com/watch?v=Td_A9H6geE8) to check out this awesome resource!

Visit...

Learn more about the National Air and Space Museum’s companion facility—the **Udvar-Hazy Center** in Chantilly, VA. Opened in 2003, its two huge hangars — the Boeing Aviation Hangar and the James S. McDonnell Space Hangar — display thousands of aviation and space artifacts, including a **Lockheed SR-71 Blackbird**, a **Concorde**, and the **Space Shuttle Discovery**. The Center also offers the **Airbus IMAX® Theater** and the **Donald D. Engen Observation Tower**, which gives you a 360-degree bird's-eye view of Washington Dulles International Airport and the surrounding area.

The Udvar-Hazy Center is open daily from 10am to 5:30pm. Admission is free. More information online at: [www.airandspace.si.edu/udvar-hazy-center](http://www.airandspace.si.edu/udvar-hazy-center)
OUR MISSION: “THE INCREASE AND DIFFUSION OF KNOWLEDGE”

Smithsonian Associates advances the Institution’s mission through life-enriching educational and cultural experiences inspired by the Smithsonian’s research and collections for DC-region students, families, and adults, and for learning communities nationwide.

Discovery Theater has been presenting DC-area children with live educational performances for almost 40 years. With programs that enrich the Smithsonian experience for nearly 50,000 children annually, Discovery Theater is a gateway to the exhibits, collections, and themes contained in the museums and galleries on the National Mall and beyond. We explore American history and cultures, folk tales from around the world, and exciting, accessible science and math programs in the company of puppeteers, storytellers, dancers, actors, and musicians. Discovery Theater performances unite ideologies, enact themes that reflect the diversity of its audiences, open avenues of self-reflection, and offer an enjoyable means for parents and teachers to demonstrate life’s lessons. There’s so much to do and explore at the Smithsonian—and Discovery Theater is the ideal place to begin!

Our Location
The S. Dillon Ripley Center, 3rd Sublevel
1100 Jefferson Drive, SW
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