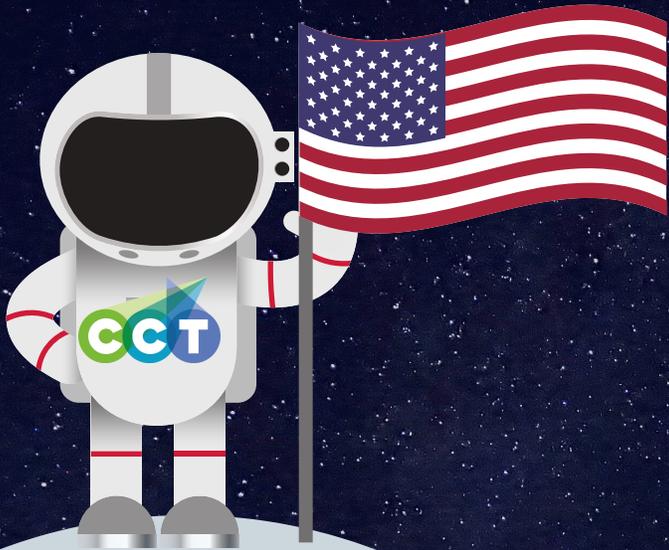


APOLLO:

TO THE

MOON



Columbus Children's
THEATRE

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A Note for Teachers



Experiencing a Columbus Children's Theatre Touring Production is an engaging, fun, and educational way for students to experience live theatre! This simple, informative study guide is designed to prepare students for the show and expand their learning after the performance.

Whether or not your students have seen a live performance before, we ask that you please share the information on the following page, "Theatre Etiquette," prior to the show to help everyone have the best audience experience.

Within this guide you will find worksheets, activities, and thought-provoking discussion questions for before the performance and after the actors have taken their bows. We are excited to share Apollo: To the Moon with you and your students – enjoy your journey to the stars!

Please be advised that this play makes brief mention of historical events such as the Kennedy assassination, the Apollo 1 accident, and the Vietnam War.



Theatre Etiquette

***Etiquette:* the formal manners and rules that are followed in social settings, for ceremony or for any occasion.**

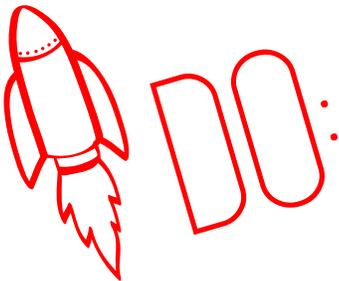
Just as the actors onstage have roles and a job to perform, the audience has a role of its own. It is important to learn and understand how to be a good audience member during a live performance so that everyone has the best possible experience!

One of the key elements of a live performance is that the actors onstage can see and hear the you at the same time that you can see and hear them. It is important to be respectful to the actors and other audience members by having **theatre etiquette**, or following a polite code of Do's and Don'ts.

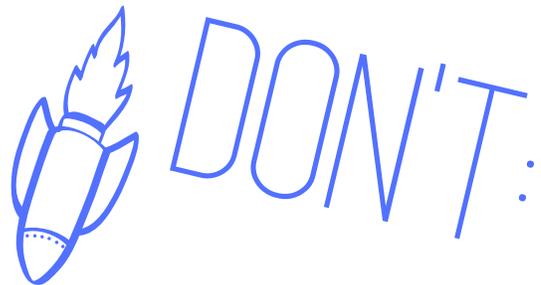


CHALLENGE YOURSELF:

- Have you ever seen a live performance before? What was it?
- What are some Dos and Don'ts of a good audience member?



- Be seated on time!
- Use the restroom before the performance.
- Clap and laugh if you see something you like!



- Get up during the performance.
- Use electronic devices (phones, music players, games)
- Talk to your neighbor during the performance. You might miss something important onstage!



Roles in a Theatre Production

Usually, the only people the audience *sees* are the actors onstage, but performances are the result of many people working behind-the-scenes.

Let's see how many roles are needed to bring a performance to life:



CHALLENGE YOURSELF:

How many jobs can you think of that might happen behind-the-scenes of a theatre performance?

The Director: The director is the leader of the show. They guide how the play will look and sound, and work with the actors to help them perform their characters. A director is like a painter: the actors and behind-the-scenes crew are the different colors they use to make a painting - a performance.

The Cast: The actors in a show. They memorize a script and listen to the director in order to tell the audience a story, using their imagination to show how their characters move and speak.

The Stage Manager: The director's most trusted partner. They make sure that everything happens on-schedule, and take notes on everything that happens in rehearsals so that nothing is forgotten. During performances, stage managers run the tech of the show. Every sound effect, light change, and more take place because the stage manager makes sure that they happen on-time.

The Designers: The designers follow the guidance of the director and use their creativity to create the world of the show. There are many types of theatrical designers!

Set Designer/Technical Director: The set designer decides what the stage should look like. Then, the technical director takes their design and works with a team to build the set.

Costume Designer: Chooses everything an actor wears onstage, paying attention to when the show takes place and what the actor needs to be able to do in costume.

Props Master: Creates every handheld object that actors use onstage, and makes sure they are durable enough to be used over and over again across many performances.

Lighting Designer: Decides how the show is lit. Lights can show what time of day or season it is, how the characters are feeling, and most importantly, makes sure the actors can be seen.

Sound Designer: Creates all of the sound effects, and sometimes even music for the show. If the actors are using microphones, the sound designer makes sure that they are working correctly.



About the Show

Summary:

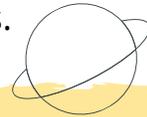
All his life, Scott has wanted to go to the moon. As he sets his goals and works hard to reach them, we'll learn about NASA, the Apollo missions, and America's journey to space. Most important, we'll discover what we can achieve if we keep dreaming and never give up.



About the Playwright:



Mary Hall Surface is a playwright, director and teacher who creates theatre for children and families. She is well-known for adapting famous myths and folktales like *Pinocchio* and *The Brothers' Grimm* stories. While visiting the National Air and Space Museum in Washington D.C., she was inspired to make a historically accurate, fact-filled play about America in space. Mary was a kid when the world's first moon landing happened, and she wanted to tell a story that would show children today what an exciting time it was.



In this play, only one actor will play multiple characters. Some other characters will never be seen - the actors playing them recorded their lines through microphones.

Characters we SEE...

Scott Gibson: Our main character. A scientist who wants to be an astronaut.

Vice President Johnson: Worked closely with NASA, and took over President Kennedy's dream to land on the moon.

Werner Van Braun: A German scientist who designed rockets.

Benny: Scott's lazy coworker at the Jet Propulsion Laboratory.

Colonel Virgil "Gus" Grissom: One of the first NASA astronauts.

Characters we HEAR...

Sarah Gibson: Scott's younger sister.

Scott's Mom: She supports Scott.

President Eisenhower: Encouraged the start of NASA and was interested in space.

Alan Shepard: The first American to travel into space.

John Glenn: The first American to orbit Earth.

President JFK: Insisted America would get to the moon before 1970.

Mr. Krammer: Scott's boss at the Jet Propulsion Laboratory.



To the Moon: an Apollo missions timeline

Apollo 11 (July 16, 1969) Neil Armstrong, Buzz Aldrin and Michael Collins launched from the Kennedy Space Center and reached the moon 4 days later, performing the first-ever moon landing and returning safely home. This year, 2019, marks the 50th anniversary of this "one small step for man, one giant leap for mankind."

Apollo 10 (May 18, 1969) In theatre, a "dress rehearsal" is the final practice of a performance before an audience sees it live. This mission was a "dress rehearsal" of the moon landing. Thomas Stafford, John Young, and Eugene Cernan orbited the moon 31 times and gave all systems one final test.

Apollo 9 (March 3, 1969) James McDivitt, David Scott, and Russell Schweickart tested all back-up systems, emergency procedures, and performed the first **spacewalk**, exiting the rocket while in space, for maintenance.

Apollo 8 (December 21, 1968) Frank Borman II, James Lovell Jr. and William Anders became first astronauts to orbit the moon and return to Earth.

Apollo 7 (October 11, 1968) Astronauts Walter Schirra, Donn Eisele and R. Walter Cunningham orbit Earth for 11 days to test navigation systems and send the first live TV broadcast from space.

Apollo 6 (April 4, 1968) Unmanned mission to test the Saturn V rocket a final time. The engines had difficulties, but new back-up systems helped it fly - NASA declared it ready for a crew.

Apollo 5 (January 22, 1968) Unmanned mission to test the **lunar module**, the smaller rocket that would separate from the main engine and fly to the moon.

Apollo 4 (November 9, 1967) Unmanned flight test of the new Saturn V rocket.

Apollo 1 (January 27, 1967) Never launched due to an accident that killed 3 astronauts. Out of respect for their bravery, this mission was named "Apollo 1," and the unmanned test rockets that flew before it were renamed Apollo 2 and 3.

(July 29, 1958) When Russia launched the first artificial **satellite**, the United States decided to "race" the world to space. The National **Aeronautics** and Space Administration, NASA, was made to gather the best scientists and **astronomers**.

Aeronautics: The science of travelling through the air.

Astronomer: A scientist who studies bodies in space, like planets and stars, and the universe.

Satellite: An object in space that travels in orbit around a larger object. The moon is one example. An artificial satellite is put into space by people.



Show Themes



"Houston, we have spoilers!"



The following pages contain information about the ending of the play. Wait to check it out after the performance is over!

Follow Your Dreams



"My dream...the moon...all my life, I wanted the moon!" In this story, Scott dreams about reaching the moon (back in his time, a nearly impossible idea) and works incredibly hard to try and achieve it. His family, his boss, and even famous astronauts recognize his passion and reward him for it.

Recovering From Failure



Scott is heartbroken when he learns that he cannot be an astronaut. But, because he has proven himself by working hard throughout his life, other amazing opportunities turn up. Scott accepts the change in his life and finds happiness by helping others achieve his dream. Sometimes our dreams aren't meant to be, but hard work always pays off - even if it is in unexpected ways.

The Importance of Innovation



The 1960s was a time of huge advancements in information and technology. It is because of scientists that we have things like cellphones, the internet, and the ability to predict dangerous weather before it happens. We see the characters in this play struggle with whether it is more important to study science to help the future, or help people who are in need in the present. Finding the balance between both is an issue still discussed today. Sometimes trying and discovering new things can even be scary. But encouraging the study of science, including astrology, we are all able to grow from new learning and inventions.

Discussion Questions

About the story...

1. An astronaut's job is difficult and dangerous. What kind of personality do you think a good astronaut has? Other than being able to fly a rocket, what other skills would be important?
2. Scott is determined to achieve his dreams. What are some things we see him do that prove he is willing to work hard for his goals? Do you have a goal? How are you working towards it?
3. This play takes place during the 1960s, a time before cellphones or the internet existed. What are some things that happened in the story or things you saw onstage that reminded you this story happened in the past?
4. Sarah says the world is struggling with a lot of problems while Scott and NASA are trying to study space. Do you think it is important for us to understand the universe beyond our planet?
5. Scott is extremely disappointed when he learns he cannot be an astronaut. How does he deal with feeling defeated? Have you ever been told "no" when you really wanted something?

About the performance...

1. In this show, one actor played many different characters. What are some things you saw the actor do that showed you they were becoming someone else?
2. Technical elements like costumes, sound effects, props and projections were very important to this show. How did they help you understand what was happening in the story? Did you have a favorite technical moment?
3. Voice actors are performers you never see - they tell a story through their voice alone. Some examples are the actors who perform for animated movies, cartoons, and video games. In this play, voice actors played characters like Sarah, Scott's mom, and radio reporters. In what ways might a voice actor's job be easier or harder than an actor who performs onstage?



Space Race Matching

Know your NASA! Each of these famous names appears in Apollo: To the Moon, and play an important role in the first successful moon landing. See how many you can match to their correct description.

Answer Choices

- A. President Dwight D. Eisenhower B. James Webb C. Alan Shepherd D. John Glenn
E. President John F. Kennedy F. President Lyndon B. Johnson G. Dr. Werner Von Braun
H. Colonel Virgil "Gus" Grissom I. Yuri Gagarin J. Valentina Tereshkova K. Neil Armstrong
L. Buzz Aldrin M. Michael Collins

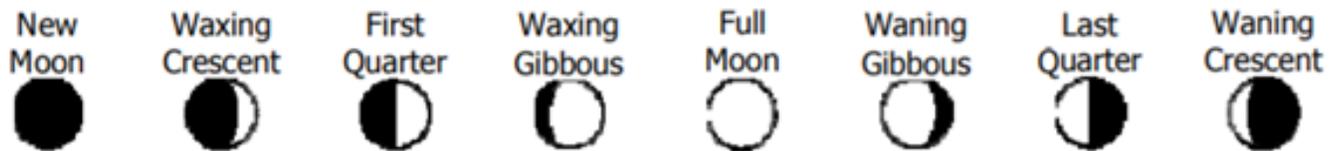
- 1 ____ The first American to travel to space. A "Super Seven" military test pilot chosen by NASA.
- 2 ____ This 34th President started NASA in response to Russia launching the first satellite into space.
- 3 ____ This war veteran, test pilot, and mechanical engineer was a "Super Seven" astronaut, and the second American to fly in space. He lost his life in the Apollo 1 test launch.
- 4 ____ A German-American aerospace engineer and space architect, he helped design the rocket system that allowed the Apollo missions to reach the moon.
- 5 ____ This astronaut was the command module pilot for the Apollo 11 mission, and the second person ever to orbit the moon alone. He stayed in orbit while the rest of his team did the first moon walk.
- 6 ____ This man made three spacewalks in his time as an astronaut, and as the pilot for the Apollo 11 mission he was the second person to stand on the moon.
- 7 ____ A Russian Air Force pilot who became the first human to travel into outer space.
- 8 ____ The 35th President who famously said, "I believe this nation should commit itself to achieving the goal, before the decade is out, of landing a man on the moon."
- 9 ____ The Vice President who became the 36th President, he oversaw the first two manned missions into space, Apollo 7 and 8.
- 10 ____ A "Super Seven" astronaut, this man from Ohio was the first American to orbit the Earth.
- 11 ____ The first woman in space who orbited the Earth 48 times and spent almost 3 days in space.
- 12 ____ This American astronaut was also an engineer, a Navy pilot and college professor. He was the mission commander for Apollo 11 and the first person to ever walk on the moon.
- 13 ____ One of the first heads of NASA, he wasn't interested in the "space race" to beat other countries to the moon, but cared more about uniting the world through a better understanding of science in space.

ANSWERS: 1-C 2-A 3-H 4-G 5-M 6-L 7-I 8-E 9-F 10-D 11-J 12-K 13-B



Lunar Birthday

Have you noticed that every time you see the moon in the sky, it looks differently than it did the night before? This is because as the moon orbits, or rotates around Earth, the light from the sun hits it differently. There are 8 named "phases of the moon," and they look like this:



For this activity, you will need a **pencil** and **access to the internet**. Visit the website below and enter the month and year that you were born:

<https://stardate.org/nightsky/moon>

Now, using the grid below, shade in what the moon looked like on your birthday and every 3 days after for the next 30 days. You may need to take a look at the month after your birthday to find them all. Leave the final picture blank for now.

<p>Your birthday moon</p> <p>Date _____</p>	<p>3 days after your birthday moon</p> <p>Date _____</p>	<p>6 days after your birthday moon</p> <p>Date _____</p>	<p>9 days after your birthday moon</p> <p>Date _____</p>	<p>12 days after your birthday moon</p> <p>Date _____</p>	<p>15 days after your birthday moon</p> <p>Date _____</p>
<p>18 days after your birthday moon</p> <p>Date _____</p>	<p>21 days after your birthday moon</p> <p>Date _____</p>	<p>24 days after your birthday moon</p> <p>Date _____</p>	<p>27 days after your birthday moon</p> <p>Date _____</p>	<p>30 days after your birthday moon</p> <p>Date _____</p>	<p>Date _____</p>

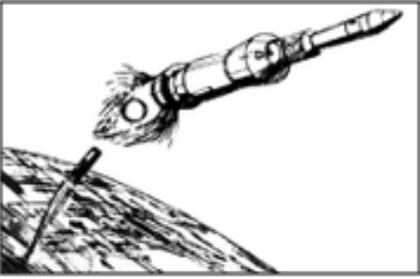
- ☆ (?) Do you see a pattern in the changes of the moon?
- ☆☆ (?) What phases is the moon in on your birthday?

In the last picture of the grid, try to **predict** what the moon looked like 33 days after your birthday.



Timeline to the Moon

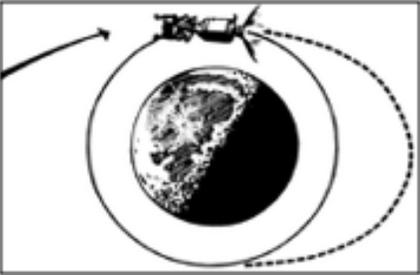
Making the journey from Earth to the Moon and back takes many steps. Take a look at this timeline, then try cutting out the pieces and shuffling them up. Can you match them back up in the correct order?



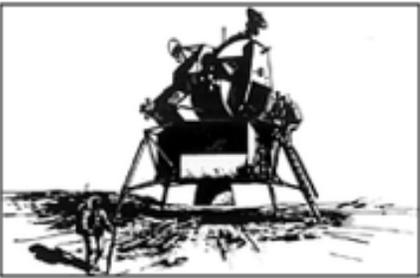
Launch- The initial rockets of the Saturn V burn for about 11 minutes to send it through the Earth's atmosphere and into orbit. After 1-2 orbits, the next stage of rockets burn to send the rocket out of Earth's orbit.



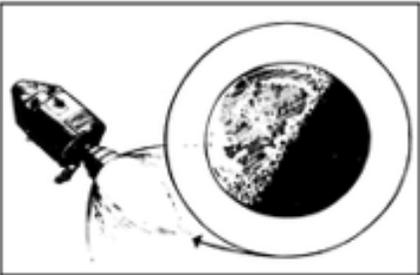
Transposition- Rocket separates to free the Command Module (CSM, where astronauts sit) and expose the Lunar Module (LM). The CSM turns 180° to face the rest of the rocket and dock, or connect, with the LM to pull it away from the rest of the rocket.



Descent Orbit- The CSM's rockets fire to head to the moon, a 2-3 day trip. Then the CSM slowly enters the moon's orbit and passes a few times. Next, one astronaut stays in the CSM while the LM is released with two astronauts inside.



EVA- The LM's rockets are used to slowly bring it down to the moon's surface. Astronauts perform one or two EVAs, "extra vehicular activities," collecting lunar samples. Then, the LM rockets fire it back into the moon's orbit.



Rendezvous- The LM and CSM reconnect, and all astronauts move to the CSM. The LM is then released again to float off into space while the CSM flies back to Earth.



Splashdown- The CSM re-enters the Earth's orbit and turns off its rockets so that gravity begins to pull it back to Earth's surface. It falls through the atmosphere, becoming extremely hot, then deploys parachutes to bring it safely down in the ocean.



Acting Environments

Actors are storytellers who use their bodies, voices and imaginations to communicate to the audience. Actors pretend to be other people in other places - and that imagination can stretch to outer space!

Take a look at the descriptions below explaining what it might feel like to walk on a part of the solar system other than Earth. How could you show which place you're pretending to be in? Do you think you could guess which place in space someone else is acting out? As a group, practice acting out these environments.

GAME: Send one person out of the room, or have them cover their ears. The rest of the group will decide on *one* place to act out all together. Then, once everyone is ready, ask the person outside the group to watch and guess which space environment is being shown to them.



Mercury:

Extreme temperatures! During the day it is burning hot, but at night it is freezing cold.



Saturn:

Spins so quickly that it actually flattens itself out. You'd get flattened down too!



Venus:

A single day on Venus is longer than an entire year on Earth - move in slow motion!



Uranus:

The coldest planet in the solar system. It's freezing!



Mars:

Famous for its windstorms! Full of dusty, blustery tornadoes.



Neptune:

Made entirely of gas - you can't stand anywhere. You'd have to swim through the air!



Jupiter:

The fastest-spinning planet in the whole solar system. Move in fast-forward!



Pluto:

Has an "eccentric" orbit, meaning it moves more strangely than the planets in our solar system. You'd have trouble keeping your balance!



Credits & Works Cited

Audio:

Music for *Apollo: To the Moon* was created by Morgan Thomas Mills.

President Kennedy's 1961 "Man on the Moon" speech was obtained through the Associated Press Archives:

<http://www.aparchive.com/metadata/youtube/1aa5f230721e4976a44d844484b49589>

Projections:

Apollo rocket launch video: http://www.apolloarchive.com/apollo_archive.html

The moon: <https://www.pinterest.com/pin/54817320450868783/>

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Earth from space: <https://www.nationalgeographic.com/science/2018/12/earthrise-apollo-8-photo-at-50-how-it-changed-the-world/>

Moon fantasy: <https://lithub.com/what-if-we-got-stuck-on-the-moon/>

Apollo 9: Courtesy of CBS archives.

Image of the Race Riots: Courtesy of Associated Press Archives.

Martin Luther King Jr: <https://www.news.ucsb.edu/2014/013893/dream-equality-and-justice>

Vietnam War: <https://rarehistoricalphotos.com/vietnam-war-the-early-years-1965-1967/>

"One small step" footage: Courtesy of CBS archives.

Photo of Buzz Aldrin: <https://www.engadget.com/2019/07/20/neil-armstrong-buzz-aldrin-photo-the-big-picture/>

In this guide:

"Timeline to the Moon" images from https://en.wikipedia.org/wiki/Apollo_program

"Lunar Birthday" modified from http://wsanford.com/wsanford/exo/b-day_moons.html

Images used in "About the Show" from www.maryhallsurface.com

