



Film: CURIOSITY (5 Minutes)

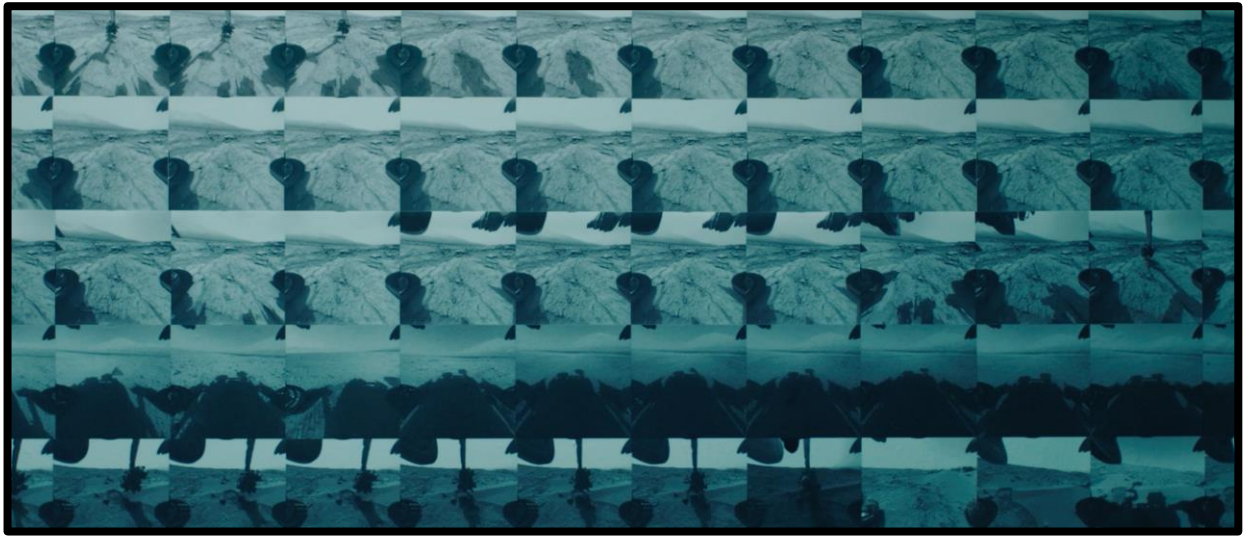
Background:

In this comical-horror send-up of the sci-fi genre, the NASA Mars Curiosity Rover inadvertently sends some intimidating creatures back home to the monitoring station in Pasadena, CA.

Suggested Activities:

1. This film *Curiosity* evokes powerful feelings through suspense. Individually, make a list of all the emotions or feelings you think the scientist is feeling as his monitoring station is invaded. Put the feelings in the order of when you – or the character - felt them during the film, noting how each emotion was conjured by elements of the film. Compare your list to others who watched the film.
2. Write a script or a storyboard (like a series of cartoon frames) for the next chapter of the fictional story depicted in this dramatic short, beginning just after the Scorpion-like creatures transport themselves into the office on Earth. Be sure to account for the characters, the conflicts, the action, and how music and visuals affect the suspense.
3. The Curiosity rover brings NASA information back down from Mars, can you give the date the Curiosity rover was sent to the Red Planet and what kind of information it is retrieving?
 - a. Communication is key! Do you know how long it takes to get to Mars and how long it takes for information to be sent back to Earth?
 - b. Do you know how many rovers NASA has sent to the Red Planet?

- c. If you were an engineer at NASA and had the opportunity to name a Mars rover, what unique name would you call it?



Film: **COSMIC PERSPECTIVE** (10 Minutes)

Background:

Former fighter pilot, NASA astronaut, and International Space Station Commander Terry Virts describes how his ideas about Earth were significantly changed after being in space, and the many reasons the experience made him realize that Earth requires our protection.

Suggested Activities:

1. From space, astronauts get to see an “earthrise” instead of a sunrise, shifting perspective. Describe and illustrate an experience you have had – in a strange new place or foreign country, or just your own backyard – which transformed your way of looking at the world.
2. a) Compare and contrast your own experience of quarantine due to COVID-19, and the perspective of an astronaut like Terry Virts, who is isolated in space for up to several months.
b) Interview an older friend or family member who remembers the Apollo missions, when space travel was a brand-new idea. How does their perspective differ from your own?
3. When you look up to the sky, what is your own perspective about space? The stars, the Moon and other planets of the galaxy?
 - a. Could you list five examples of new ideas that might contribute to the benefit of space and humankind.
 - b. Can you name a few other planets and or solar systems discoveries NASA has yet to explore?




Film: [FOR HUMANITY](#) (1.5 Minutes)

Background:

Various astronauts tell why they pursued a career that led them into space.

Suggested Activities:

1. When you look up at the stars, do you dream of becoming an astronaut? If no, write and illustrate a description of what you do dream about when looking at the stars. If yes, write in detail how you will go about pursuing that long-term goal, listing and illustrating key points.
2. a) Space exploration has brought many benefits for humanity here on earth. Conduct some research (without using Wikipedia) to learn more about alternate benefits of space exploration (such as new inventions, international cooperation, global perspective). Write a persuasive paper explaining what you believe has been the biggest benefit for humanity.
A photograph of an astronaut in a white spacesuit working on the exterior of a space station. The astronaut is positioned in the center-right of the frame, with their body angled towards the left. The space station's structure, including various panels, pipes, and equipment, is visible in the foreground and background. The background is a deep black space filled with numerous stars and some faint nebulae.
b) These astronauts say that they chose their careers for the sake of humanity. Describe another career that you think is as important, or maybe more important, for humanity. Be sure to give the reasons that this career benefits humanity.
3. Science comes in many forms; how do you think astronauts use science in space and why is it so important to complete their missions?

- a. Could you name a few investigations that are happening on the International Space Station with the current Expedition?
- b. Could you name the current astronauts up in the International Space Station?

Film: OPPORTUNITY (5 Minutes)

Background:

In this stop-motion short from Canada, the Mars Landing Rover “Opportunity” investigates the surface of Mars, but ultimately must face its own existential fate after fifteen years on the planet (even though the mission was originally slated to last only 90-days).

Suggested Activities:

1. List at least five of the mundane objects that this filmmaker used to assemble her own version of the Mars Landing Rover “Opportunity.” Make your own DIY robot, then write a story from Opportunity’s point-of-view: Why did Opportunity want to be assigned to this mission? How did Opportunity feel about a 90-day mission growing into 15-years on Mars? What was going through Opportunity’s mind as the humans celebrated the robot’s longevity back on Earth?

National Arts Anchor Standard 2: Organize and develop artistic ideas and work.

VA:Cr2.1.6a: Demonstrate openness in trying new ideas, materials, methods, and approaches in making works of art and design.

2. List and detail at least five ways that this fictional story pulls at the viewer’s emotions as the plot develops, and the robot Opportunity meets their end. Include several elements of filmmaking on your list, and the influence that they have: the plot; the visual milieu; sound effects & music; character development; editing; dialogue; or any others you can list.
3. Robots in space are used often for help on the space station, could you name four current robotic-based experiments NASA has both on the ISS and Earth?
 - a. Why do you think NASA engineers work on building robots to help out in space?
 - b. Can you provide background on the technological side of work some of the robots have provided to help on Earth?

Film: NOT OUR THING (10 Minutes)

Background:

A young man from a small farming village from Taiwan explains that space travel is just not their thing in Taiwan (yet), but he still aspires to educate himself to become a rocket scientist.

Suggested Activities:

1. In this small agricultural village, people rely upon the stars and Moon to tell them when to plant and when to harvest. Research the history of using the Moon to plant and harvest and describe the science behind it.
2. Many agricultural experiments have been done at the International Space Station. Consider why there would be value to growing plants in space and list the reasons. Research whether these experiments were successful and summarize how we are enjoying the outcomes on earth.
3. As the future of NASA starts to slowly evolve humans to live on Mars, what might be some successes and struggles with growing food in space and how do you think harvesting will be like in another ten years?
 - a. Can you name a few plants/foods that have been harvested by NASA astronauts?
 - b. Why do you think it is important to learn how to harvest plants and food in space, when we can generally send these items via resupply missions?

Film: TWENTY (5 Minutes)

Background:

Celebrating twenty years of successful operation of the International Space Station (ISS), which has been developing new materials and research with each passing year.

Suggested Activities:

1. Astronauts bring input from over 100 countries to the ISS, working as one team as international partners in space. Create a tutorial for astronauts to teach world leaders and diplomats on earth about how to realize shared dreams and world peace, even amid the challenges of the modern world.
2. You are an astronaut spending three months on the ISS, but you have been assigned to team up with a very contrary astronaut from another country, who always wants things their way. List your own strategy for surviving your time on the ISS, while still achieving shared goals.
3. What other ideas and/or contributions could you list to make working on the International Space Station alongside astronauts; from other places of the world, be a continuous success?
 - a. How can our differences from planet Earth become less of an issue in space?
 - b. Can you name a few countries that help with the international partnership?
 - c. What are some ways you can best set aside your differences and build a team to help accomplish worldwide goals?



MY NAME IS JUNO, HELLO JUPITER (5 Minutes)

Background:

In this music video from New Zealand, stunning photos of the planet Jupiter are combined with music and lyrics expressing the “feelings” of the NASA unmanned spacecraft Juno; the words are filled with wonder regarding the subject of Juno’s research: the planet Jupiter.

Suggested Activities:

1. Assigning human traits to non-humans, even inanimate objects, is called *anthropomorphism*. This music video is a love song (of sorts) that lends human emotions to a spacecraft, which speaks of its feelings in a first-person narrative. Choose an object in your immediate surroundings and assign it a humanlike voice with strong feelings toward another object; then write a first-person narrative paragraph that expresses its emotions toward the other object.
2. Juno’s mission was to map magnetic fields of Jupiter, to understand its origin and evolution, and to measure water and ammonia in its atmosphere – but the images taken of the planet brought many unexpected discoveries. Choose an object here on earth, then take detailed photographs of it. List what you learned by closely studying your own photos, and how those photos may have changed your ideas about that object.

National Arts Anchor Standard 2: Organize and develop artistic ideas and work.

3. Apart from NASA’s Jupiter missions, can you name a few other planets NASA will make substantial research and possibly land on in future missions?
 - a. Did you know Jupiter was the largest planet of the solar system? It has been researched by NASA and its Juno spacecraft for quite some time now, can you name the year to which NASA initiated the study of the planet?
 - b. Could you identify another spacecraft that helped in the discovery of the ring around Jupiter?



KAPANA CHAWLA-THE BRIGHT STAR IN THE SKY (10 Minutes)

Background:

A biography of Kalpana Chawla, the first astronaut (and first *female* astronaut) from South Asia, who overcame incredible obstacles hindering women in India, to become an American astronaut and aerospace engineer. Kalpana was part of the NASA space shuttle Columbia team in 2003, who died with her other astronaut teammates when their space shuttle disintegrated on re-entry to Earth.

Suggested Activities:

1. Kalpana Chawla overcame many obstacles – cultural, gender-based prejudice, financial limits, and others – before being chosen to fly into space. Explain in detail three ways in which, Kalpana’s efforts to become an astronaut helps women all over the world to forward their own lives, indicating that she did not pass away in vain.
2. This is a fact-based biography with a tragic ending. Why is it important to learn about Kalpana’s story? The Greek philosopher Aristotle teaches that tragedy asks audiences to consider their own values, tragedy in theater releases feelings of fear and grief in audiences, and acts as a therapeutic tool. List three feelings that you felt when watching Kalpana’s story and connect them to the moment in this short film when you experienced them.



3. To work as an astronaut, it takes lots of hard work and dedication; more women are now a part of the space exploration industry, can you name a few STEM-related classes that relate to becoming an astronaut?
4. Can you name a few of your favorite female astronauts that you might know of and have made a big difference in space and here on earth?

Film: THIS OTHER WORLD (10 Minutes)

Background:

Astronauts share their knowledge of intense isolation and quarantine during space missions, and how these experiences help inform us regarding the months of COVID isolation.

Suggested Activities:

1. One astronaut describes how he used the earthly sounds of a jungle, an ocean, and falling rain as comfort against the intense aloneness and detachment he felt in space. What sound-environment would you choose to bring you comfort when in isolation? Write a paragraph of your sound-environment, with enough detail to use it as your own isolation-meditation and attach a visual representation of that calming space.
2. One astronaut describes his return to Earth after his time in space, realizing how much material excess and waste we have in our lives here on Earth. Describe how living through a pandemic has changed our attitude about the “stuff” in our lives and explain how you live with less of it.
3. List a couple of science-based projects you can conduct and work on while living at home during isolation like an astronaut.
 - a. List a few scientific discoveries astronauts have conducted on the International Space Station, please elaborate.
 - b. Although COVID-19 has affected us over the past year, we as humans, have learned to continue working, communicating and staying as safe as possible through it all. Astronauts do the same in space! What day-to-day routines do you think they have up in the ISS that are similar to ours on Earth?

Film: SPACE: A SKATE ODYSSEY (2 Minutes)

Background:

In this fantastical short film from Canada, a 1960s NASA housewife pursues her own impossible dream of space travel by engineering a gigantic vert-ramp that launches her into space.



Suggested Activities:

1. This film is set during the 1967 Saturn V launch, but how do we know that? List five ways in which the filmmaker sets the scene; give detail. Then list five ways in which the filmmaker gives us hints about what this woman is planning; give detail.

National Art Anchor Standard 7: Perceive and analyze artistic work
MA:Re7.1.6 a.: Identify, describe, and analyze how message and meaning are created by components in media artworks.

2. This ending appears to be a fantastic feminist victory, but we all know the outcome can't be good for this heroine. Write a letter, as if you are this heroine and, in her voice, that she leaves behind on the kitchen table for her NASA-husband to find, explaining her reasons for choosing this incredible feat of daring.
3. This film depicts examples of channeling your own inner dreams of going to space, how could bringing your dreams to reality encourage STEM-based productivity?
 - a. List of a few of your dreams that you'd like to make come true, i.e., future goals, education, and broader ideas you can imagine that will help the future.

For help with answering some of these questions, please use the following link for guidance:

https://www.nasa.gov/mission_pages/station/research/experiments/explorer/

<https://www.nasa.gov/>

<https://www.nasa.gov/nasa-at-home-for-kids-and-families>

The Following are links to each individual film:

[Curiosity](#)

[Cosmic Perspective](#)

[For Humanity](#)

[Opportunity](#)

[Not Our Thing](#)

[Twenty](#)

[My Name is Juno Hello Jupiter](#)

[Kalpana Chawla – The Bright Star in the Sky](#)

[This Other World](#)

[Space: A Skate Odyssey](#)