



MOONSHOT



Educator's Guide

In May of 1961, President John F. Kennedy challenged American scientists to land on the moon within the decade. ***MOONSHOT*** tells the amazing story of the Apollo 11 mission, launched on July 16th, 1969, in which NASA astronauts achieved this extraordinary goal. This two-hour special is a compelling dramatization interlaced with original NASA footage transferred to high definition. This story told in ***MOONSHOT*** stretches from the crew's earliest days at NASA to the moment when Neil Armstrong and Buzz Aldrin stepped on the Moon. From home life and families, to the argument over who would be the first to walk on the lunar surface, this is the remarkable account of one of the most chronicled events in history.

Almost everyone who has turned on a television set has seen footage of the moon landing, yet ***MOONSHOT*** allows educators and students to peer back in time, learning about the human drama and scientific innovation that unfurled behind the scenes. Viewers will also see stunning recreations of experiences few humans will ever know — an Earthrise, touching down on the Moon, and stepping onto the lunar surface. A unique mix of dramatic storytelling and primary source footage, ***MOONSHOT*** captures this event in new ways, humanizing the men and women involved, and offering an exhilarating perspective on life beyond earth.

Curriculum Links:

MOONSHOT would be useful for high school and middle school classes on Science and Technology, Social Studies, History, and Astronomy. This documentary fulfills several key guidelines and goals outlined by the National Council for History Education including: 1) Patterns of social and political interaction, 2) Civilization, cultural diffusion, and innovation, 3) Human Interaction with the environment.

Vocabulary

Using the dictionary at www.merriamwebster.com, or an encyclopedia, students should define or explain the significance of the following terms:

Ascent
Adhere
Clandestine
Cold War
Orbital
Lunar Module
Simulation
Precedent
Propulsion
Tranquility

Comprehension Questions:

1. What is NASA and when was it created? How was the work of NASA connected with the Cold War?
2. In 1961, President Kennedy challenged the nation to reach the moon, and have humans walk on its surface, within the decade. Do you think most Americans thought this was an important goal at the time? Why or why not?
3. How would you describe the personalities of Neil Armstrong, Buzz Aldrin, and Michael Collins? Was there any tension between the three men as they prepared for their mission? How did they deal with their personality differences?
4. Why do you think Neil Armstrong was picked to be the first member of the Apollo 11 crew to walk on the moon?
5. Why do you think the Apollo 11 mission was such an important event internationally? What role did television play in the story of Apollo 11?
6. What were some of the risks involved with the Apollo 11 mission? What moments in this film helped you understand the reasons the astronauts were willing to take this risk?
7. How many miles from Earth is the moon? How long did it take the Apollo 11 crew to get from Earth to the moon?
8. What were the biggest challenges the astronauts faced when attempting to land on the moon?
9. How did Armstrong describe the moon and its characteristics?
10. What problem did Aldrin and Armstrong face after returning from their spacewalk? How did mission control and the astronauts overcome the problem and lift off the surface off the moon successfully?
11. At one point the son of Mike Collins was asked if his father was going to become part of history. He responded "yeah" but then asked "What is history?" At the time of Apollo 11, the world regarded the moon landing a very important historical event. Do you think the moon landing will be considered one of the most important events of the 20th century in 500 years? Why or why not?

Primary Source Analysis

The passage below is a short section from a message delivered by President John F. Kennedy's to Congress in May of 1961. In this speech, Kennedy outlined many of his key domestic and international goals for the United States. In the section below, he states the goal of having an American land on the moon.

“First, I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or expensive to accomplish. We propose to accelerate the development of the appropriate lunar space craft. We propose to develop alternate liquid and solid fuel boosters, much larger than any now being developed, until certain which is superior. We propose additional funds for other engine development and for unmanned explorations-- explorations which are particularly important for one purpose which this nation will never overlook: the survival of the man who first makes this daring flight. But in a very real sense, it will not be one man going to the moon--if we make this judgment affirmatively, it will be an entire nation. For all of us must work to put him there.”(***Special Message to the Congress on Urgent National Needs***, President John F. Kennedy, Delivered in person before a joint session of Congress, May 25, 1961)

Discussion Questions:

1. Why do you think President Kennedy thought landing on the moon was such an important goal? What needed to be accomplished in order for this goal to be met?
2. Why do you think Kennedy says that all Americans must work to achieve the goal of landing someone on the moon? What roles or jobs do you think would be most important in achieving this mission?

Extended Activities:

1. **Understanding the History of NASA and the Space Program**
Since its founding in 1958, NASA has pioneered dozens of advancements in air and space travel. Online or at the library, ask students to make a list of 10-15 major events in NASA history. Then, students can develop an illustrated timeline of NASA history in PowerPoint format, on poster-board or any other medium they chose. Students should include a written report with a short description of each event and its importance.
2. **They Made History**
MOONSHOT focuses on the personalities and relationships between Neil Armstrong, Buzz Aldrin, and Michael Collins. Each of these three men had different approaches to their careers as astronauts, and each of them experienced the mission to the moon differently. Ask students to imagine that they were these men and experienced the Apollo 11 mission. Have students write a letter or journal entry from the perspective of each of these men, drawing upon what they learned from watching MOONSHOT to inform these writings. Students can share these writings with the larger class or group.
3. **History as it Happened**

People throughout the world who watched Apollo 11 land on the moon still have vivid memories of that day. NASA has collected oral histories from many Americans, saving their recollections for the future. Ask students to visit NASA's site online at http://www.nasa.gov/mission_pages/apollo/40th/firstFootprint.html to read some of these testimonies. Then, ask students to interview a family member or community member about what they remember about the moon landing, its importance at the time, and its legacy for our world today.

Additional Resources:

Websites

HISTORY's official MOONSHOT site:

<http://www.history.com/genericContent.do?id=71504>

NASA's 40th Anniversary Apollo site:

http://www.nasa.gov/mission_pages/apollo/40th/index.html

NASA's website for high school students: <http://www.nasa.gov/audience/forstudents/9-12/features/index.html>

National Air and Space Museum's official website on The Apollo Program:

<http://www.nasm.si.edu/collections/imagery/apollo/apollo.htm>

Books

Beattie, Donald A. *Taking Science to the Moon: Lunar Experiments and the Apollo Program*. The Johns Hopkins University Press, 2001.

Gorn, Michael and Buzz Aldrin (foreword). *NASA: The Complete Illustrated History*. Merrell, 2008.

Parry, Dan. *Moonshot: The Inside Story of Man's Greatest Adventure*. Ebury, 2009.

Vogt, Gregory L. *Apollo Moonwalks: The Amazing Lunar Missions*. Enslow Publishers, 2000.