

FINAL PROJECT

TEACHING AMERICAN HISTORY

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Curriculum Unit : United States Human Space Exploration

Duration : 7 Days

OBJECTIVES; - Students will become familiar with the causes for the United States to undertake human space exploration.

-Students will understand difficulties and problems which were required to be solved through creative engineering.

-Students will grasp the human element necessary to complete the technological goals sequentially planned out to accomplish the overall program and individual mission goals.

MASSUCHESETTS STATE FRAMEWORKS;

USII.28 – Analyze the important domestic policies and events that took place during the presidencies of presidents Kennedy, Johnson, and Nixon. (H)

A. The space exploration program

USII.30 – Describe some of the major economic and social trends of the late 20<sup>th</sup> century. ( H,E)

A. The computer and technological revolution of the 1980s and 1990s.

Day One - Play audio clip and explain the significance of the Sputnik satellite beep – beep – beep.

- Distribute ‘NASA The Space Race’ article to class and read first page with students and discuss.

Topics for deeper discussion and explanation;

1. The Cold War
2. Use of captured German rocket scientists by USA and USSR
3. World War Two German rocketry achievements
4. Origin of the ‘Space Race.’
5. Background of President Kennedy’s May 25, 1961 speech setting the goal for a American moon landing before the end of the decade.

- Homework – Distribute reading labeled ‘Spaceflight.’ students are to read pages 1 – 5.

DAY TWO- Discuss with questions and explanations homework reading.

Explain Projects Mercury and Gemini.

Use pages 3 -5 of homework reading and NASA article timeline as references for in depth explanations.

- Homework – Students are to read ‘Spaceflight’ pages 5- 14.

DAYS THREE AND FOUR - Bring students to computer lab, each student will have internet accessible computer.

- Review homework reading
- Students will access Smithsonian National Air and Space website, and go 'Apollo – The Apollo Program' site.
  
- Students will be led through website and use multimedia review of Apollo missions.
- Last 10 minutes of class students will be allowed to explore internet for space exploration websites and information.

DAY FIVE - In class distribute 'Apollo' reading and refer to page 145, section one. Read with students to page 147.

Place an empty one gallon water jug in front of students.

Explain that the classroom is 20 by 30 feet and each jug takes up almost one foot of floor space.

The classroom could hold 600 jugs and a total of 47 classrooms, filled with 40,552 jugs would be required to meet one minute of fuel requirements as stipulated on page 145.

-Encourage students to break down time to gallons per second for main-stage combustion of 150 seconds.

Refer to 'Spaceflight' page 14 and 15 to continue discussion on basic life support inside a deep space vehicle.

DAY SIX – Review and answer questions from previous day.

- Discuss Apollo program's cost, goals, accomplishments, and setbacks. Refer to page 15 of 'Spaceflight.'
- Distribute fact sheet on Apollo program crew designed shoulder/mission patches.
- Review and discuss significance of artwork and text of each patch
- Compare and contrast Apollo 11 to the rest.
- Homework, read pages 16 – 20 in 'Space Flight.'

DAY SEVEN – Discuss and review homework reading, low earth orbit space flight consisting of Skylab, Apollo-Soyuz Test Project, Space Shuttle, and the International Space Station.

- Discuss last space shuttle launch, STS 135, launched on July 8, 2011 and returned on July 21, 2011.
- Discuss computer, technological, engineering, communication, and commercial benefits from the manned space program for society.
- Distribute Wall Street Journal article dated July 7, 2011, 'Shuttle's Last Flight Leaves Russia With Space Monopoly.'
- Homework. Students will write a two page essay explaining the paradox of how the United States manned space program has apparently ended and contrast it to how it began.
- Assignment will be in the form of a five paragraph essay and is due the next class section.

