Lesson Plan: The Sky is Not the Limit!: Aerospace in Texas
(Texas History, Grades 4, 5 and 7)

Objective

Using primary source images, video footage and secondary texts, students will create a museum exhibiting the events leading to the development of the aerospace industry in Texas and analyze the resulting impacts this development had on the economy. At the conclusion of the lesson, in addition to understanding the impact of the aerospace industry in Texas, students will be able to explain the use of primary sources to demonstrate historical fact and demonstrate their use in creating a narrative about a series of historical events.

Process

Prior Knowledge

1. Students should have an idea of how technological developments can impact the economy of a region.
2. Students should have a basic understanding of the aerospace industry and NASA.

Hook

1. Ask students to discuss with a partner how the aerospace industry is depicted in the media, including in the news, on the Internet, and through Hollywood films.
2. Divide the board into three parts and have students write their responses under each of the above categories.
3. Once students have completed, have them work with the same partner to decide which five depictions, regardless of category, they believe are the most realistic.
4. Have groups share their answers and discuss similarities and differences.

Lesson

1. Discuss the instructions that students will follow to create an aerospace museum. Explain that the videos they are watching as part of this lesson should enable them to choose the general topics they would like to cover in the museum. Answer any questions they may have regarding the topics they will need to consider.
2. Have students take notes over the videos listed below, focusing specifically on the technological innovations and aerospace industry events described in each. These films are all found on the Teach Texas category page: The Sky is not the Limit
   a. Space Monkey
      (http://www.texasarchive.org/library/index.php?title=NASA_Space_Monkey_Training) – demonstrates the training of Rhesus monkeys for space flight
   b. Let Us Continue
   c. News Review of 1966
   d. The President, November 1966
   e. The President, November 1968

3. Once the students have finished the videos have them partner with the person next to them and decide which space event was 1) the most significant and 2) caused the most significant changes in Texas.

Independent Learning

Note: The lesson plan was developed assuming students have access to a computer lab, however, the creation of the museum works just as well with the use of a large sheet of butcher block paper, paper images, and handwritten text.

1. Place students in groups of 2-3. Ensure each group has access to a computer that enables them to complete research and create a PowerPoint.
2. Students should use the TAMI videos, their textbooks, library books, the Internet, and other images to create a museum demonstrating the development and impact of the aerospace industry in Texas.
3. Have students use the notes they took over the videos and their textbooks to determine what topics they would like to exhibit in their museum. Remind them that to demonstrate both the development and impact of the aerospace industry they should include chronological, event-driven, biographical, and thematic displays.

4. Once students have chosen their topics, they should perform an image and text search using approved Internet databases or an encyclopedia to find the primary source material for their exhibits.

5. Once they have selected their primary sources, have students place them on slides in an order to simulate a tour through a museum. Students should add text to complete the stories told by the images, but remind them that text on museum displays is often brief and to the point. The slides should not be text heavy.

6. When the groups have completed their PowerPoints, have the students present their exhibits to the class, explaining how the individual displays reflect the development of the aerospace industry in Texas and its impact on the state.

Closing

Once students have finished presenting their museums, discuss the following:

1. How can the primary source images and video footage be used to demonstrate the historical events exhibited in your museum?
2. Do you believe these are a valid source of historical evidence? Are they as valid, more valid, or less valid than your textbook?
3. What did you find most difficult in the creation of your museum? What was easiest?

Extended Learning

Using the museums they have created, have students write a persuasive essay arguing for the inclusion of their best exhibit in NASA’s Johnson Space Center Museum. The essays should include justification for why their exhibits will further the mission of the museum at the Space Center and discuss how they are relevant to both the story of the aerospace industry in the United States and the impact of the industry on Texas.

Films
•  *NASA Space Monkey Training*, 4:01

•  *Let Us Continue* – Alan Shephard, first American in Space Clip, 17:42-18:53

•  *News Review of 1966* – Space Exploration Clip, 5:53

•  *The President – November 1966*, LBJ Honors Buzz Aldrin and James Lovell, 23.27 – 26:31

•  *The President – November 1968*, LBJ Presents medals to Walter Cunningham & Apollo 7 crew, 4:24 – 10:43

•  *Backup*, 2:03

**Resources**

•  NASA Web site - [http://www.nasa.gov/](http://www.nasa.gov/)

•  NASA’s Johnson Space Center Web site - [http://www.nasa.gov/centers/johnson/home/index.html](http://www.nasa.gov/centers/johnson/home/index.html)


**TEKS**

**Social Studies Grade 4**

5A - Identify the impact of various issues and events on life in Texas such as urbanization, increased use of oil and gas, the Great Depression, the Dust Bowl, and World War II

13A - Identify ways in which technological changes in areas such as transportation and communication have resulted in increased interdependence among Texas, the United States, and the world
13B - Identify oil and gas, agricultural, and technological products of Texas that are purchased to meet needs in the United States and around the world

20B - Describe how scientific discoveries technological innovations such as in aerospace, agriculture, energy, and technology have benefitted individuals, businesses, and society in Texas

21A - Differentiate between, locate, and use valid primary and secondary sources such as computer software; interviews; biographies; oral, print, and visual material; and artifacts to acquire information about the United States and Texas

23B - Use a decision-making process to identify a situation that requires a decision, gather information, identify options, predict consequences, and take action to implement a decision

Social Studies Grade 5
23A - Identify the accomplishments of notable individuals in the fields of science and technology, including Benjamin Franklin, Eli Whitney, John Deere, Thomas Edison, Alexander Graham Bell, George Washington Carver, the Wright Brothers, and Neil Armstrong

Social Studies Grade 7
13C - Analyze the impact of significant industries in Texas such as oil and gas, aerospace, medical, and computer technology on local, national, and international markets

20B - Identify Texas leaders in science and technology such as Walter Cunningham, Michael DeBakey, Denton Cooley, Benjy Brooks, Michael Dell, and Howard Hughes, Sr.

20C - Analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in agricultural, energy, medical, computer, and aerospace industries

20E - Analyze how scientific discoveries and technological innovations have resulted in an interdependence among Texas, the United States, and the world

21A - Differentiate between, locate, and use primary and secondary sources such as computer
software, databases, media and news services, biographies, interviews, and artifacts to acquire information about Texas

21B - Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions

23B - Use a decision-making process to identify a situation that requires a decision, gather information, identify options, predict consequences, and take action to implement a decision

STAAR

Social Studies Grade 8

27C - Analyze how technological innovations changed the way goods were manufactured and marketed, nationally and internationally

27D - Explain how technological innovations brought about economic growth such as how the factory system contributed to rapid industrialization and the Transcontinental Railroad led to the opening of the west

28A - Compare the effects of scientific discoveries and technological innovations that have influenced daily life in different periods in U.S. history

29A - Differentiate between, locate, and use valid primary and secondary sources such as computer software, databases, media and news services, biographies, interviews, and artifacts to acquire information about the United States

29D - Identify points of view from the historical context surrounding an event and the frame of reference which influenced the participants