

THE WHITE HOUSE HISTORICAL ASSOCIATION

Classroom: Grades 9-12

President as Visionary: "Others Ask Why Not?"

B. John F. Kennedy and the Space Race

TEACHER'S TEXT

Lesson Overview

Although two American leaders, Thomas Jefferson and John F. Kennedy, lived in hugely different times, each envisioned a frontier where energetic, freedom-loving Americans could leave their mark. This lesson examines Jefferson's leadership in the acquisition and exploration of the Louisiana Territory and Kennedy's leadership in shaping an aggressive United States space program. Each is described briefly below. The lesson will strengthen the students' understanding that a visionary president can inspire a nation toward dramatic and positive growth.

Part A: Thomas Jefferson and the Louisiana Territory

When Thomas Jefferson became president in 1801, the United States thrived in almost incomprehensible isolation from the rest of the world. The population of the nation was just over 5 million, with 90 percent of people living east of the Appalachian Mountains. Many were timid and fearful regarding the course of action the young government should take. A less visionary president might have kept the country carefully confined to the eastern seaboard. Yet through the vigorous action of this president, the will of the nation to expand westward was greatly strengthened. Jefferson led by planning the Lewis and Clark Expedition as a means of finding a water route that would link the two coasts and by purchasing the Louisiana Territory from France. His motivations were as multifaceted as his intellect. Expansion westward matched his vision of America as a "vast domain of liberty." Unlike Europe, with its poverty-stricken landless hordes, Jefferson's America would be built by small property-owners who would find sustenance on their "little portion of land." Beyond the Appalachians stretched a natural spillover for Jefferson's "American Dream." A man with a lifelong thirst for learning, Jefferson was fascinated by what lay to the west. He told one leader of an early expedition, "Take notice of the country you pass through, its general face, soil, river, mountains, its productions, animal, vegetable, and mineral." Finally, Jefferson saw that other European countries would soon settle this territory if the United States did not—the Spanish, the French, and the British all saw great opportunity there. But Jefferson saw it, too, and acted swiftly to purchase Louisiana at a moment Napoleon's European troubles made it necessary. The president's

energy and commitment to these two endeavors shaped the course of America from "sea to shining sea."

Part B: John F. Kennedy and the Space Race

By the time John F. Kennedy became president in January 1961, Americans had the perception that the United States was losing the "space race" with the Soviets. In October 1957, the Soviets had successfully launched its first satellite, while that same year, the U.S. satellite exploded in a ball of fire. By early 1958, the United States managed to get a scientific satellite in orbit around the Earth, but it had accumulated more failures than successes. The scientist Wernher von Braun confessed, "We are behind and we cannot catch up in a day or two."¹ Actually, American scientists were beginning to catch up by 1961, but it didn't seem that way to the nation's public. The Soviets had done spectacular things: they had been the first in orbit, the first to hit the moon and photograph it, the first to put a satellite around Venus, and in April 1961, the first to send a spaceship with a man on board orbiting the earth!² The nation's ego was bruised: Didn't the United States win World War II and develop the bomb? Didn't the country have some of the brightest, most capable minds in the world? How could a communist country defeat the United States in the space race? Collectively, the American people were frustrated, even ashamed, and they needed something to restore their confidence. President Kennedy understood this need and had the vision to imagine not only matching the Soviets, but surpassing them. In 1961, he took a strong stand in support of space exploration, stating in a speech in May that it was "time for this nation to take a clear leading role in space achievement." Then he cut bluntly to his primary point: "I believe 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 earth." He added, "No single space project in this period will be more impressive to mankind."³ With visionary leadership, Kennedy recognized that in World War II the country had sacrificed and marshaled the resources necessary to conquer formidable enemies. Now, as the writer John Shepler points out, Americans would embrace this project with the same zeal, "not merely for the threat of being conquered by other peoples, but for the pursuit of a dream 'impressive to mankind.'"⁴ The United States got to the Moon eight years later, just as the young president had inspired it to do. The whole world watched, and was impressed.

Learning Outcomes

By successfully completing this lesson and accompanying activities, students will:

1. Strengthen their understanding of certain National Standards for History objectives, especially those that enable them to:

better understand the international background and consequences of the Louisiana Purchase;

compare the arguments advanced by Republicans and Federalists regarding the acquisition of Louisiana;

analyze how the Louisiana Purchase influenced politics, economic development, and the concept of "Manifest Destiny";

assess the significance of research and scientific breakthroughs in promoting the U.S. space program;

evaluate an element of Kennedy's New Frontier; and,

2. Demonstrate an understanding of specific lesson objectives, including being able to:

analyze the role of presidential leadership in both the purchase and exploration of the Louisiana Territory, and in the development of the U.S. space program;

articulate both scientific and cultural outcomes of the Lewis and Clark Expedition, and of the U.S. space program from 1961 to 1969;

show a cause-effect relationship between physical geography and historic events;

define two approaches to the interpretation of presidential powers and their limits;

compare and contrast the Louisiana Territory in two time periods between 1805 and 1905;

compare and contrast the space programs of the United States and the Soviet Union during the Kennedy Administration;

describe a cause-effect relationship between the development of the space program and the Cold War;

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CLASSROOM LESSON



The Soviet Union's Sputnik satellite *President Eisenhower*

At the time, John F. Kennedy was serving as a United States senator from Massachusetts, and the events that were about to unfold would require the thinking and leadership of the nation's president, Dwight D. Eisenhower. Yet the effects of those events would eventually come to bear on the presidency of John Kennedy. It started with the launching of Sputnik I, a small aluminum ball that weighed just 184 pounds. Equipped with a technically simple radio transmitter broadcasting meaningless electronic "beeps" to anyone listening with a radio receiver, it was the first artificial satellite, and it belonged, not to the United States, but the Soviets. That was October 4, 1957. Two weeks later the Soviet Union launched Sputnik II with a dog named Laika on board. That was impressive enough, but furthermore, the rocket had remained attached to the satellite. It meant that the Soviets had put a six-ton weight into earth's orbit. The implications seemed ominous for the United States. Four months later, the Department of the Navy tried to launch a "puny grapefruit-sized competitor." The Vanguard rocket used to get it off the launch pad rose about four feet in the air before it crumpled and exploded in a ball of fire.¹ The message was unmistakable: for the first time the Soviets had shown technological superiority, and it wasn't in something mundane but rather an exotic, exciting quest for space. Americans were humiliated and blamed their sense of inferiority on almost everything—the military, the educational system, even the country's desire for luxury and "good times." The Dallas News conjectured that perhaps the country needed some of the "advantages of tight, totalitarian control."² In reaction, by October 1958, the National Aeronautics and Space Administration had been approved by Congress on the recommendation of President Dwight D. Eisenhower.

Though Eisenhower wasn't enthusiastic about a space program, he knew that in light of Soviet accomplishments, the United States would have to have one. The Soviets were developing a manned space flight, and America would follow suit. The first NASA administrator, Keith Glennan, announced the plan. By November 1958 he had organized a small Space Task Group, an impressive assembly of engineers headed by Robert Gilruth, who may have wondered if it was a great career move.³ So far, Congress and the president had authorized the Mercury Project, but its scope wasn't too promising. The plan was that a man riding in a capsule atop of a Redstone rocket would be lobbed into the atmosphere. On a later mission, he would be launched into orbit on the Air Force's Atlas. It was true that by April 1959 the Task Force had hired seven Mercury astronauts who would be a part of these missions, but no one knew what would happen after that. Could people function in space? Unknown. What purpose would they serve? Unknown. What price tag? Incredibly expensive.

An Exotic Idea

Keith Glennan thought beyond these problems. He had been giving some serious thought to what seemed at the time a preposterous idea. He wanted to plan a program for a manned space flight to land on the moon. To support it, he called on the brilliant spacecraft designer for the Space Task Group, Max Faget. He asked Faget to address an informal seminar meeting at NASA headquarters on Washington's Lafayette Square, near the White House. Faget's task was to tell the assembled members, including the brilliant rocket scientist, Wernher von Braun, how a lunar landing mission might be accomplished. He laid out a preliminary and tentative plan: on the first trip an astronaut would just loop around the moon to get a good look at it. Faget said he pictured the pilots looking down at it with binoculars. On subsequent missions they would look for landing sites and take reconnaissance photos. Finally, they would go down and land. He recalled later, "The thinking at that time was very primitive."⁴ But it was a start, and soon Glennan had formed the Goett Committee, named for its chairman, senior engineer, Harry Goett. The committee was asked to look into the idea further. At a meeting in May 1959 these engineers identified nine steps in a manned space flight schedule, with a lunar landing as number seven. By June they were promoting a manned lunar landing as the next goal after Mercury. By early 1960, they had gotten support from Eisenhower to accelerate the Saturn superbooster program, which would build rockets big enough to launch a manned satellite to the moon. By late January, the Goett Committee had a name for the new spacecraft: it would be called Apollo.

Reality Check

Yet the idea of a moon landing could not have seemed more remote. That past September, the Space Task Group was scheduled to launch Big Joe, an Atlas missile carrying the first Mercury capsule. The writers of *Apollo: Race to the Moon* related that the capsule had literally being altered with a tool purchased from Sear's in Orlando. Though aspects of the flight were very encouraging, it failed to meet the goals of the

mission, and the press reported it as a "bust." Up until this point, President Eisenhower had conceived of the space program as a scientific research mission run by civilians. After Big Joe, he revised his thinking, signing an executive order moving Wernher von Braun and his rocket engineers from their work on military ballistic missiles to the NASA program.⁵ It was an important "infusion of talent" into the agency, but there were still big problems. By the fall of 1960, the Eisenhower administration seemed unsympathetic to the space program and slashed the NASA budget for the next year. In a reversal of a previous directive, Eisenhower cut the second stage of the Saturn program. Without that, even if the United States had manned spacecraft, they would be relegated to low-orbit flights, without the thrust for moon landings. Worse than the budget cuts, though, was the cold hard fact that after the Mercury program there might be nothing. The president had expressed an opinion that "further tests and experiments will be necessary to establish if there are any valid scientific reasons for extending manned space flight beyond the Mercury program."⁶

A New View



President Kennedy

That fall John F. Kennedy was elected president of the United States. During his campaign, the young senator had talked a good bit about America's "space gap" but offered nothing specific about what his space program might be. NASA officials were disappointed; after all, Kennedy's youth and spirit seemed a perfect fit for the daring, future-oriented feel of the space program. But Kennedy wasn't convinced that manned space flight should be a part of his New Frontier programs. At the time he seemed more of the opinion that rockets were a waste of money, and space navigation even worse.⁷ Kennedy had barely been elected when, on November 21, 1960, NASA was ready to launch an unmanned Mercury capsule on a Redstone booster. It was called M.R.-1, and was supposed to be the predecessor to a manned flight. Almost every leader of the space program was at Cape Canaveral to watch. The count went to T minus zero with no problem; at launch there was a great billow of smoke and fire from the base of the rocket. But when the smoke cleared there sat the rocket, its Mercury capsule still seated in it. Bizarrely, the main capsule drag chute deployed, and its long folds billowed in the morning breeze. The crowds cleared, but the launch team considered the possibility that the rocket would blow sky high. All through the night, they crept out by twos to check it.

Finally, after twenty-four hours on the pad, someone went out and disarmed the pyrotechnics on the capsule.⁸ At NASA headquarters everyone had the same question: What would the newly elected president think of this?

Disturbing News

Had NASA leaders known what Kennedy was considering, they wouldn't have liked it. For one, Kennedy suggested dissolving the National Aeronautics Space Council, which was the liaison between NASA and the White House. Eisenhower had sat as its chairman; Kennedy wasn't interested. Only at the insistence of Vice President Elect Lyndon Johnson was the council saved. Johnson agreed to be the chair. Since his days as Senate leader, Johnson had supported the space program, telling a Democratic Caucus session as early as 1958, "Control of space is control of the world."⁹ Kennedy wasn't as enthusiastic, and neither was the man he appointed to head his Committee on Space, a Massachusetts Institute of Technology professor named Jerome Weisner. The committee was very much against the idea of a manned space flight. In the Weisner Report, which he presented to Kennedy, he said that the only satisfactory parts of the U.S. space program were the scientific, unmanned space probes. According to Weisner, manned space flight was much too risky, and its only real benefit was promoting public relations. Furthermore, he said, instruments could do a better job than man in space, and they "didn't talk back."¹⁰ In any case, as soon as the Weisner Report was released, Kennedy announced that Weisner would be his special assistant for science and technology. Though morale at NASA sunk lower and lower, the Space Task Force continued with its plan to go to the moon. By now, President Kennedy had appointed James E. Webb as the chief administrator of NASA. By March 1961 Webb had been filled in on the Manned Lunar Landing Program, and the Space Task Force team had briefed him in a lengthy strategy session. He took its wish list to the president, requesting appropriations for several items. Though Kennedy approved the resumption of the second stage Saturn project, funds for the detailed design of the Apollo spacecraft were put indefinitely on hold. Undaunted, the Apollo Liaison Group held a planned three-day meeting starting Monday, April 10, 1961. Group members had no way of knowing that their optimistic attitudes were warranted, because "all of the equations were about to change."¹¹

Changing Equations

That same Monday, UPI began to move a story about a persistent rumor that the Soviets were about to send a man into space and recover him. By Tuesday evening, the Central Intelligence Agency was reporting that it would be that night. When Moscow residents woke up on Wednesday, April 12, 1961, they first heard the patriotic Soviet anthem, "How Spacious is My Country", then the amazing news: "The world's first spaceship, Vostok, with a man on board, has been launched in the Soviet Union on a round-the-world orbit."¹² The cosmonaut on board was Yuri Gagarin. Soviet schoolchildren and factory workers were given the day off to celebrate the triumph. It was 1:35 a.m. when Kennedy's space advisor, Jerome Weisner, got the word that the military had tracked a

large rocket from the Soviet Union and that it was in orbit. The White House wouldn't react until the Soviets made the announcement. Radio Moscow told the world about Gagarin's mission at 2:00 a.m., Washington time.¹³ After 108 hours of flight, 89 of which were actually in orbit, the cosmonaut descended from his altitude of 188 miles and was immediately a major propaganda asset. A Moscow Square was named for him, he was given a twenty-one gun salute standing at Lenin's tomb; the Soviet premier, Nikita Khrushchev compared him to Columbus. Soviets listened as Russian radio broadcast a conversation between the premier and Gagarin. The cosmonaut made what later seemed to many Americans some rather improbable revelations: "While in outer space I was thinking about our party and our homeland," he had said.¹⁴ Whether he actually said those words didn't matter; what seemed clear was that the Soviet space program was linked to the patriotic love of country. Where did that leave the United States?

Answer Me

Americans wanted to know the answer. One astronaut had already told a reporter, "We could have done it a month ago if someone at the top had just decided to push it."¹⁵ At a presidential press conference the afternoon of Gagarin's flight, a reporter commented that a Congressman had told him recently that he was tired of seeing the United States second in the space field. The reporter wanted to know when the United States would catch up. Kennedy seemed beleaguered as he said, "However tired anybody may be, and no one is more tired than I am, it is a fact that it is going to take some time. . . . We are, I hope, going to go in other areas where we can be first, and which will bring perhaps more long-range benefits to mankind." The answer seemed flat and defensive. Columnist Hugh Sidey wrote that this "hardly seemed in the spirit of the New Frontier."¹⁶

That Thursday the president called a meeting in the White House Cabinet Room with his space advisors, including Weisner, NASA head James Webb, and his deputy, Dr. Hugh Dryden. He wanted to know: What is the status of America's space program, and was there any way to compete with the Soviets? They gave Kennedy the news: most likely the Soviets were going to be the first to put crews of two and three into orbit, the first to establish a space station, and the first to circumnavigate the moon. If the United States wanted to compete, it would have to jump ahead a step.¹⁷ Kennedy asked, "Now, let's look at this. Is there any place we can catch them? What can we do? Can we leapfrog?" NASA deputy Dryden told him there was one chance, and that would be to support a "crash" program, as big as the atomic bomb Manhattan Project of World War II. Such an intense program might put a man on the Moon in ten years. It would be a gamble, and it would cost \$20 billion. Kennedy was startled at the price tag. "Can't you fellows invent some other race here on earth that will do some good?" But nothing held the fascination of a flight to the moon. The president ended the meeting saying that they had to figure a way to catch up. As he said, "There's nothing more important."¹⁸

A Boost

Only a few weeks later, on May 5, 1961, Alan Shepard sat in the capsule of Freedom 7 on the launch pad at Cape Canaveral awaiting the countdown. Forty-five million Americans leaned forward to peer intently at the television image of the Redstone rocket on the pad, ready to go. The countdown began, and soon viewers heard Shepard's crisp voice. "Roger. Liftoff and the clock has started." The tall, slender rocket slowly climbed into the sky. Americans threw their arms in the air, and yelled, "Go! Go! Go!"¹⁹ On turnpikes and freeways people pulled over to listen to the news on their radios. In Indianapolis, a judge declared a recess so everyone in the courtroom could watch the coverage on a television set the police had seized as part of the accused burglar's booty.²⁰ Shepard's ride was a near textbook mission. It didn't match Gagarin's ride in length or complexity, but Americans didn't care. Kennedy watched and cheered with all other Americans. The roar of approval for the astronaut was not lost on him; he understood perfectly—the nation was euphoric!



The Kennedys and Vice President Lyndon Johnson watch Shepard's flight



Alan Shepard and his Mercury capsule are picked up



President Kennedy pins NASA's Distinguished Service Medal on Alan Shepard



The Shepards are greeted at the White House

Commitment

On the day after Shepard's flight, President Kennedy was entertaining Tunisia's president Habib Bourguiba at a state dinner. Weisner, the president's space advisor, was having a discussion with the foreign dignitary, and Kennedy joined in. He said to Bourguiba: "You know, we're having a terrible argument in the White House about whether we should put a man on the moon." Then he added, "Jerry [Weisner] here, is against it. If I told you you'd get an extra billion dollars a year in foreign aid if I didn't do it, what would be your advice?" Finally, Bourguiba said, "I wish I could tell you to put it in foreign aid, but I cannot." No matter whom the president talked to he got the same answer: The United States did not have the option of withdrawing from the space race.²¹

On May 21, 1961, President John F. Kennedy took up the political and patriotic banner of the space race, and, at last, embraced it. Standing before Congress to deliver a special message on "urgent national needs," he asked for an additional \$7 billion to \$9 billion over the next five years for the space program. He did not justify the needed expenditure on the basis of science and exploration, but placed the program clearly in the camp of competing ideologies:

If we are to win the battle that is now going on around the world between freedom and tyranny, the dramatic achievements in space which occurred in recent weeks should have made clear to us all, as did the Sputnik in 1957, the impact of this adventure on the minds of men everywhere, who are attempting to make a determination from which road they should take.²²

Then, he took the "next step," the one his space advisors had told him was so important:

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.²³

With Kennedy's full support, NASA was able to accomplish its goals with dizzying speed. In June and July, right after the speech, detailed specifications for spacecraft hardware were completed. By August, the Massachusetts Institute of Technology Instrumentation Lab had a contract for an Apollo guidance system. In September, NASA selected Michoud, Louisiana as a production facility for Saturn rockets. In November, the Saturn C-1 was launched, and on and on it went. As one Task Force engineer noted, "I could hardly believe we could move so fast. In those days, you could do things with a half-page memo."²⁴

The dramatic NASA event that would raise the passions of the public even more was taking place at Cape Canaveral. It was John Glenn in Friendship 7 this time, Tuesday, February 20, 1962. Again, the world exulted as Glenn cried, "Capsule is turning around. Oh, the view is tremendous. . . . Cape is go, and I am go!"²⁵ President Kennedy was there to greet him upon his return. "This is a new ocean," he said, "and I believe America must sail upon it." Time, covering the event, commented: "In terms of national prestige, Glenn's flight put the U.S. back in the space race with a vengeance, and gave the U.S. and the entire free world a huge and badly needed boost."²⁶

That the space race was about the United States and the "free world" could not have been more apparent than in Kennedy's remarks at Rice University in September 1962:

The exploration of space will go ahead, whether we join in it or not. And it is one of the great adventures of all time, and no nation which expects to be the leader of other nations can expect to stay behind in this space race. We mean to lead it, for the eyes of the world now look into space, to the moon and to the planets beyond, and we have vowed that we

shall not see it governed by a hostile flag of conquest, but by a banner of freedom and peace.

President John F. Kennedy's leadership in "sending a man to the moon and returning him safely to the earth" is undeniable. Once he gave his leadership and support, the slow, lumbering movement of America's space program gained remarkable momentum. But like a doubter who is finally converted, once he overcame his reluctance, he put the full force of his persuasive gifts behind it. On the day before he was assassinated in Dallas, President Kennedy spoke at the dedication of the Aerospace Medical Health Center at Brooks Air Force Base in Texas. The president used a story by the Irish writer, Frank O'Connor. Kennedy had read that when O'Connor was young, he and his boyhood friends would trudge across the country until they came to a seemingly insurmountable wall. Fearing they would not have the courage to go over the wall without some extra motivation, they would toss their caps over, and then, as O'Connor had said, they had no choice but to follow. Speaking as much for himself as for the country, he said, "This nation has tossed its cap across the wall of space and we have no choice but to follow it."²⁸



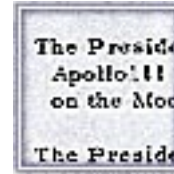
John Glenn boards Friendship Seven



John Glenn during flight of Friendship Seven



Buzz Aldrin on the lunar surface



President Nixon's diary notes his call to the moon

POSTSCRIPT

In 1969, with the eleventh flight of the Apollo series, the United States orbited the moon, and descended to the moon's surface in the lunar module Eagle. Neil Armstrong spoke the historic words, "That's one small step for a man, and one giant leap for mankind." The astronauts left behind a plaque that read, "We come in peace for all mankind."²⁹

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LESSON 2: Endnotes

An Introduction for Teachers

1. Charles Murray and Catherine Bly Cox. *Apollo: The Race to the Moon*, p. 24.
2. William Manchester. *The Glory and the Dream*, p. 926.
3. Alex Ayres. *The Wit and Wisdom of John F. Kennedy*, p.178.
4. Shepler, John. *John Shepler's Writing in a Positive Light*. [Website article.]

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1. Charles Murray and Catherine Bly Cox. *Apollo: The Race to the Moon*, p. 24.
2. *Ibid*, p. 26.
3. *Ibid*, p. 24.
4. *Ibid*, p. 38.

5. Ibid, p. 50.
6. Ibid, p. 60.
7. Ibid, p. 61.
8. Ibid, pp. 64-65.
9. Doris Kearns Goodwin, *Lyndon Johnson and the American Dream*, p. 145.
10. Richard Reeves. *President Kennedy, Profile in Power*, p. 38.
11. Murray, p. 74.
12. William Manchester. *The Glory and the Dream*, p. 927.
13. James L. Schefter. *The Race: The Uncensored Story of How America Beat Russia to the Moon*, p. 134.
14. Manchester, p. 928.
15. Ibid.
16. Ibid.
17. Murray, p. 78.
18. Manchester, p. 929.
19. Schefter, p. 141.
20. Manchester, p. 928.
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22. Alex Ayres, editor. *The Wit and Wisdom of John F. Kennedy*, p. 178.
23. Ibid.
24. Murray, p. 84.
25. Manchester, p. 931.
26. Ibid, p. 933.

27. Alex Ayres, p. 180.
28. Ibid, pg. 181.
29. Irving L. Gordon. American History, p. 703.