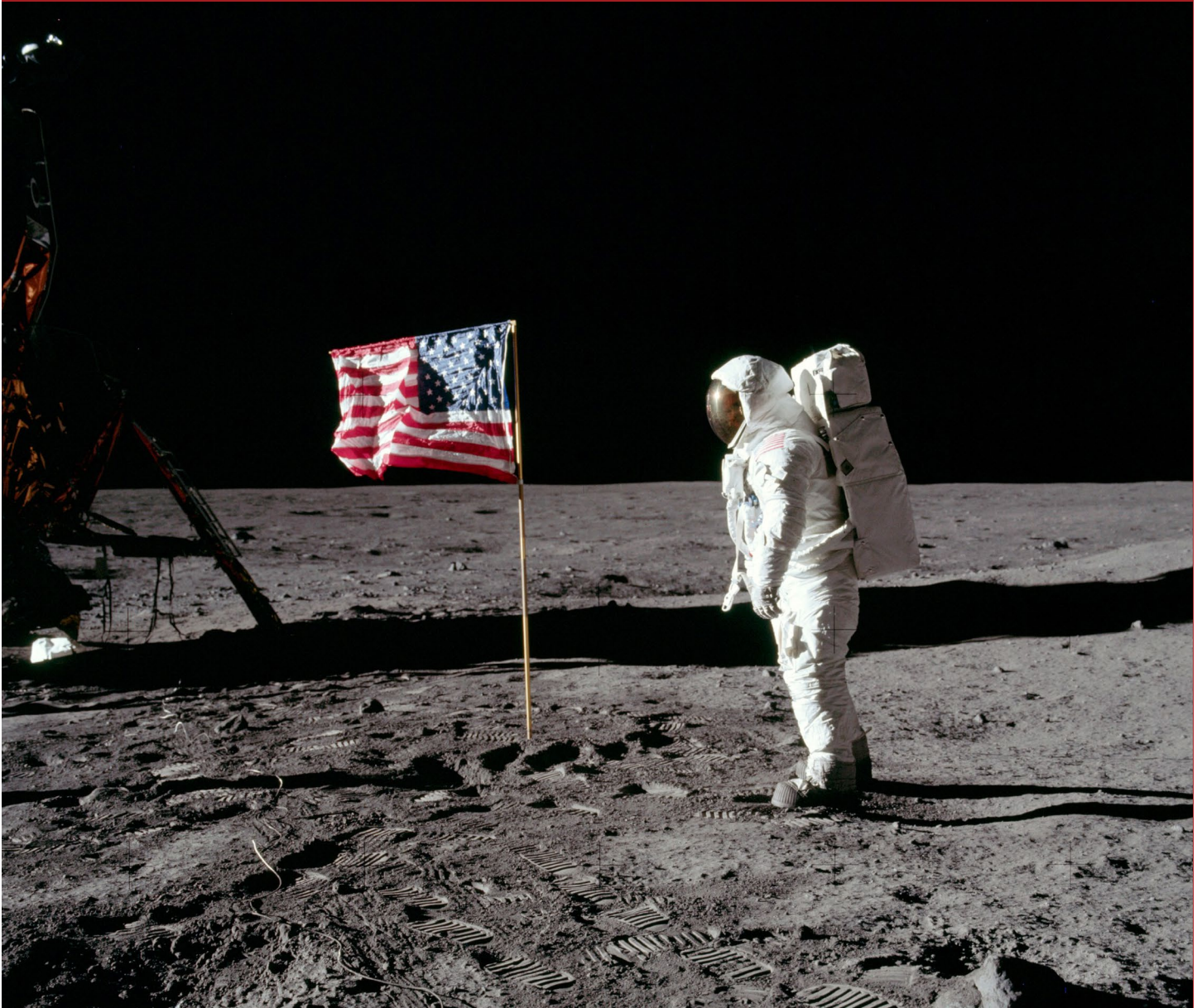


Envisioning the Moon Landing, 1901–1969



Buzz Aldrin on the Moon, July 20, 1969 (NASA)

THE GILDER LEHRMAN
INSTITUTE of AMERICAN HISTORY

TL TEACHING LITERACY
TH THROUGH HISTORY

CONTENTS

Lesson 1 5	Lesson 2 7	Lesson 3 9	Lesson 4 11
Handouts 13	Handouts 18	Handouts 21	Handouts 25

Envisioning the Moon Landing, 1901–1969

BY TIM BAILEY (created in 2014, revised in 2024)

Tim Bailey taught middle school and elementary school in Utah for over two decades. Named the 2009 National History Teacher of the Year, he is the Gilder Lehrman Institute’s director of curriculum development and instructional design.

GRADE LEVELS: 7–12

RECOMMENDED TIME: Four 45-minute periods

UNIT OVERVIEW

This unit is one of the Gilder Lehrman Institute’s Teaching Literacy through History™ (TLTH) resources, designed to align with the Common Core State Standards. Students will learn and practice skills that will help them analyze, assess, and develop knowledgeable and well-reasoned points of view on primary and secondary source materials. These skills will enable students to understand, summarize, and evaluate documents of historical significance.

Over the course of the four lessons students will explore widely accessible fiction and non-fiction texts that set Americans’ expectations about travel to the Moon. They will then use their understanding of public expectations to illuminate the meaning of a journalist’s account of the actual Moon landing in 1969. The students’ understanding will be assessed through an essay using evidence from the sources.

Students will be able to

- Identify keywords in fiction or nonfiction texts
- Summarize the meaning of a primary source
- Understand what is explicitly stated in a literary or historical text
- Assess how fiction and non-fiction texts create public expectations and opinions
- Understand professional standards for journalistic objectivity, and interpret newspaper reporting in the context of that understanding
- Interpret newspaper or TV reporting as both a primary and a secondary source
- Explain and defend analysis of a primary source in a class discussion
- Explain the significance of a historical event (e.g., the first Moon landing)

ESSENTIAL QUESTIONS

- What expectations about travel to the Moon did fictional accounts create?
- What was the context for President Kennedy’s commitment to landing on the Moon at the time he endorsed it?
- What reason or reasons did President Kennedy provide to explain why traveling to the Moon was important?
- How did American news reporting describe the Moon landing?
- What expectations explain the tone of American news reporting about the Moon landing?

COMMON CORE STATE STANDARDS

CCSS.ELA-Literacy.RH.6-8.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

CCSS.ELA-Literacy.RH.6-8.6: Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).

CCSS.ELA-Literacy.RH.6-8.9: Analyze the relationship between a primary and secondary source on the same topic.

CCSS.ELA-Literacy.RH.11-12.1: Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

CCSS.ELA-Literacy.RH.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem.

CCSS.ELA-Literacy.WHST.11-12.1: Write arguments focused on discipline-specific content.

MATERIALS

- Source 1: Historical Background: “The United States and the Space Race” by James Spiller, Professor of History, SUNY Brockport
- Activity Sheet 1: *The First Men in the Moon* (1901) with excerpts from H. G. Wells, *The First Men in the Moon* (London: G. Newnes, 1901. First American edition: Indianapolis: The Bowen-Merrill Co., 1901). Source 2: Excerpts from John F. Kennedy’s Address at Rice University on the Nation’s Space Effort, September 12, 1962, John F. Kennedy Presidential Library and Museum, jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHbmqm1Q.aspx.
- Source 2: Excerpts from John F. Kennedy’s Address at Rice University on the Nation’s Space Effort, September 12, 1962, John F. Kennedy Presidential Library and Museum, jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHbmqm1Q.aspx.
- Activity Sheet 2: Critical Thinking Questions for Kennedy’s Rice University Speech Activity Sheet 2: Critical Thinking Questions for John F. Kennedy’s Rice University Speech (1962)
- Source 3: Excerpts from “Men Walk on Moon” by John Noble Wilford, *New York Times*, July 21, 1969. From the *New York Times*. © 1969 The New York Times Company. All rights reserved. Used under license.
- Activity Sheet 3: Critical Thinking Questions for “Men Walk on Moon”
- Activity Sheet 4: Preparing to Write an Argumentative Paragraph

HISTORICAL BACKGROUND

The United States and the Space Race

by James Spiller, SUNY Brockport

On July 20, 1969, 650 million people witnessed an astounding event. They tuned in to live broadcasts of the first lunar landing and heard American astronaut Neil Armstrong's famous words, "That's one small step for man, one giant leap for mankind." His first footstep on the Moon was a milestone in human history, and it illustrated Americans' technological achievements and grand aspirations of that era.

When President John F. Kennedy called on America in 1961 to safely land a man on the Moon by decade's end, he aimed to beat the Soviet Union in a high-stakes space race. This audacious goal smacked of science fiction and exceeded the country's capabilities at that time. But the pace of US research and technological development (R&D) had dramatically accelerated. Seeking high-tech weapons during World War II and the Cold War as well as economy-boosting innovations, Washington invested heavily in a network of government, corporate, and university laboratories. These labs helped make the United States the scientific superpower. They spun off military and civilian innovations in aviation and rocketry, computers and communications, advanced materials and medical devices that made it the technological superpower as well. Such innovations were critical to sending people to the Moon. Just as importantly, that robust R&D network enabled the new National Aeronautics and Space Administration (NASA) to access next-generation science and technology needed for its Apollo lunar landing program. NASA contracted more than 400,000 Americans to develop the myriad technologies that delivered twelve Americans to the lunar surface by December 1972 during six Apollo missions. These costly innovations helped the US win the space race, and they spurred new industries and dazzled the world.

By doing so, NASA's Apollo program fulfilled many aspirations. National leaders wanted to be the first to land men on the Moon (NASA did not recruit female or minority astronauts at the time). They thereby tried to win a Cold War battle for global prestige. The Soviet Union had impressed the world by beating America into space with the first satellite (Sputnik) in October 1957 and then the first cosmonaut (Yuri Gagarin) in April 1961. US leaders hoped Apollo would bolster the credibility of America's military power, demonstrate the superiority of its democracy and capitalism, and showcase its benevolent world leadership. People around the world seemed duly impressed, and US officials hoped to draw them tightly into America's orbit by promising greater peace and prosperity through growing partnerships in space.

The US pursued this promise in 1975 as astronauts and cosmonauts circled the planet together, and then in the twenty-first century as it partnered with Russia and several other countries on the joint International Space Station. But visionary proposals for shared expeditions back to the Moon and on to Mars did not come to pass. Instead, international space cooperation largely revolved around the Earth, particularly on satellite communications and environmental observation. Furthermore, competition in space escalated as many more countries vied to build rockets and satellites for military and commercial advantage. Seeking maximum advantage, some nations even sparked a new race to the Moon.

The US is once again in that race (primarily with China), and it plans to send multinational crews back to the Moon. Since NASA now relies on help from private spaceflight companies, which want to fly ultra-wealthy tourists there as well, this lunar race may turn out very differently. Millions were awestruck by Apollo, which showcased America's ingenuity and Cold War leadership. It is unclear if people will be as impressed if the US returns to the Moon with diverse astronaut crews as well as some of the world's richest paying passengers.

James Spiller is a professor of history at SUNY Brockport. He is the author of Frontiers for the American Century: Outer Space, Antarctica, and Cold War Nationalism (New York: Palgrave Macmillan, 2015).

LESSON 1

EARLY TWENTIETH-CENTURY EXPECTATIONS ABOUT TRAVELING TO THE MOON, 1901

BY TIM BAILEY (created in 2014, revised in 2024)

OVERVIEW

Students will read excerpts from British author H. G. Wells’s classic science-fiction novel *The First Men in the Moon*, serialized in 1900 and published in the United States as a book in 1901. The students will analyze the text not for its scientific validity—it is a work of fiction—but to better understand the excitement and suspense that Wells conveys regarding the possibilities of space travel and a Moon landing.

Students will be able to

- Identify keywords in work of fiction
- Summarize the meaning of a primary source
- Understand what is explicitly stated in a literary text
- Assess how fiction creates public expectations and opinions
- Explain and defend analysis of a primary source in a class discussion

Tim Bailey taught middle school and elementary school in Utah for over two decades. Named the 2009 National History Teacher of the Year, he is the Gilder Lehrman Institute’s director of curriculum development and instructional design.

GRADE LEVELS: 7–12

RECOMMENDED TIME: One 45-minute period

UNIT OVERVIEW: This unit is one of the Gilder Lehrman Institute’s Teaching Literacy through History™ (TLTH) resources, designed to align with the Common Core State Standards. Students will learn and practice skills that will help them analyze, assess, and develop knowledgeable and well-reasoned points of view on primary and secondary source materials. Over the course of the four lessons in this unit students will use their understanding of public expectations about the moon landing to illuminate the meaning of a journalist’s account of the actual moon landing in 1969.

MATERIALS

- Source 1: Historical Background: “The United States and the Space Race” by James Spiller, Professor of History, SUNY Brockport
- Activity Sheet 1: *The First Men in the Moon* (1901) with excerpts from H. G. Wells, *The First Men in the Moon* (London: G. Newnes, 1901. First American edition: Indianapolis: The Bowen-Merrill Co., 1901).

PROCEDURE

1. Optional for Source 1: We have provided the essay “The United States and the Space Race” by Professor James Spiller to put the Moon landing in context. You may choose to use the Historical Background for your own information, summarize it for your students, or have the students read it at any point during this unit.
2. Before distributing Activity Sheet 1, the excerpts from Wells’s *The First Men in the Moon*, provide the students with some basic information that will help them interpret the effect of this piece of fiction. They will need to know that Wells was a widely read author; in 1901, he had already published *The Time Machine* (1895), *The Island of Doctor Moreau* (1896), and *War of the Worlds* (1898). *The First Men in the Moon* was serialized in *The Cosmopolitan* magazine in the United States. The book has been continually reissued since its first publication. It was adapted into silent films in 1902 and 1919, a bigger-budget studio film in 1964 (Columbia Pictures), a comic book, and other media.
3. Distribute Activity Sheet 1. Depending on the reading level of the students, you can let them read the excerpts

silently to themselves or have the class “share read” them together. This is done by having the students follow along silently while you begin reading aloud, modeling prosody, inflection, and punctuation. Then ask the class to join in with the reading after a few sentences while you continue to read aloud with the students, still serving as the model. This technique will support struggling readers as well as English language learners (ELL).

4. Students will look at the four selections from the novel and choose keywords from each selection. They will use these keywords and their own words to answer the question associated with each text selection.
 - a. Guidelines for Selecting the Keywords: Keywords are important contributors to the meaning of the text. They are usually nouns or verbs. Advise students not to pick “connector” words (*are, is, the, and, so, etc.*). Since the students must know the meaning of the words they choose, you will have opportunities to work on context clues, word analysis, and dictionary skills to discover word meanings. The number of words depends on the length of the text. The first two passages are longer so they can select 10–12 keywords. The last two passages are shorter so they should select 6–8 keywords.
 - b. Model the task of choosing keywords and writing a summary for the first excerpt from Chapter 3 with the whole class. You may have the students work independently or in pairs or small groups to complete the rest of the activity sheet. While they may work together to brainstorm the answers, they will need to fill out their own activity sheet because they will need them for Lesson 4.
 - c. Have the students circle or underline words they believe are keywords. Survey the class to find out what the most popular choices were. You should write them down and have the class discuss the options and vote on the final choices, based on guidance from you. For example, after some negotiation, the class could select the following words: *sphere, steel, Cavorite, impervious, gravity, air-tight, roller blinds* (two words can occasionally be allowed when they represent a single idea), *straight line, window, heavy body, attract*. Now, no matter which words the students had selected previously, have them write the words agreed upon by the class or chosen by you into the Keywords section.
 - d. Explain to the class that they will use these keywords to write a sentence or two that summarizes the meaning of this section of *The First Men in the Moon*. This summary should be developed through a class discussion and negotiation. For example, “The spacecraft is an air-tight steel sphere covered with Cavorite, a substance impervious to gravity, fitted with roller blinds on windows that will fly in a straight line when attracted to a heavy body.” The students might decide they don’t need some of the words to make the sentence even more streamlined. This is part of the negotiation process.
5. Class discussion: Have groups or individual students share their answers and summaries and compare with other groups’ work.
6. Optional: Show the class the video clips (links are provided in Additional Resources below) from the films *Le Voyage dans la lune* (1902) and *First Men in the Moon* (1964). Discuss the perception of space travel expressed in these films. You can ask students questions to direct discussion: What concerns made these films exciting? What hopes made them seem exciting? What expectations about travel to the Moon did fictional accounts create?

ADDITIONAL RESOURCES

- *Le voyage dans la lune* (Georges Méliès, 1902). Available from the Internet Archive, archive.org/details/Levoyagedanslalune.
- Trailer, *First Men in the Moon* (Columbia Pictures, 1964), youtube.com/watch?v=CMw6O6r_JxE.

LESSON 2

PRESIDENT KENNEDY COMMITS TO THE MOON LANDING, 1962

BY TIM BAILEY (created in 2014; revised in 2024)

OVERVIEW

In this lesson, students will read excerpts from a speech President John F. Kennedy gave at Rice University on September 12, 1962, and demonstrate their understanding of the text through answers to critical thinking questions and class discussion.

Students will be able to

- Summarize the meaning of a primary source
- Understand what is explicitly stated in a historical text
- Assess how non-fiction texts create public expectations and opinions
- Explain and defend analysis of a primary source in a class discussion

Tim Bailey taught middle school and elementary school in Utah for over two decades. Named the 2009 National History Teacher of the Year, he is the Gilder Lehrman Institute's director of curriculum development and instructional design.

GRADE LEVELS: 7–12

RECOMMENDED TIME: One 45-minute period

UNIT OVERVIEW: This unit is one of the Gilder Lehrman Institute's Teaching Literacy through History™ (TLTH) resources, designed to align with the Common Core State Standards. Students will learn and practice skills that will help them analyze, assess, and develop knowledgeable and well-reasoned points of view on primary and secondary source materials. Over the course of the four lessons in this unit students will use their understanding of public expectations about the moon landing to illuminate the meaning of a journalist's account of the actual moon landing in 1969.

MATERIALS

- Source 2: Excerpts from John F. Kennedy's Address at Rice University on the Nation's Space Effort, September 12, 1962, John F. Kennedy Presidential Library and Museum, jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHb-mqm1Q.aspx.
- Activity Sheet 2: Critical Thinking Questions for Kennedy's Rice University Speech

PROCEDURE

1. Optional: If you have time, show the class the video of President Kennedy's speech at Rice University on September 12, 1962. A link is provided in the Additional Resource section below.
2. Distribute Source 2 with excerpts from Kennedy's speech. Make certain that students understand that the original text has been edited for this lesson. Explain the purpose and use of ellipses.
3. Depending on the reading level of the students, you can let them read the excerpts silently to themselves or have the class share read them as described in Lesson 1.
4. Hand out Activity Sheet 2 with the critical thinking questions. You may choose to have the students work individually, as partners, or in small groups of no more than three or four. They can brainstorm as partners or small groups but must complete their own activity sheet.
5. Students will answer each question first using a quotation from the text and then restate each answer in their own words.
6. Class discussion: Have groups or individual students share their answers and compare with other groups' work. You may continue the discussion using the following questions: What was the context for President Kennedy's

commitment to landing on the Moon at the time he endorsed it? What reason or reasons did President Kennedy provide to explain why traveling to the Moon was important?

ADDITIONAL RESOURCE

- Video of President John F. Kennedy's Address at Rice University on the Nation's Space Effort, September 12, 1962, John F. Kennedy Presidential Library and Museum, jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHbmqm1Q.aspx.

LESSON 3

NEW YORK TIMES COVERAGE OF THE MOON LANDING, 1969

BY TIM BAILEY (created in 2014; revised in 2024)

OVERVIEW

The students will analyze one or two news reports describing the lunar landing of *Apollo 11* on July 20, 1969. They will then review the primary sources introduced in Lessons 1 and 2 to contextualize the news reporters' enthusiastic and sometimes dramatic delivery.

Students will be able to

- Summarize the meaning of a primary source
- Understand what is explicitly stated in a literary or historical text
- Understand professional standards for journalistic objectivity, and interpret newspaper reporting in the context of that understanding
- Interpret newspaper and TV reporting as both a primary and a secondary source
- Explain and defend analysis of a primary source in a class discussion
- Explain the significance of a historical event (e.g., the first Moon landing)

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MATERIALS

- Source 3: Excerpts from “Men Walk on Moon” by John Noble Wilford, *New York Times*, July 21, 1969. From the *New York Times*. © 1969 The New York Times Company. All rights reserved. Used under license.
- Activity Sheet 3: Critical Thinking Questions for “Men Walk on Moon”

PROCEDURE

1. Optional: Show the class one or more news broadcasts of the Moon landing. A link to Walter Cronkite's coverage and to a NASA video are provided in the Additional Resources section below.
2. Distribute the *New York Times* article published the day after the Moon landing. Depending on the students' reading levels, you can either let them read the article for themselves or have the class share read it as described in Lesson 1.
3. Distribute Activity Sheet 3 with the critical thinking questions. You may choose to have the students work individually, as partners, or in small groups of no more than three or four. They can brainstorm as partners or small groups but must complete their own activity sheet.
4. Students will answer each question first using a quotation from the text and then restate each answer in their own words.

5. Class discussion: Have the students or student groups share out their choices for the most important parts of both the newspaper article and the video, if you assigned it. Then ask them, How did American news media describe the Moon landing?

ADDITIONAL RESOURCES

- “Man on the Moon - Apollo 11 - Cronkite Broadcast Pt3” (10 minutes), CBS, July 20, 1969, YouTube, https://www.youtube.com/watch?v=JV_CeJNGkeA.
- “HQ-194, Eagle Has Landed: The Flight of Apollo 11” (specifically 13:00–16:00), 1969, NASA Image and Video Library, [https://images.nasa.gov/details/KSC-19690716-MH-NAS01-0001-The Flight of Apollo 11 The Eagle Has Landed HS from Film JSC-DVC 1928](https://images.nasa.gov/details/KSC-19690716-MH-NAS01-0001-The_Flight_of_Apollo_11_The_Eagle_Has_Landed_HS_from_Film_JSC-DVC_1928).

LESSON 4

EXPLAINING THE APPEAL OF THE MOON LANDING, 1969

BY TIM BAILEY (created in 2024)

OVERVIEW

This lesson builds on the last discussion question in Lesson 3, asking students to review widespread expectations about travel to the Moon, and how those expectations were manifest in the reporting of this important historical event. You will assess students' understanding through a paragraph arguing for either 1) human curiosity or 2) national imperatives during the Cold War as the greater influence on day-of-reporting.

Students will be able to

- Summarize the meaning of a primary source
- Understand what is explicitly stated in a literary or historical text
- Assess how fiction and non-fiction texts create public expectations and opinions
- Understand professional standards for journalistic objectivity and interpret newspaper reporting in the context of that understanding
- Interpret newspaper or TV reporting as both a primary and a secondary source
- Explain and defend analysis of a primary source in a class discussion
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- Source 2: Excerpts from John F. Kennedy's Address at Rice University on the Nation's Space Effort, September 12, 1962, John F. Kennedy Presidential Library and Museum, [jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHb-mqm1Q.aspx](https://www.jfklibrary.org/Asset-Viewer/MkATdOcdU06X5uNHb-mqm1Q.aspx).
- Activity Sheet 2: Critical Thinking Questions for Kennedy's Rice University Speech
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- Activity Sheet 3: Critical Thinking Questions for "Men Walk on Moon"
- Activity Sheet 4: Preparing to Write an Argumentative Paragraph

PROCEDURE

1. Make sure that the students have their sources and activity sheets from Lessons 1–3.
2. Review two common reasons for space travel: human curiosity or Cold War–era nationalism. Each of these reasons is exemplified by a primary source from Lessons 1 and 2.
3. Distribute Activity Sheet 4: Preparing to Write an Argumentative Paragraph. Explain to students that historians not only describe the past, but argue for the relative significance of causes (or lack thereof) for past events. They use quotations from the sources as evidence to support arguments. Today students will be thinking like historians when they create an argumentative claim about why Americans were so excited about the Moon landing, and then support that claim with evidence from the texts.
4. Encourage students to fill out the activity sheet, which asks them to locate quotations expressing curiosity and/or nationalism. You might suggest that they share their work with a classmate so that everyone has a chance to test out different ideas and approaches.
5. Assign the following topic for in-class writing or as a homework assignment:

Using evidence from Wells’s novel, Kennedy’s speech, and the *New York Times* article, explain what cause for enthusiasm is most apparent in the *New York Times* article about the Moon landing: curiosity (like H. G. Wells) or Cold War–era nationalism (like Kennedy)?

Source 1: Historical Background

The United States and the Space Race

by James Spiller, SUNY Brockport

On July 20, 1969, 650 million people witnessed an astounding event. They tuned in to live broadcasts of the first lunar landing and heard American astronaut Neil Armstrong's famous words, "That's one small step for man, one giant leap for mankind." His first footstep on the Moon was a milestone in human history, and it illustrated Americans' technological achievements and grand aspirations of that era.

When President John F. Kennedy called on America in 1961 to safely land a man on the Moon by decade's end, he aimed to beat the Soviet Union in a high-stakes space race. This audacious goal smacked of science fiction and exceeded the country's capabilities at that time. But the pace of US research and technological development (R&D) had dramatically accelerated. Seeking high-tech weapons during World War II and the Cold War as well as economy-boosting innovations, Washington invested heavily in a network of government, corporate, and university laboratories. These labs helped make the United States the scientific superpower. They spun off military and civilian innovations in aviation and rocketry, computers and communications, advanced materials and medical devices that made it the technological superpower as well. Such innovations were critical to sending people to the Moon. Just as importantly, that robust R&D network enabled the new National Aeronautics and Space Administration (NASA) to access next-generation science and technology needed for its Apollo lunar landing program. NASA contracted more than 400,000 Americans to develop the myriad technologies that delivered twelve Americans to the lunar surface by December 1972 during six Apollo missions. These costly innovations helped the US win the space race, and they spurred new industries and dazzled the world.

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James Spiller is a professor of history at SUNY Brockport. He is the author of Frontiers for the American Century: Outer Space, Antarctica, and Cold War Nationalism (New York: Palgrave Macmillan, 2015).

NAME _____ PERIOD _____ DATE _____

Chapter 4

“Why have we no chairs?” I asked.

“I’ve settled all that,” said Cavor. “We shan’t need them.”

“Why not?”

“You will see,” he said, in the tone of a man who refuses to talk . . .

There came a little jerk, a noise like champagne being uncorked in another room, and a faint whistling sound. For just one instant I had a sense of enormous tension, a transient conviction that my feet were pressing downward with a force of countless tons. It lasted for an infinitesimal time.

But it stirred me to action. “Cavor!” I said into the darkness, “my nerve’s in rags. . . . I don’t think——”

I stopped. He made no answer.

“Confound it!” I cried; “I’m a fool! What business have I here? I’m not coming, Cavor. The thing’s too risky. I’m getting out.”

“You can’t,” he said.

“Can’t! We’ll soon see about that!”

He made no answer for ten seconds. “It’s too late for us to quarrel now, Bedford,” he said. “That little jerk was the start. Already we are flying as swiftly as a bullet up into the gulf of space.” . . .

He pointed to the loose cases and bundles that had been lying on the blankets in the bottom of the sphere. I was astonished to see that they were floating now nearly a foot from the spherical wall.

Keywords (10–12) from the text:

In a few sentences, using the keywords, summarize this scene:

NAME _____ PERIOD _____ DATE _____

Chapter 7

. . . As we saw it first it was the wildest and most desolate of scenes. We were in an enormous amphitheatre, a vast circular plain, the floor of the giant crater. Its cliff-like walls closed us in on every side. From the westward the light of the unseen sun fell upon them, reaching to the very foot of the cliff, and showed a disordered escarpment of drab and greyish rock, lined here and there with banks and crevices of snow. This was perhaps a dozen miles away, but at first no intervening atmosphere diminished in the slightest the minutely detailed brilliancy with which these things glared at us. They stood out clear and dazzling against a background of starry blackness that seemed to our earthly eyes rather a gloriously spangled velvet curtain than the spaciousness of the sky. . . .

Keywords (6–8) from the text that help “paint a picture in your imagination”:

In a few sentences, using the keywords, summarize this scene:

NAME _____ PERIOD _____ DATE _____

Chapter 8

. . . We were no longer in a void. An atmosphere had arisen about us. The outline of things had gained in character, had grown acute and varied; save for a shadowed space of white substance here and there, white substance that was no longer air but snow, the arctic appearance had gone altogether. Everywhere broad rusty brown spaces of bare and tumbled earth spread to the blaze of the sun. Here and there at the edge of the snowdrifts were transient little pools and eddies of water, the only things stirring in that expanse of barrenness. The sunlight inundated the upper two thirds of our sphere and turned our climate to high summer, but our feet were still in shadow, and the sphere was lying upon a drift of snow . . .

Imagine it! Imagine that dawn! The resurrection of the frozen air, the stirring and quickening of the soil, and then this silent uprising of vegetation, this unearthly ascent of fleshiness and spikes. Conceive it all lit by a blaze that would make the intensest sunlight of earth seem watery and weak. And still around this stirring jungle, wherever there was shadow, lingered banks of bluish snow.

Keywords (6–8):

In a few sentences, using the keywords, summarize this scene:

Source: H. G. Wells, *The First Men in the Moon*, Indianapolis: The Bowen-Merrill Co., 1901.

NAME _____ PERIOD _____ DATE _____

Source 2: Excerpts from John F. Kennedy, Address at Rice University, September 12, 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 the race for space.

Those who came before us made certain that this country rode the first waves of the industrial revolutions, the first waves of modern invention, and the first wave of nuclear power, and this generation does not intend to flounder in the backwash of the coming age of space. We mean to be a part of it—we mean to lead it. . . . We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding. Yet the vows of this Nation can only be fulfilled if we in this Nation are first, and, therefore, we intend to be first. In short, our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world's leading space-faring nation.

We set sail on this new sea because there is new knowledge to be gained, and new rights to be won, and they must be won and used for the progress of all people. For space science, like nuclear science and all technology, has no conscience of its own. Whether it will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decide whether this new ocean will be a sea of peace or a new terrifying theater of war. . . . There is no strife, no prejudice, no national conflict in outer space as yet. Its hazards are hostile to us all. Its conquest deserves the best of all mankind, and its opportunity for peaceful cooperation many never come again. But why, some say, the moon? Why choose this as our goal? And they may well ask why climb the highest mountain. . . .

We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win. . . . The growth of our science and education will be enriched by new knowledge of our universe and environment, by new techniques of learning and mapping and observation, by new tools and computers for industry, medicine, the home as well as the school. Technical institutions . . . will reap the harvest of these gains.

And finally, the space effort itself, while still in its infancy, has already created a great number of new companies, and tens of thousands of new jobs. Space and related industries are generating new demands in investment and skilled personnel. . . . But if I were to say, my fellow citizens, that we shall send to the moon, 240,000 miles away from the control station in Houston, a giant rocket more than 300 feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to an unknown celestial body, and then return it safely to earth, re-entering the atmosphere at speeds of over 25,000 miles per hour, causing heat about half that of the temperature of the sun . . . and do all this, and do it right, and do it first before this decade is out—then we must be bold. . . .

Source: John F. Kennedy Presidential Library and Museum, <http://www.jfklibrary.org/JFK/Historic-Speeches/Multilingual-Rice-University-Speech.aspx>.

NAME _____ PERIOD _____ DATE _____

Activity Sheet 2: Critical Thinking Questions for Kennedy’s Address at Rice University

<p>Critical Thinking Question 1: In his speech President Kennedy argued that the United States did not only need to be a part of space exploration, but “we mean to lead it.” What arguments did he make to back up this position?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize Kennedy’s position in your own words in one sentence:</p>
<p>Critical Thinking Question 2: According to President Kennedy, what tangible benefits would society gain by going to the Moon?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize Kennedy’s position in your own words in one sentence:</p>

NAME _____ PERIOD _____ DATE _____



<p>Critical Thinking Question 3: What difficulties in going to the Moon did the President present in his speech?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize Kennedy's position in your own words in one sentence:</p>
<p>Critical Thinking Question 4: How did President Kennedy support and explain his pronouncement that "We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard"?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize Kennedy's position in your own words in one sentence:</p>

Source 3: John Noble Wilford, “Men Walk on Moon,” *New York Times*, July 21, 1969

Houston, Monday, July 21—Men have landed and walked on the moon.

Two Americans, astronauts of Apollo 11, steered their fragile four-legged lunar module safely and smoothly to the historic landing yesterday at 4:17:40 P.M., Eastern daylight time.

Neil A. Armstrong, the 38-year-old civilian commander, radioed to earth and the mission control room here:

“Houston, Tranquility Base here. The Eagle has landed.”

The first men to reach the moon—Mr. Armstrong and his co-pilot, Col. Edwin E. Aldrin, Jr. of the Air Force—brought their ship to rest on a level, rock-strewn plain near the southwestern shore of the arid Sea of Tranquility.

About six and a half hours later, Mr. Armstrong opened the landing craft’s hatch, stepped slowly down the ladder and declared as he planted the first human footprint on the lunar crust:

“That’s one small step for man, one giant leap for mankind.”

His first step on the moon came at 10:56:20 P.M., as a television camera outside the craft transmitted his every move to an awed and excited audience of hundreds of millions of people on earth.

Tentative Steps Test Soil

Mr. Armstrong’s initial steps were tentative tests of the lunar soil’s firmness and of his ability to move about easily in his bulky white spacesuit and backpacks and under the influence of lunar gravity, which is one-sixth that of the earth.

“The surface is fine and powdery,” the astronaut reported. “I can pick it up loosely with my toe. It does adhere in fine layers like powdered charcoal to the sole and sides of my boots. I only go in a small fraction of an inch, maybe an eighth of an inch. But I can see the footprints of my boots in the treads in the fine sandy particles.”

. . . Outside their vehicle the astronauts had found a bleak world. It was just before dawn, with the sun low over the eastern horizon behind them and the chill of the long lunar nights still clinging to the boulders, small craters and hills before them.

Colonel Aldrin said that he could see “literally thousands of small craters” and a low hill out in the distance. But most of all he was impressed initially by the “variety of shapes, angularities, granularities” of the rocks and soil where the landing craft, code-named Eagle had set down.

. . . Apollo 11’s journey into history began last Wednesday from launching pad 39-A at Cape Kennedy, Fla. After an almost flawless three-day flight, the joined command ship and lunar module swept into an orbit of the moon yesterday afternoon.

The three men were awake for their big day at 7 A.M. when their spacecraft emerged from behind the moon on its 10th revolution, moving from east to west across the face of the moon along its equator. . . .

LM Ready for Descent

The lunar module was ready. Its four legs with yard-wide footpads were extended so that the height of the 16-ton vehicle now measured 22 feet and 11 inches and its width 31 feet.

Mr. Armstrong stood at the left side of the cockpit, and Colonel Aldrin at the right. Both were loosely restrained by harnesses. They had closed the hatch to the connecting tunnel.

The walls of their craft were finely milled aluminum foil. If anything happened so that it could not return to the command ship, the lunar module would be too delicate to withstand a plunge through earth's atmosphere, even if it had the rocket power.

Nearly three-fourths of the vehicle's weight was in propellants for the descent and ascent rockets—Aerozine 50 and nitrogen oxide, which substituted for the oxygen, making combustion possible.

It was an ungainly craft that creaked and groaned in flight. But years of development and testing had determined that it was the lightest and most practical way to get two men to the moon's surface.

As Mr. Armstrong and Colonel Aldrin rode the lunar module back around to the moon's far side, the rocket engine in the vehicle's lower stage was pointed toward the line of flight. The two pilots were leaning toward the cockpit controls, riding backwards and facing downward.

"Everything is 'go,'" they were assured by Mission Control.

Their on-board guidance and navigation computer was instructed to trigger a 29.8-second firing of the descent rocket, the 9,870-pound-thrust throtttable engine that would slow down the lunar module and send it toward the moon on a long, curving trajectory. . . .

The lunar module was slowing down. At an altitude of about 7,200 feet, with the landing site still about five miles ahead, the computer commanded control jets to fire and tilt the bug-shaped craft almost upright so that its triangular windows pointed forward. . . .

"You're 'go' for landing," Mission Control informed the two men.

The Eagle closed in, dropping about 20 feet a second, until it was hovering almost directly over the landing area at an altitude of 500 feet.

Its floor was littered with boulders.

It was when the craft reached an altitude of 300 feet that Mr. Armstrong took over semimanual control for the rest of the way. The computer continued to have control of the rocket firing, but the astronaut could adjust the craft's hovering position. . . .

Finally, Mr. Armstrong found the spot he liked, and the blue light on the cockpit flashed to indicate that five-foot-long probes, like curb feelers, on three of the four legs had touched the surface.

"Contact light," Mr. Armstrong radioed.

He pressed a button marked "Stop" and reported, "okay, engine stop."

There were a few more cryptic messages of functions performed.

Then Maj. Charles M. Duke, the capsule communicator in the control room, radioed to the two astronauts:

"We copy you down, Eagle."

"Houston, Tranquility Base here. The Eagle has landed."

"Roger, Tranquility," Major Duke replied. "We copy you on the ground. You got a bunch of guys about to turn blue. We are breathing again. Thanks a lot."

Source: *New York Times*, July 21, 1969. From the *New York Times*. © 1969 The New York Times Company. All rights reserved. Used under license.

NAME _____ PERIOD _____ DATE _____



<p>Critical Thinking Question 1: Identify a suspenseful or exciting moment in the story. How does the journalist communicate the importance of this historical moment?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize the journalist's position in your own words in one sentence:</p>
<p>Critical Analysis Question 2: How does the journalist describe the unique attributes of the Moon's surface, first viewed up close by these astronauts?</p>	
<p>Answer (Use exact wording from the text):</p>	<p>Summarize the journalist's position in your own words in one sentence:</p>

NAME _____ PERIOD _____ DATE _____

Critical Analysis Question 3: The capsule communicator in the control room is quoted as saying, “We copy you on the ground. You got a bunch of guys about to turn blue. We are breathing again. Thanks a lot.” What context helps you to understand this quotation’s meaning?

Answer (Remember to use exact wording from the text):

Summarize the journalist’s position in your own words in one sentence:

Critical Analysis Question 4: What does this newspaper article observe about TV coverage of the Moon landing?

Answer (Remember to use exact wording from the text):

Summarize the journalist’s position in your own words in one sentence:

NAME _____ PERIOD _____ DATE _____

<p>Descriptive Quotation from the <i>New York Times</i>:</p> 	<p>Does this express Wells-like human curiosity? In what way?</p> 	<p>Does this express JFK-like Cold War-era nationalism? In what way?</p> 
<p>Descriptive Quotation from the <i>New York Times</i>:</p> 	<p>Does this express Wells-like human curiosity? In what way?</p> 	<p>Does this express JFK-like Cold War-era nationalism? In what way?</p> 
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Prompt

Using evidence from Wells’s novel, Kennedy’s speech, and the *New York Times* article, explain what cause for enthusiasm is most apparent in the *New York Times* article about the Moon landing: curiosity (like H. G. Wells) or Cold War-era nationalism (like Kennedy)?