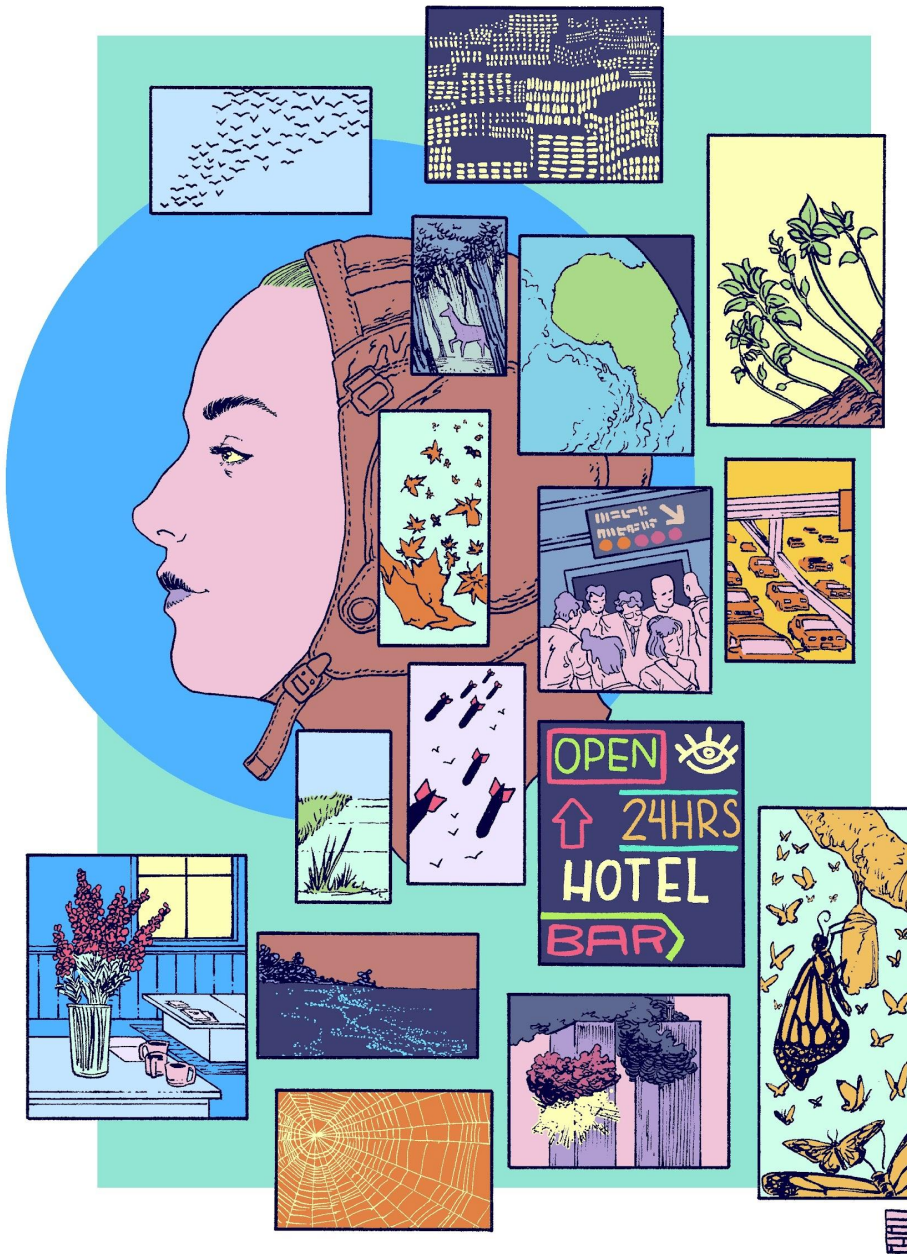


## An Occurrence at the International Space Station

By Erica Goodwin

Illustrated by Erwin Papa

Curriculum developed and copy edited by Léna Garcia



## OVERVIEW

### Quick-Glance 10 Points for Usage Guide

<b>Student Population</b>	
Age/Grade-Level Appropriateness	12+, 7th+
Genre/s	<ul style="list-style-type: none"> <li>* Science fiction</li> <li>* Surrealist narrative</li> <li>* Stream of consciousness</li> </ul>
Length	811 words
Content Advisories	References to war and to the 9/11 attacks
One-Sentence Summary	An astronaut looks down upon Earth in a moment of epiphany about what matters in life.
<b>Lesson Planning</b>	
Topics & Key Themes Overview	<p><b>Topics:</b></p> <ul style="list-style-type: none"> <li>* Spiritual experience</li> <li>* Passage of time</li> <li>* Humanity's legacy</li> <li>* Ecology/Evolution</li> <li>* Space exploration</li> </ul> <p><b>Themes:</b></p> <ul style="list-style-type: none"> <li>* Finding meaning in death</li> <li>* Space technology/tragedy</li> <li>* Patterns in nature</li> <li>* Coexistence of humans and nature</li> <li>* Globalization</li> <li>* Manifest Destiny</li> <li>* Collective unconsciousness</li> </ul>
Historic Events/Time Period for Study	<ul style="list-style-type: none"> <li>* Space Age/Space Race</li> <li>* NASA</li> <li>* First women in space: Valentina Tereshkova, Svetlana Savitskaya, Sally Ride, et al.</li> <li>* Post-Cold War era</li> <li>* <i>Apollo 1</i>, <i>Challenger</i>, and <i>Columbia</i> space tragedies</li> <li>* Post-9/11 America and the "War on Terror"</li> </ul>
Complementary Classic & Historic Texts	<ul style="list-style-type: none"> <li>* Short Story: "The Dead Astronaut" by J.G. Ballard</li> <li>* Song: "Ground Control to Major Tom" by David Bowie</li> <li>* Poems: "Sci-Fi" by Tracy K. Smith; "Because I could not stop for Death" by Emily Dickinson</li> </ul>
Author & Artist Information	<p><b>Erica Goodwin</b> is a writer and a student of computer science and math at Harvey Mudd College in Claremont, California.</p> <p><b>Erwin Papa</b> is an artist living in Long Beach, California.</p>

Key Common Core Standards (found in detail following the curriculum)	<p>CCSS.ELA-LITERACY.RL.7.1; CCSS.ELA-LITERACY.RL.7.2; CCSS.ELA-LITERACY.RL.7.3; CCSS.ELA-LITERACY.RL.7.4; CCSS.ELA-LITERACY.RL.7.6</p> <p>CCSS.ELA-LITERACY.W.7.1; CCSS.ELA-LITERACY.W.7.2; CCSS.ELA-LITERACY.W.7.3; CCSS.ELA-LITERACY.W.7.3.B; CCSS.ELA-LITERACY.W.7.3.D; CCSS.ELA-LITERACY.W.7.4; CCSS.ELA-LITERACY.W.7.7; CCSS.ELA-LITERACY.W.7.8; CCSS.ELA-LITERACY.W.7.9</p> <p>CCSS.ELA-LITERACY.SL.7.1; CCSS.ELA-LITERACY.SL.7.1.C; CCSS.ELA-LITERACY.SL.7.1.D; CCSS.ELA-LITERACY.SL.7.4; CCSS.ELA-LITERACY.SL.7.5; CCSS.ELA-LITERACY.SL.7.6</p> <p>CCSS.ELA-LITERACY.L.7.4; CCSS.ELA-LITERACY.L.7.4.A; CCSS.ELA-LITERACY.L.7.4.C; CCSS.ELA-LITERACY.L.7.4.D; CCSS.ELA-LITERACY.L.7.5; CCSS.ELA-LITERACY.L.7.5.B; CCSS.ELA-LITERACY.L.7.6</p>
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### Author Biography

**Erica Goodwin** began writing during her sophomore year of high school and never stopped. Inspired most by the themes of life, death, and the universe, she primarily writes nonfiction and poetry but occasionally is inspired to write fiction. Currently, Erica is studying at Harvey Mudd College, majoring in computer science and math and continuing to pursue writing on the side.

### Artist Biography

**Erwin Papa** is an illustrator and sculptor with work including comic books, character design, and toy design. He also creates abstract sculptures comprised of found objects. He lives in Long Beach, CA.

### SYNOPSIS

This surrealist narrative, written when Goodwin was a high school student at Pasadena Polytechnic School, tells the story of an astronaut aboard the exploding International Space Station. In the moments before her death, Dr. Jamie Fisher witnesses nature's cycle of decay and rebirth in one sunrise. As she gazes upon Earth, Jamie contemplates the relationship between humans and nature, as well as her own place in the universe.

### CURRICULUM

#### Pre-Reading & Themes Activity Options

##### Topic

Journaling:

Activity One: In a 10-minute journal entry, describe what the Earth looks like from outer space. Work from Google Images of the planet taken by satellites. What stands out to you? Has Earth always looked like this? Imagine what it looked like one million years ago and what it will look like a million years from now.

Activity Two: Working from the same picture, create a list of the ways humanity has influenced the Earth's physical landscape. Likewise, create a list naming ways in which the planet's landscape has shaped human civilizations.

Five-Minute Quick Write: Read the story with a focus on Erica Goodwin's images of Earth. Using a mindmap, compare and contrast the speaker's observations with your own and with those of a classmate. Is there a common human reaction to gazing at the Earth? What do we tend to notice first?

### **Main Ideas**

Discussion Activity One: In pairs, compare notes from Journaling Activity Two and discuss humankind's effects upon the Earth. What legacy do you think 21st-century society will leave behind for future generations? Specifically, why or why won't North America's impact differ from that of the other continents?

Divide a sheet of butcher paper into four columns: scientific, political, economical, and cultural. As a class, discuss how humanity's effects on the Earth can or can't be so categorized. Can you similarly categorize how the Earth's environment affects human civilization?

Discussion and Research Activity Two: In small groups, select an ancient civilization whose legacy you will research. In addition to finding the location, dates, and language(s) of the civilization, notetake on its scientific, political, economical, and cultural developments. Which elements have lasted and which have faded away? Share your findings with the class in a mini group presentation.

Writing Activity Three: After the mini presentations, assume the perspective of a member of one of the ancient civilizations. In an editorial, explain what you believe will be your civilization's legacy in the history of humanity. What do you hope future generations learn from your society's successes and failures? What about your society are you proud or ashamed of?

### **Passage-Specific Themes**

Read the following passage from the story, in which Dr. Jamie Fisher watches the sunrise from space:

She saw the blue water and the brown Earth, and she understood it all, the little planet spinning on its axis. She understood the heavy pulse of the ocean's waves and the drive of evolution from the sea to the shore to the mountains to the sky and to the universe. She saw it all happening at once: plants straining toward the morning sun and the morning rush of New Yorkers descending into subway stations. She saw the cars following each other down the freeways, and she saw the birds following each other south for the winter.

Discuss the following questions in small groups or as a class: What does Dr. Jamie Fisher understand that is put into perspective by her vantage point in space? In what ways are or aren't her observations "scientific"? How do the smaller relationships she sees combine to form a larger network?

### **Universal Themes**

Option One: Manifest destiny is the 19th-century belief that the United States was both obliged and destined to spread its culture throughout North and South America.

In Goodwin's story, how does the International Space Station embody humanity's manifest destiny in space? What aspects of contemporary civilization do you think space missions intend to carry into the unknown? Journal on this subject for 15 minutes.

Option Two: In 19th-century North America, the drive to colonize was spurred by a belief in the superiority

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of American culture, a valuing of its farm-based economy, and a conception that expansion was America's "fate."

Do you think the motivation to explore space comes from a similar place? Does the space station's explosion point to humankind going too far beyond its reach? Journal on this subject for 15 minutes.

### Key Vocabulary

Definitions are context-dependent. Make sure any definitions you look up or work from are the ones that most correctly fit in the context of the story.

Level One	Level Two	Level Three
songbird	flight controller	antiseptic
International Space Station	perpetually	morgue
Mission Control	mesmerizing	axis
ray	descending	bioluminescence
cocoons	clambering	subconscious
plankton	glisten	debris
pulse	instantaneous	vacuum
cradle	instinctual	orbiting
womb	ingrained	milliseconds
	tint	electromagnetic waves
	seal	masses
	condolences	
	caress	
	snapdragons	

### Vocabulary Activity Options

1. Journal for five minutes on the following questions: How do Goodwin's descriptions of Earth draw upon both the natural and the artificial? What relationship, if any, do you see between the organic and the human-made places and objects mentioned in the story?
2. Why does Goodwin refer to time in "milliseconds"? What's the significance of her specificity? Respond in a five-minute journal entry.
3. "Occurrence at the International Space Station" is rich in scientific language related to the fields of biology, astronomy, and physics (e.g. "bioluminescence," "vacuum," and "electromagnetic waves").

Go through the story with a highlighter, marking scientific words whose meanings you are unsure of. Look up these words in the dictionary and shortly define them in the story's margins. Now re-read the story. How does your understanding of Goodwin's work change or stay the same?

4. How does the International Space Station work and what is its purpose? Research and write a short expository essay on the different parts of the space station and how they combine to form the whole.

### Post-Reading Class Discussion Options

1. Can life sustain itself in a clinical environment like the International Space Station? To live "completely," do humans need to feel the sun on their shoulders and the grass beneath their toes? Do we inherently crave a physical connection with nature?
2. Research the concept of time perception. How does one's understanding of time change in different situations? Can a person map their own perception of time, and can it be mapped by another person?

In the context of Goodwin's story, how is time measured? Discuss.

3. In space, an astronaut feels a sensation of weightlessness because she is falling toward the Earth. At the same time, her spacecraft is moving rapidly along the Earth's curved surface as the surface curves away, which prevents her spacecraft from crashing down to Earth. ([http://education.ilab.org/qa/gravity\\_01.html](http://education.ilab.org/qa/gravity_01.html))

In the context of Goodwin's piece, discuss the significance of always being in a state of falling and perhaps never reaching a concrete destination.

Consider weightlessness both literally and figuratively. What does it mean for the astronauts aboard the International Space Station? What is the larger metaphor?

4. Compared to the other living beings mentioned in Goodwin's story—birds, butterflies, deer, spiders, and plankton—are humans creatures of habit? Defend your position using textual evidence and your own knowledge.
5. What feelings does the story evoke? Try to name them. Is Goodwin's piece a spiritual experience for the reader as well as for the main character, Dr. Jamie Fisher?

### Text-Dependent Question Options

1. Specifically, what is happening to the parts of the International Space Station as it explodes?
2. Why does Goodwin choose third-person omniscient narration to tell her story? What does the reader gain and lose from this decision?
3. Goodwin's piece is divided into two parts: the first shares Dr. Fisher's spiritual musings on nature and humanity and the second shows the world's reaction to the space tragedy.

What is the significance of this structural shift? What does the first part give us that the second does not, and vice versa? Cite textual evidence.

4. How does Dr. Fisher react to dying? Does she respond with awe, self-reflection, sadness, or something else? List the words in the story that show the reader how the doctor deals with death.
5. Why does Goodwin write with asyndeton, a literary device that drops conjunctions—like “and,” “or,” and “but”—between different parts of a sentence?
6. How does Erwin Papa’s use of shape and color make you feel? What feelings from the story do you think the artist chose to represent?
7. Does Dr. Fisher’s death have meaning? Is her passing just a sad moment or does her death offer some deeper philosophical knowledge about humankind?

## Writing Exercises

### Narrative

Option One: Write an alternative story ending in which Mission Control actually saves the International Space Station. How does it happen? How does Dr. Jamie Fisher react to the change in her story?

Option Two: Write a stream of consciousness narrative from the point of view of another astronaut aboard the International Space Station. What is your character thinking and doing at the moment in which you choose to portray them?

As Goodwin does, you may wish to include surreal elements to express what is going on inside your character’s head. Don’t worry about grammar or punctuation, just get your unedited thoughts on paper.

### Descriptive

As readers, we aren’t given a physical description of Dr. Fisher. Write a character description of the doctor. What does she look like while sitting inside the space station?

### Analysis

As an accomplished astronaut aboard the International Space Station, whose missions last about six months, Dr. Fisher has undoubtedly experienced many meaningful moments in space.

Write a one-page analysis in which you explore why Goodwin chooses to write about the specific milliseconds that she does. Cite the text.

## Complementary Reading Text

In Goodwin’s story, an astronaut finds meaning in her impending death. In David Bowie’s song “Space Oddity,” released in 1969—the year humans landed on the Moon—fictional astronaut Major Tom has a similar experience. Read the lyrics to “Space Oddity” and listen to the song (<http://bit.ly/1RmU4KJ>).

Ground Control to Major Tom

Ground Control to Major Tom

Take your protein pills and put your helmet on

Ground Control to Major Tom (ten, nine, eight, seven, six)

Commencing countdown, engines on (five, four, three)

Check ignition and may God's love be with you (two, one, liftoff)  
This is Ground Control to Major Tom  
You've really made the grade  
And the papers want to know whose shirts you wear  
Now it's time to leave the capsule if you dare  
"This is Major Tom to Ground Control  
I'm stepping through the door  
And I'm floating in a most peculiar way  
And the stars look very different today  
For here  
Am I sitting in a tin can  
Far above the world  
Planet Earth is blue  
And there's nothing I can do  
Though I'm past one hundred thousand miles  
I'm feeling very still  
And I think my spaceship knows which way to go  
Tell my wife I love her very much she knows  
Ground Control to Major Tom  
Your circuit's dead, there's something wrong  
Can you hear me, Major Tom?  
Can you hear me, Major Tom?  
Can you hear me, Major Tom?  
Can you "Here am I floating 'round my tin can  
Far above the moon  
Planet Earth is blue  
And there's nothing I can do"

### **Writing Exercise**

How do you think Major Tom feels about being in space? What does he think about how the world at large perceives him?

Comparatively, how do you think Dr. Fisher feels about being in space? What might she think about the Mission Controller and the world's memories of her as they are stated in the story's final section? Cite both the lyrics and the story.

### **Activity Options**

#### **Classroom Activity One**

Use your devices to research the Apollo 11 mission, which in 1969 landed the first astronauts on the Earth's moon. What did the spacecraft Apollo 11 look like? Who funded the mission, and how long was it? Who were the first people who walked on the moon, and how did they describe the experience? What did they do there? Who operated the spacecraft while they stepped foot on the moon?

Hold a press conference, in which some students act as journalists who are reporting on the Apollo 11 mission after it has returned to Earth.



Possible roles: Neil Armstrong and Edwin “Buzz” Aldrin—the first people on the moon—Mike Collins—who kept Apollo 11 in orbit, took photographs, and conducted experiments from space—the Mission Controller, then-President John F. Kennedy, and a moderator to lead the press conference.

Questions to get journalists started: What was your role on the mission? How did it feel to see the Earth from space and to walk on the moon? What were the most inspiring and the most frightening moments of the trip? When is NASA returning to space and/or to the moon, and do you want to go back?

Materials: Student journalists notetake by hand with pencils and a notebook; interviewees and moderator prepare speaking prompts on notecards.

### **Classroom Activity Two**

In small teams, design your own International Space Station. What are the different parts—what do they look like and how do they interact? If you like, you may choose to focus on a specific section of the space station, like the control center, the laboratory room, or the astronaut’s quarters.

Suggested Materials: Graph paper and pencils or butcher paper and pens

### **Home Activity**

Turn in a written transcript of an interview with a loved one or person in your community who was alive in 1969 and who remembers hearing about when humans first landed on the moon. As journalists do, prepare interview questions, record the conversation, and transcribe it later.

Here are some initial questions: How did your interviewee learn of the news? Do they remember where they were when they learned it? What did they think about humans being in space and on the moon?

Suggested Materials: Cell Phone with audio recording capabilities or tape recorder or video camera

### **Guest Speaker**

Option One: Invite the author, Erica Goodwin, to speak about the inspiration behind her piece, her writing process, and her studies in math and computer science at Harvey Mudd College.

Option Two: Invite a spaceship designer from Virgin Galactic to speak about the challenges and triumphs of creating aircrafts to serve the budding commercial-spaceflight industry.

### **Field Trip**

Option One: Reserve a free educational tour of NASA’s Jet Propulsion Laboratory (JPL) in Pasadena (4800 Oak Grove Drive). Managed by Caltech, this national research facility develops and sends cutting-edge robots and missions into outer space. Book far in advance.

Follow-up Writing Activity: Research and write an expository essay on a current JPL project you were the most interested to learn about. Challenge students to stay up to date on the project as it progresses and to report any newsworthy developments back to the class.

Option Two: Visit the California Science Center in Los Angeles (700 Exposition Park Drive) to tour retired space shuttle Endeavor, which was the first mission to deliver a U.S.-built component to the International Space Station and which made multiple deliveries to the station.

The museum is also home to SPACEHAB, which was designed for 1980s space tourism but was ultimately used to send equipment to the International Space Station and to Mir, a Russian-operated space shuttle orbiting the Earth from 1986 to 2001.

Follow-up Writing Activity:

Option One: In a 10-minute journal entry, respond to the following questions: How did it feel to see the astronauts' living quarters aboard Endeavor? Did you or didn't you feel more connected to the astronauts currently aboard the International Space Station? Why or why not?

Option Two: Research Virgin Galactic, the airline's project to send tourists into space. In concept, how do Virgin Galactic ship's compare to SPACEHAB? What about in design? Write a detail-rich, five- to seven-sentence paragraph on the subject.

### TEST PREPARATION COMPONENT

**Instructions: Closely read “An Occurrence at the International Space Station,” using the graphic organizer to develop your thoughts.**

<p><b>Who is telling the story and why?</b></p>  <p>What is their point of view?</p>  <p>Their tone?</p>	<p><b>Why does the author write in simile and metaphor? Unpack a resonant comparison:</b></p>      <p>What other rhetorical devices are used and why?</p>
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<b>What is memorable about the characters?</b>	<b>What is/are the main idea(s)?</b>
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**Writing Activity:** Write a thoughtful, one-page analysis of symbolism in “An Occurrence at the International Space Station.” What is the connection between the literal and the metaphorical in the story? What larger metaphor might the author be making about humankind? Cite textual evidence.

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CCSS.ELA-LITERACY.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

CCSS.ELA-LITERACY.SL.7.5: Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

### **Vocabulary Activity Options**

CCSS.ELA-LITERACY.W.7.1: Write arguments to support claims with clear reasons and relevant evidence.

CCSS.ELA-LITERACY.W.7.7: Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

CCSS.ELA-LITERACY.L.7.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies.

CCSS.ELA-LITERACY.L.7.4.A: Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

CCSS.ELA-LITERACY.L.7.4.C: Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

CCSS.ELA-LITERACY.L.7.4.D: Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

CCSS.ELA-LITERACY.L.7.5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCSS.ELA-LITERACY.L.7.5.B: Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.

CCSS.ELA-LITERACY.L.7.6: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### **Post-Reading Class Discussion Options**

CCSS.ELA-LITERACY.W.7.7: Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

CCSS.ELA-LITERACY.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

CCSS.ELA-LITERACY.SL.7.1.C: Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.

CCSS.ELA-LITERACY.SL.7.1.D: Acknowledge new information expressed by others and, when warranted, modify their own views.

**Text-Dependent Question Options**

CCSS.ELA-LITERACY.RL.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RL.7.2: Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.

CCSS.ELA-LITERACY.RL.7.3: Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

CCSS.ELA-LITERACY.RL.7.4: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.

CCSS.ELA-LITERACY.RL.7.6: Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.

**Writing Exercise Options**

CCSS.ELA-LITERACY.W.7.3: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

CCSS.ELA-LITERACY.W.7.3.B: Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.

CCSS.ELA-LITERACY.W.7.3.D: Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

**Complementary Reading Text (Comparative Writing Exercise)**

CCSS.ELA-LITERACY.RL.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RL.7.2: Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.

**Activity Options**

CCSS.ELA-LITERACY.W.7.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.W.7.7: Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

CCSS.ELA-LITERACY.W.7.8: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

CCSS.ELA-LITERACY.W.7.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

CCSS.ELA-LITERACY.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

CCSS.ELA-LITERACY.SL.7.5: Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

CCSS.ELA-LITERACY.SL.7.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.