

## GRADE SEVEN AND EIGHT REQUIRED SUMMER WORK

For your summer work. You will have one assigned book to read. In addition, you will choose one of your choice from the list provided. In addition, you may choose a second book from the list and receive an extra credit grade.

### I. Your assigned book is as follows:

Grade 7: Slacker (book 1) by Gordon Korman

Grade 8: Refugee by Alan Gratz

While reading the book, underline key passages that you find interesting or important. Use sticky notes or marginal notes to mark observations, questions, and connections. Mark lines that help you understand the characters and plot. Additionally, you must select and highlight at least three quotations that are interesting or thought provoking and be prepared to discuss these quotations in class. There will be a written assessment on the above assigned book in September.

### II. Choose your second and extra credit book from this list

The Door in the Wall by Marguerite de Angeli

The Black Stallion by Walter Farley T

The Twenty-One Balloons by William Pene du Bois

The Bronze Bow by Elizabeth George Speare

The Trumpet of the Swan by E.B. White

The Hobbit by J.R. R. Tolkien

The Railway Children by E. Nesbit

A Christmas Carol by Charles Dickens

The Secret Garden Frances Hodgson Burnett

The Adventure of Tom Sawyer Mark Twain

The Girl Who Drank the Moon by Kelly Barnhill

Up from Slavery by Booker T. Washington

Johnny Tremain by Esther Forbes

St. Philip Neri and the Joyful Life by

Nick Pascoe

Carry On, Mr. Bowditch by Jean Lee Latham

St. Dominic and the Rosary

The Song at the Scaffold by Gertrud von Le Fort

By Catherine Beebe

With the book(s) you choose. Write an essay including the following:

Brief summary, Description of the characters. Which one is your favorite and Why

Discuss the theme, plot and setting of the book, What lesson(s) did you gain from this book?

Select one memorable quotation and explain its significance

The essay will be due September 21, 2026.

## PART 2 NY PROGRESS BOOKS

Grade 7: Read the following stories and complete Cite Evidence, in the book within the story.

Comprehension Check answers on Loose Leaf paper. This will be collected and graded.

1. "The Longest Walk" page 124 to 131
2. "A Valentine" and "Annabel Lee" pages 116 to 123
3. "Hurricanes" pages 176 to 183

Grade 8: Read the following stories and complete Cite Evidence, in the book within in story.

Complete all Comprehension Check questions on Loose Leaf paper. This will be collected and graded.

1. "American Women and the Right to Vote" page 64 to 71
2. "A Mill Girl's Story" page 124 to 129
3. "The Wonders of Medical Imaging" page 192 to 197

# ANALYZING DRAMATIC STRUCTURE

## Guided Instruction

RL.7.5

### WORDS TO KNOW

bill

demonstrating

legislator

treaty

A series of connected scenes and acts creates the structure of a play, or drama. A drama's **structure** contributes to its meaning.

### CITE EVIDENCE

**A** The **events** that make up a drama are divided into acts and scenes that provide **structure**. Circle the act and scene number of this section of the play.

**B** Events in a drama may be expressed in **stage directions**, **dialogue**, or both. Underline the event described in the opening italicized paragraph.



## The Longest Walk

(Genre: Drama)

### CAST OF CHARACTERS

LILY WILSON, an 18-year-old girl

JAYSON WILSON, her 12-year-old brother

KIM STONEFISH, Lily's best friend

LAURA, a Native American protestor

POLICEMAN

HENRY DAVID THOREAU, American author

MRS. WILSON, mother of Lily and Jayson

### ACT I, SCENE 1

- 1 **SETTING:** *It is 3:00 on a hot, overcast afternoon—July 15, 1978—in Washington, D.C. JAYSON is at home with LILY and KIM, who recently finished their first year at college. They are all watching a live news report on television. The big story of the day is the arrival in the nation's capital of the Longest Walk, a peaceful protest march for Native American rights that began five months and 3,200 miles ago in San Francisco, California.*

**KIM** (*under her breath, almost whispering*): Wow.

**LILY:** There must be more than a thousand people marching: Native American activists, African American community leaders, politicians . . . And there's that movie star—what's his name?

**JAYSON** (*bored*): Who cares? It's just another protest march.

- 5 **LILY** (*irritated*): Jayson, you have a lot to learn. Those Native Americans have marched on foot to Washington, D.C., from San Francisco! It's taken them months. (*to herself*) Can you imagine walking across the entire country?

**JAYSON:** What are they protesting, anyway?

**LILY** (*impatiently*): They're **demonstrating** against the way that Native Americans are being treated by the government.

**JAYSON:** What's been so terrible for them?

**KIM** (*with passion*): Where do I begin? First, some members of Congress have introduced **bills** that would close some Native American schools and hospitals. There are also efforts to force Native Americans to pay taxes on reservation land. And to add insult to injury, some **legislators** want to abolish rights established by **treaties**—treaties that were signed years ago by both sides!

- 10 **LILY** (*impressed*): Wow, Kim, you really care about this!

**KIM:** Well, I *should* care—I'm half Lenni Lenape.

**JAYSON:** What does that mean?

**KIM:** The Lenni Lenape are a Native American group. My people originally lived in what is today New York, New Jersey, Pennsylvania, and Delaware.

**LILY:** Oh, right! Now I remember from history class: The Lenape were renamed the Delaware by the English.

- 15 **KIM:** Exactly! And we go back further than that. It was the Lenni Lenape who sold Manhattan to some Dutch settlers!

(*They continue to watch the coverage of the march. KIM is especially quiet.*)

**KIM** (*pondering*): You know what? I want to go down there and join the march.

**LILY** (*aghast*): Are you crazy? There are so many people, not to mention that it's probably 100 degrees outside. And I saw a lot of police there, Kim. You could get in trouble!

### Comprehension Check

In what way does Act I, Scene 1, introduce the drama? What details set the scene? Cite specifics from the text.

### CITE EVIDENCE

**C** At the beginning of each scene, the playwright tells you the **setting**, or time and place, of the scene. Double underline the time and place of this scene.

**D** Structure gives drama meaning, but so do the characters who experience the events. In the Cast of **Characters**, put a box around the names of the three characters introduced in this scene.

**E** How a character reacts to an event moves a drama's story forward. Underline Kim's reaction to watching the march. What might she do next? Why?



# ANALYZING DRAMATIC STRUCTURE

## Guided Instruction

RL.7.5

### WORDS TO KNOW

civil disobedience

dais

heritage

transcendentalist

trek

### CITE EVIDENCE

**A** When and where does Act I, Scene 2, take place? Double underline details about setting that appear in the text.

**B** The introduction of a new character is an important structural event in a drama. Circle any details about Laura that appear in stage directions. Then discuss what you learn about Laura from dialogue.

### The Longest Walk *continued*

**KIM:** Lily, remember reading Henry David Thoreau in English class? He was the American **transcendentalist** whose essay *On Civil Disobedience* talks about exactly what we're up against! Thoreau said, "A people, as well as an individual, must do justice, cost what it may." (*pointing at the television*) Those marchers are my people, and I'm an individual!

- 20 **LILY** (*with a sigh*): Then I'm going with you. (*grabbing Jayson's hand*): I promised Mom I'd look after you, Jayson, so you're coming, too!

### ACT I, SCENE 2

**SETTING:** *An hour later, on a path leading to the steps of the United States Capitol, Native American protesters are shouting and holding signs that say, "The Longest Walk, 1978" and "Support Indian Resistance." JAYSON, LILY, and KIM can barely hear each other over the noise.*

**JAYSON** (*pointing*): What's that flag?

**KIM** (*shouting*): It's the flag of the American Indian Movement.

*(The marchers begin to turn their attention to a man on a dais in front of the steps. Just then, LAURA, an older woman in a wheelchair, approaches them.)*



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RL.7.5

## Guided Instruction

25 **LAURA** (*suspiciously*): May I ask what you all are doing here?

**LILY** (*warmly*): Hi! I'm Lily, this is my brother Jayson, and this is my friend Kim. We're here to support the protest.

**LAURA** (*clearly relieved*): Oh, that's great! I was afraid you might be journalists! My name is Laura.

**KIM** (*laughing*): Journalists? We're college students! My **heritage** is Lenape, so I just had to come down and show my support.

**LAURA**: Lenape? (*brightening*) Well then, as a fellow Lenape, I say to you, *Hohoh!*

30 **JAYSON**: What does that mean?

**KIM** (*grinning*): In the Lenape language, it's an expression of joy!

**LILY** (*pointing into the distance*): Laura, who is that speaking?

**LAURA**: That's one of our leaders. He helped organize the march. I'll introduce you. He and many others have worked for so long to organize this walk. And quite a walk it was—you know, only about twenty Native Americans actually made the entire **trek**. Many of us joined the march along the way in other American cities. (*to KIM*) How did you hear about it?

*(KIM is about to reply when she suddenly hears a commotion in front of them. She sees police guiding a group of protestors toward their location.)*

35 **POLICEMAN** (*shouting*): All right now—back up, folks! We don't want any trouble today!

*(As the group is forced toward KIM and her friends, the protestors become impatient. Other marchers, until now just quietly listening to the speaker, become upset as well. Suddenly, a disturbance breaks out, and KIM is separated from her friends.)*

**LILY** (*calling out while holding tightly to JAYSON*): Kim! KIM!



### CITE EVIDENCE

**C** A drama may have other structures within its larger form. For example, a **soliloquy** is a speech made to the audience in which a character's thoughts are revealed. A **monologue** is a long speech delivered by one character to another. An **epilogue** is the final section of a play after events have been resolved. Put a box around the monologue in this scene.

**D** A playwright may build suspense by introducing an event that leaves readers wondering what will happen. Put an asterisk next to the suspenseful event in this scene.

**E** Underline the stage direction that tells how Lily reacts to being separated from Kim. Is this a good place to end Act I?

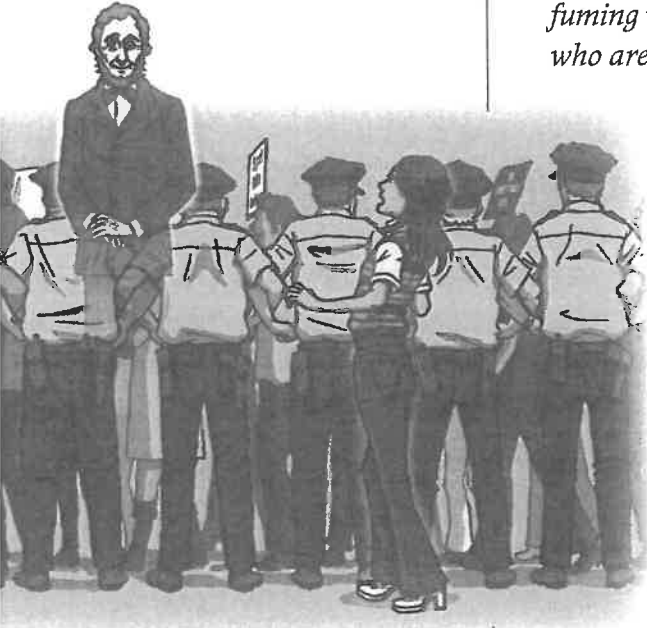
### Comprehension Check

How do the two scenes in Act I fit together? In what way does their structure give meaning to the drama?

# ANALYZING DRAMATIC STRUCTURE

## Guided Practice

RL.7.5



### The Longest Walk *continued*

#### ACT II, SCENE 1

**SETTING:** *Twenty minutes later, KIM and the other protestors, fuming with frustration, are standing behind a line of police officers who are restricting the movement of the group.*

**LILY (to LAURA):** Why are the police holding those people back like that?

40 **LAURA:** They have to make sure no one gets hurt. Some of those folks were getting pretty **agitated**, so I think it was a good idea for the police to separate them from the rest of the crowd. Don't worry—it's only **temporary**.

**JAYSON:** Temporary? What do you mean? What about Kim?

**LILY:** We can't stay for the entire **rally**. My mom will be home soon, and we have to get back before she arrives!

#### WORDS TO KNOW

**agitated**

**authority**

**intense**

**rally**

**restricting**

**temporary**

#### CITE EVIDENCE

**A** Underline the stage directions that tell how Kim reacts to being restricted by the police.

**B** In this scene, another new character is introduced. Circle the name of the character, and double underline what you learn about him. Do you learn about him from stage directions, dialogue, or both?

*(LILY scans the crowd and finally sees KIM standing patiently and helplessly behind the row of police.)*

**KIM (her head down, speaking softly to herself):** Me and my bright ideas! How long are they going to keep me here? I could use a Good Samaritan just about now!

45 *(Suddenly, she hears a voice in front of her.)*

**HENRY DAVID THOREAU (Lights come up on him suddenly, as if he were a ghost. His eyes are intelligent and intense, but warm):** A people, as well as an individual, must do justice, cost what it may.

**KIM (looking up, stunned):** Whaaa...? *(hesitatingly and quietly)* M-M-Mr. Thoreau? *(Clearly she is the only person who can see or hear him. She takes a breath, realizing she is about to speak to her mentor.)* I'm scared, Mr. Thoreau, but I think that what the government is doing to Native Americans is unjust.

**THOREAU:** There will never be a really free and enlightened State until the State comes to recognize the individual as a higher and independent power, from which all its own power and **authority** are derived, and treats him accordingly.

**KIM** (*nodding*): Yes, exactly! That's what you wrote in *On Civil Disobedience*. I love that essay. I want Native Americans to be treated with the respect they deserve, and I know you do, too.

- 50 **THOREAU**: I please myself with imagining a State at last which can afford to be just to all men, and to treat the individual with respect as a neighbor. (*He steps back out of spotlight, into the darkness.*)

### Comprehension Check

- Which of the following best describes Laura's response to Lily's question?
  - Laura is angry at the police.
  - Laura believes the police aren't doing enough to protect people.
  - Laura feels the police are doing their job.
  - Laura thinks Lily is overreacting.
- About how much time has passed since the first scene of the play?
  - an hour
  - twenty minutes
  - an hour and twenty minutes
  - two days
- In this scene, we learn about Laura's beliefs from
  - stage directions only.
  - dialogue only.
  - both stage directions and dialogue.
  - neither stage directions nor dialogue.
- What is the main event of this scene?
  - Jayson asks what *temporary* means.
  - Lily finally finds Kim in the crowd.
  - Henry David Thoreau appears and speaks to Kim.
  - Laura expresses her opinion about the police.
- How is the introduction of the character of Thoreau different from the introduction of Laura in the previous scene? Discuss with a partner how Thoreau impacts the meaning and your understanding of the play. Explain your answer with details from the text.

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# ANALYZING DRAMATIC STRUCTURE

## Independent Practice

RL.7.5

### WORDS TO KNOW

**acknowledge**  
**conscientious**  
**perpetuate**  
**philosophy**

### CITE EVIDENCE

**A** Reread the definition of the word *soliloquy* on page 127. Circle the name of the character who presents a soliloquy in this scene.

**B** Underline the dialogue that shows Thoreau's response to Kim's words. What has Kim learned from this experience? Discuss your answer with a partner.



### The Longest Walk *continued*

**KIM** (*to the audience*): America is long overdue to **acknowledge** Native Americans as the original American people. They are entitled to live freely on the land their ancestors lived on, cared for, and loved for thousands of years.

I believe in the **philosophy** that people should take a stand when their government creates bad policies, but I don't believe that it's right to break the law.

For example, I understand the argument that people **perpetuate** bad government when they pay federal taxes while opposing that government's policies. To quote Henry David Thoreau: "Those who, while they disapprove of the character and measures of a government, yield to it their allegiance and support are undoubtedly its most **conscientious** supporters, and so frequently the most serious obstacles to reform."

I appreciate what this means, but I prefer peaceful protest as a way of showing civil disobedience. (*She turns back toward the spot where THOREAU spoke to her.*)

**55 THOREAU** (*reappearing in the light, smiling*): I ask for, not at once no government, but at once a better government.

(*With that remark, THOREAU disappears. KIM is brought back to reality by the voice of the POLICEMAN.*)

**POLICEMAN**: All right—rally's over. Everyone can go.

(*KIM races toward LILY, JAYSON, and LAURA.*)

**LILY**: Kim, thank goodness you're all right! I don't know how you got through that all by yourself!

**60 KIM** (*smiling to herself*): Well, I wasn't exactly by myself. . . .

### EPILOGUE

**SETTING**: An hour later, LILY, JAYSON, and KIM are back at the Wilsons' home. Just then, MRS. WILSON enters.

**MRS. WILSON**: I'm home! Hello, Kim; it's nice to see you again. So, what did you all do today?

**JAYSON** (*starting to blurt it out*): We—

**LILY** (*slapping her hand over his mouth*): We watched the march on television. It's called "The Longest Walk," and it was really impressive. Some Native Americans marched thousands of miles to protest their mistreatment by the government.

- 65 **MRS. WILSON** (*pausing, and then*): "A people, as well as an individual, must do justice, cost what it may."

**JAYSON** (*with amazement*): Mom, you just quoted Thoreau!

(THE END)

### Comprehension Check

**MORE ONLINE**

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- Which of the following is NOT true about the soliloquy in this scene?
  - The speaker is the only character in the scene.
  - The speaker is expressing personal thoughts and beliefs.
  - The speaker is addressing the audience.
  - The speaker's remarks are very brief.
- Which stage direction could you add before Lily's dialogue in paragraph 59?
  - (relieved)
  - (confused)
  - (curious)
  - (upset)
- The Epilogue is very short because
  - Mrs. Wilson is not an important character.
  - Thoreau has already disappeared.
  - the play's main events have already been resolved.
  - it presents a funny moment instead of a serious one.
- Which is NOT a way that the Epilogue contributes to the play's meaning?
  - It signals that the play is about to end.
  - It tells the audience that Lily, Jayson, and Kim reached home safely.
  - It provides an opportunity for Mrs. Wilson's character to express a belief.
  - It creates a suspenseful ending.
- What is the meaning of this play? How does the structure of the play contribute to that meaning? Give evidence for your answer.

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# ANALYZING LITERARY LANGUAGE

## Guided Instruction

RL.7.4

### WORDS TO KNOW

**amulet**

**eloquent**

**luminous**

**sabre**

**scintillating**

**talisman**

Poets carefully choose words and phrases for their impact on readers. Look for different kinds of **literary language**, and analyze both their meaning and their impact on the poem.

### CITE EVIDENCE

**A** One type of literary language that poets often use is **rhyme** at the ends of lines. Rhyming words help give a poem its structure and rhythm. Find and underline a word at the end of one of the first four lines that rhymes with eyes in line 1.

**B** Edgar Allan Poe wrote “A Valentine” as a love poem to a woman whose identity he keeps secret. The poem is also a **riddle**—a challenge for readers to find the woman’s name hidden in the poem. Double underline any details in lines 1–9 that suggest that readers should search for a name hidden in the poem.



## A Valentine

by Edgar Allan Poe

(Genre: Poetry)

- For her this rhyme is penned, whose **luminous** eyes,  
Brightly expressive as the twins of Leda,  
Shall find her own sweet name, that nestling lies  
Upon the page, enwrapped from every reader.
- 5 Search narrowly the lines! they hold a treasure  
Divine, a **talisman**, an **amulet**  
That must be worn at heart. Search well the measure—  
The words—the syllables. Do not forget  
The triviaest point, or you may lose your labor:
- 10 And yet there is in this no Gordian knot  
Which one might not undo without a **sabre**,

## Guided Instruction

## CITE EVIDENCE

**C** “A Valentine” is a special kind of poem called an **acrostic**. The words of an acrostic are written so that certain letters spell out a hidden word or name. Circle the first letter of the first line, the second letter of the second line, the third letter of the third line, and so forth. What name is spelled out?

**D** Poets use **repetition** of sounds and words to emphasize ideas and create rhythm. In lines 5 and 7 of the poem, the poet repeats the word *search*. Put an asterisk next to a line on page 117 that contains repetition. What effect does the repetition have on the poem?

**E** The denotation of a word is the word’s literal meaning. The **connotation** of a word is the idea or emotional quality that it suggests. Put a box around the word near the end of the poem that literally means “to come to an end” but that has a connotative meaning of “to stop suddenly or abruptly.”

If one could merely comprehend the plot,  
Enwritten upon the leaf where now are peering  
Eyes **scintillating** soul, there lie *perdus*<sup>1</sup>

- 15 Three **eloquent** words oft uttered in the hearing  
Of poets, by poets—as the name is a poet’s, too.  
Its letters, although naturally lying  
Like the knight Pinto, Mendez Ferdinando,  
Still form a synonym for Truth.—Cease trying!
- 20 You will not read the riddle, though you do the  
best you can do.

<sup>1</sup>*perdus* French for “lost”

## Comprehension Check

How does knowing that the poem is an acrostic affect its meaning as well as your experience when reading it?

## Guided Instruction

RL.7.4

## WORDS TO KNOW

bore

coveted

highborn

kinsman

sepulchre

seraph

## CITE EVIDENCE

**A** **Figurative language** has a meaning beyond its literal meaning. One kind of figurative language is **hyperbole**, or exaggeration. Circle two lines in stanza 1 that exaggerate something about Annabel Lee. What does this hyperbole mean?

**B** Recall that one kind of literary language is the repetition of sounds and words to impact meaning. Underline the words in two lines in stanza 2 that demonstrate repetition.

**C** A poet who writes a series of words that begin with the same letter or sound creates a kind of repetition called **alliteration**. Put a box around the line in stanza 2 that shows alliteration, and name the consonant sound that is repeated.



## Annabel Lee

by Edgar Allan Poe

(Genre: Poetry)

It was many and many a year ago,

In a kingdom by the sea,

That a maiden there lived whom you may know

By the name of Annabel Lee;

5 And this maiden *she* lived with no other thought

Than to love and be loved by me.

*I* was a child and *she* was a child,

In this kingdom by the sea,

But we loved with a love that was more than love—

10 I and my Annabel Lee—

With a love that the wingèd **seraphs** of Heaven

**Coveted** her and me.

- And this was the reason that, long ago,  
 In this kingdom by the sea,  
 15 A wind blew out of a cloud, chilling  
 My beautiful Annabel Lee;  
 So that her **highborn kinsmen** came  
 And **bore** her away from me,  
 To shut her up in a **sepulchre**  
 20 In this kingdom by the sea.

### Comprehension Check

What effect does the repetition of words and sounds create in stanzas 1 and 2 of the poem?



### CITE EVIDENCE

**D** There are other ways to repeat sounds. In **assonance**, the same vowel sound repeats within or at the end of a series of words. For example, listen for the repeated long-A sound in "It's a shame I didn't get any **mail today**." In line 15, put a box around the words that demonstrate assonance.

**E** In **consonance**, the same consonant sound repeats within or at the end of a series of words, as in "The **truck** hit a **rock** near the **thicket**." Circle the words in line 16 that are an example of consonance. Which of those words is repeated in each stanza of the poem, and why?

## Guided Practice

RL.7.4

## WORDS TO KNOW

**demon****dissever**

## CITE EVIDENCE

**A** Double underline the words at the end of stanza 4 that create assonance. How is this assonance meant to affect readers?

**B** Circle the two details in stanza 5 that refer to supernatural beings. How do these details help create hyperbole?

**C** Underline the word in stanza 5 that literally means “to separate.” Discuss the connotative meaning of the word and what it suggests about the speaker’s feelings for Annabel Lee.

Annabel Lee *continued*

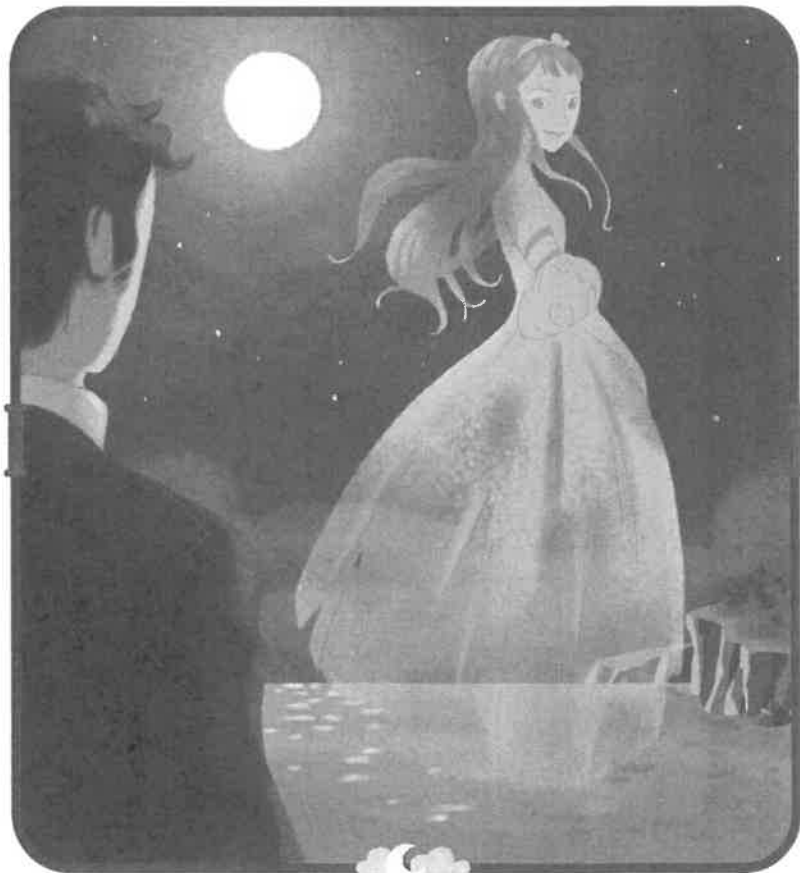
The angels, not half so happy in Heaven,  
Went envying her and me—

Yes!—that was the reason (as all men know,  
In this kingdom by the sea)

25 That the wind came out of the cloud by night,  
Chilling and killing my Annabel Lee.

But our love it was stronger by far than the love  
Of those who were older than we—  
Of many far wiser than we—

30 And neither the angels in Heaven above,  
Nor the **demons** down under the sea,  
Can ever **dissever** my soul from the soul  
Of the beautiful Annabel Lee;



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**Comprehension Check**

1. Which lines create an example of rhyme at the ends of lines?
  - a. lines 21 and 30
  - b. lines 22, 24, and 26
  - c. lines 23, 27, and 32
  - d. lines 27, 30, and 32
2. Lines 28–29 are an example of
  - a. denotation.
  - b. connotative meaning.
  - c. repetition of words.
  - d. consonance.
3. Which group of words from stanza 5 helps create hyperbole?
  - a. our love
  - b. stronger by far
  - c. those who were older
  - d. the beautiful Annabel Lee
4. Which word from stanza 5 has a connotation of “evil and frightful”?
  - a. soul
  - b. angels
  - c. dis sever
  - d. demons
5. Lines 28 and 29 both end with the word *we*—a combination of rhyme and repetition. Why did the poet make that choice of literary language? With a partner, discuss how that choice helps you understand what the speaker is thinking and feeling in this stanza.

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## Guided Instruction

RI.7.5

## WORDS TO KNOW

atmospheric

evaporation

eye

hurricane

Authors of technical texts use **text structure** to present material in an organized way. Common structures include **sequential**, **comparative**, and **causal**.

## CITE EVIDENCE

**A** Authors who use a **sequential structure** describe steps in the order in which they occur. Put a box around the block of text that illustrates sequential organization.

**B** A **causal structure** shows how one event causes another. In paragraph 4, underline the sentence that shows a causal relationship between paragraphs 3 and 4.

## Hurricanes

## Earth's Most Violent Storms

(Genre: Technical Text)

- Hurricanes** are among the greatest weather phenomena on our planet. They can be as large as 600 miles across and can reach wind speeds of up to 200 miles per hour. The strength and force of a hurricane can have devastating consequences for those in its path. Furthermore, the aftereffects of a powerful hurricane can linger for years.
- One of the earliest written records of a hurricane came from Christopher Columbus in 1494, and people have been documenting hurricane movements ever since. Today, scientists have moved beyond tracking hurricanes to studying the complex processes that lead to the development of hurricanes. In this way, scientists hope to be better able to predict both the occurrence of hurricanes and the intensity that a particular hurricane will achieve.

## Understanding Hurricane Conditions

- Three basic **atmospheric** and environmental conditions must be present in order for a hurricane to develop:
  - First, warm oceanic temperatures cause sufficient heat and moisture to develop in the atmosphere.
  - Next, seawater **evaporation** combines with heat and energy to propel the movements of the hurricane.
  - Then, a strong wind pattern near the surface of the ocean causes the air to turn inward upon itself.
- When all three requirements are met, conditions are ripe for the presence of a hurricane. Both the Atlantic and eastern Pacific

Oceans see these conditions most frequently in late summer. In the Atlantic Ocean, the peak hurricane season runs from June 1 until November 30. In the eastern Pacific, it runs from May 15 until November 30.

RI.7.5

## Guided Instruction

- 5 Simply having the presence of these conditions is not enough, however, to guarantee the development of a hurricane. The atmospheric conditions must first undergo a variety of processes before the intense power of a hurricane can be fully generated.

### The Stages of Hurricane Development

#### Stage 1: Evaporation

- 6 During the first stage of development, warm water rises upward from near the surface of the ocean. The water temperature must be greater than 80 degrees Fahrenheit for this to occur. The rising water causes evaporation, creating an area of low pressure below and leading to higher levels of humidity. This provides energy for the hurricane to develop.

#### Stage 2: Wind Force

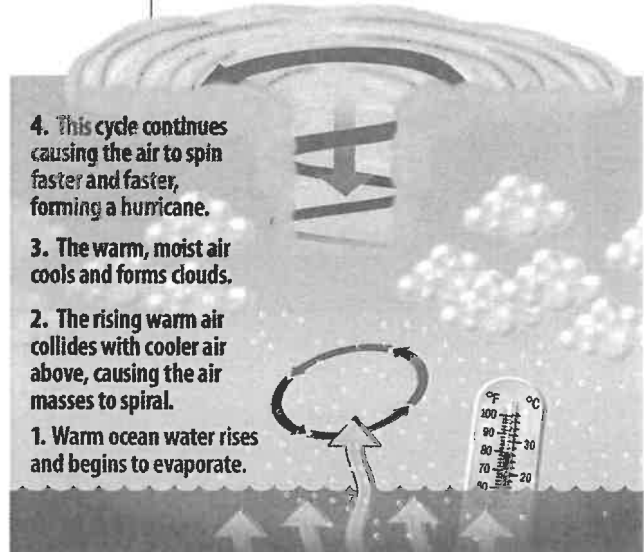
- 7 Once the warm air has risen, air begins to circulate and spiral. Air with higher pressure collides with air with lower pressure. Moisture is forced upward. As the "old" air is pushed upward, "new" air continues to swirl into the area of evaporation, creating a constant cycle of air pressure.

#### Stage 3: Cloud Formation

- 8 As the warm, moist air rises, it cools. The water in the air then begins to form clouds. The clouds shift with the movement of the air above the surface. As the system spins and builds, the clouds begin to spin and build, as well. The storm system grows, gaining more and more power as warm air and moisture are forced upward from the surface of the ocean.

#### Stage 4: Wind Rotation

- 9 The combination of strong winds and evaporation causes the air to spiral. The air begins to spin faster, resulting in the development of an **eye** in the center of the growing storm. Inside the eye, the air pressure is very low. Conditions are calm and clear. Outwardly, however, the storm becomes ever more powerful, as higher air pressure rotates around and into the eye of the storm.



4. This cycle continues causing the air to spin faster and faster, forming a hurricane.

3. The warm, moist air cools and forms clouds.

2. The rising warm air collides with cooler air above, causing the air masses to spiral.

1. Warm ocean water rises and begins to evaporate.

### CITE EVIDENCE

**C** On this page, the author clearly details a sequential structure. Put an asterisk by each step in the sequence.

**D** In paragraph 7, the author notes the importance of "a constant cycle of air pressure." Double underline the cause of this cycle.

**E** In paragraph 9, double underline two sentences that show a causal relationship. How do a sequential structure and a causal structure work together in this part of the text?

### Comprehension Check

How does the illustration of the steps in the development of a hurricane contribute to your understanding of the text?

## Guided Instruction

RI.7.5

## WORDS TO KNOW

apprised  
classified  
infrared  
storm surge

## CITE EVIDENCE

**A** Information that has a **comparative structure** shows how details are similar to or different from each other. Put a box around the block of information on this page that focuses on technical differences among hurricanes.

**B** Throughout this technical text, the author has provided clear direction as to how each subsection will be organized. Circle the two lines of text that help readers recognize the structure of this page.

Hurricanes Earth's Most Violent Storms *continued***The Stages of Hurricane Development (continued)***Stage 5: Dissipation*

- 10 As the hurricane reaches land, it begins to weaken. Without the evaporation cycles of the ocean waters, hurricanes lose the conditions needed to build force, and the system dissipates. However, it is often days before the hurricane completely dies out. It will typically move farther inland, leaving extensive rain and wind damage in its wake.

**Hurricane Classification**

- 11 The intensity and strength of the storm determines its official title. As the winds spiral, reaching speeds of up to 38 miles per hour (mph), the storm is officially **classified** as a "tropical depression." When the strength of the winds in the storm reaches 39 mph, the storm is called a "tropical storm." Once the winds hit 74 mph, the tropical storm officially becomes a hurricane. Scientists refer to all hurricane-like events as "tropical cyclones." This term includes hurricanes, typhoons, and cyclones.
- 12 Scientists also classify hurricanes according to their size and strength. The storm classification also indicates how much damage the storm can be expected to cause once it reaches land. This damage is assessed according to the height of the **storm surge**—that is, the rise of the ocean water onto the shoreline. The classifications are as follows:
- Category 1: wind speeds of 74–95 mph; storm surge heights of 4–5 feet
  - Category 2: wind speeds of 96–110 mph; storm surges of 6–8 feet
  - Category 3: wind speeds of 111–130 mph; storm surges of 9–12 feet
  - Category 4: wind speeds of 131–155 mph; storm surges of 13–18 feet
  - Category 5: wind speeds greater than 155 mph; storm surges greater than 19 feet in height



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- 13 Although Category 4 and 5 hurricanes are comparatively rare, they cause considerable destruction whenever they reach land. Hurricane Katrina, a Category 4 hurricane, hit the Gulf Coast of the United States in 2005, leaving behind it communities shattered by its sheer force. Katrina reached 400 miles across and hit wind speeds of more than 125 mph. Storm surges from Katrina reached 14 feet high in some coastal areas and more than 28 feet high in New Orleans, Louisiana. More than 1,800 people died, either during the storm or as neighborhoods attempted to recover in the weeks following Katrina's arrival. It is estimated that Katrina caused some \$81 billion in property damage.



### Studying Hurricanes

- 14 In an effort to better understand and predict the movements of hurricanes, scientists study the creation, life cycle, and intensity of the storms. Meteorologists, or scientists who study atmospheric processes, use satellite technology to gather remote data on hurricanes. Additionally, scientists look at surface data gathered by specially equipped aircraft. Weather centers track and monitor hurricanes and other extreme weather events in order to keep the public **apprised** of developing concerns.
- 15 One of the most important methods of gathering data on hurricanes is through the use of weather satellites. These satellites track the movements of hurricanes, as well as atmospheric changes that occur within the storms. The satellites monitor cloud movements and air circulation patterns. They also track the rainfall, air speed, and precipitation generated by the storm. Typically, weather satellites are equipped with **infrared** sensors. These sensors allow meteorologists to monitor temperatures in the hurricane. Within the last 15 years, scientists have been able to use these data to identify important patterns in hurricane intensity and relative humidity.

### CITE EVIDENCE

**C** In paragraph 13, the author adds more specific details to the comparison of wind speeds and storm surges than in the previous paragraph. Underline the details that further illustrate this comparison.

**D** In paragraphs 14 and 15, the author changes the structure of the text. Circle the text that specifies you are reading a new section of the piece. What purpose do these two paragraphs serve in the overall structure of the text?

### Comprehension Check

So far, how has the structure of the text helped you understand the topic of hurricanes?

## Guided Practice

RI.7.5, RST.7.3, RST.7.6

## WORDS TO KNOW

bulb

condensation

hygrometer

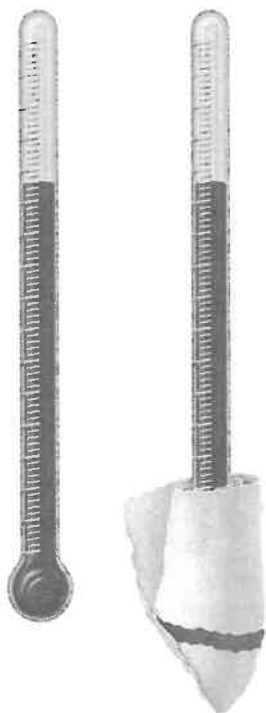
relative humidity

saturation

## CITE EVIDENCE

**A** This page is organized with one main heading, one subheading, and one title. Identify and underline each of these items.

**B** Circle the sentence that introduces the step-by-step procedure on this page. Discuss with a partner how you would complete the experiment and why the author included the experiment in the text.

Hurricanes Earth's Most Violent Storms *continued*

## Relative Humidity

- 16 The term **relative humidity** refers to the amount of water that is actually in the air. The rate of evaporation of water into the atmosphere is not consistent. As evaporation speeds up or slows down, the percentage of water in the air changes. This percentage is called relative humidity.
- 17 When meteorologists calculate relative humidity, they look at the rate of evaporation in the atmosphere. They then compare this rate of evaporation to the maximum, or **saturation**, rate for the existing temperature. They make this calculation using a special device called a **hygrometer**. When the relative humidity is at 100%, the air is full of water. As more water evaporates, an equal amount of water condenses, or collects. You can see evidence of **condensation** in the presence of clouds and fog.
- 18 Conversely, a lower percentage of relative humidity indicates that water is evaporating more quickly than it is condensing. Desert climates experience very low percentages of relative humidity and very high speeds of evaporation.
- 19 **Learn About Relative Humidity** Relative humidity can be better understood through a simple, at-home experiment:

## Temperature and Relative Humidity

## Materials Needed:

- two household thermometers
- paper towels or pieces of cloth
- water at room temperature
- paper and pen for recording results

## Procedures

- a. Place one of the thermometers on the work surface. This is the dry **bulb** thermometer.
- b. Thoroughly wet the piece of cloth or paper towel in the water.
- c. Wrap the wet cloth around the bulb end of the other thermometer. This is the wet bulb thermometer.
- d. Place the wet bulb thermometer near the dry bulb thermometer.
- e. Record the temperatures indicated on each thermometer.
- f. Wait 5 minutes.

- g. Record the temperature on each thermometer again.
- h. Continue to record the temperatures in 5-minute intervals. Do this for a total of 20 minutes or until the wet bulb temperature holds steady.

### Comprehension Check

- Which organizational structure has appeared in this article so far?
  - comparative
  - sequential
  - causal
  - all of the above
- What is the author's purpose in including the subsection "Learn About Relative Humidity"?
  - to encourage young readers to pursue a career in meteorology
  - to provide a hands-on representation of a scientific concept
  - to demonstrate advanced scientific theories through experimentation
  - to indicate a change in the overall structure of the text
- What is the purpose of the illustration on page 180?
  - to show what the experiment should look like when performed correctly
  - to reveal to readers the results of the experiment
  - to emphasize that many tools that meteorologists use are quite simple
  - none of the above
- The experiment on pages 180–181 has a structure that is primarily
  - comparative.
  - sequential.
  - causal.
  - all of the above
- Suppose you did not perform the experiment on these pages. Would merely reading about the experiments be as effective as conducting the experiments yourself? What do the experiments contribute to the text? Compare answers with a partner and explain your thoughts.

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# ANALYZING TEXT STRUCTURE

## Independent Practice

RI.7.5, RST.7.6

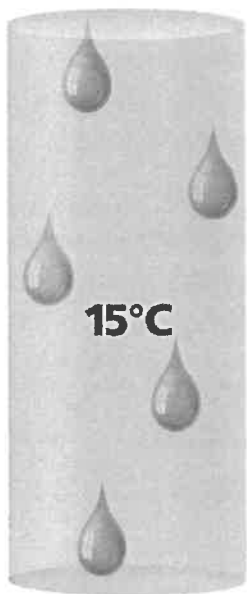
### WORDS TO KNOW

awe  
propulsion  
theorized  
ventured

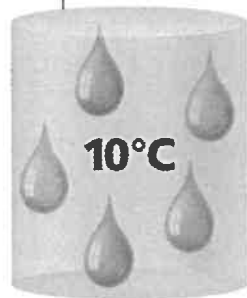
### CITE EVIDENCE

**A** Paragraphs 22 and 23 relate to the relative humidity experiment. Circle the text that indicates this relationship.

**B** Double underline a causal relationship in paragraph 24. What purpose do paragraphs 24 and 25 serve in the overall structure of this text?



25% Relative humidity



50% Relative humidity



100% Relative humidity

## Hurricanes Earth's Most Violent Storms *continued*

### Interpreting the Data

- 20 Look at the differences between the temperatures recorded for the wet bulb thermometer and the dry bulb thermometer. A large difference between the temperatures means that evaporation is occurring quickly. Consequently, the relative humidity in the air is low.
- 21 A small difference between the temperatures means that the water around the wet bulb is not evaporating quickly. The air is already heavy with moisture. Any new water attempting to enter the atmosphere must become condensation. The percentage of relative humidity is high.

### Hurricanes and Relative Humidity

- 22 Since hurricanes develop through the evaporation of warm moisture into the air, scientists have **theorized** that hurricane intensity may be related to relative humidity. In 2012, scientists from NASA's Jet **Propulsion** Laboratory in Pasadena, California, published the results of an eight-year study. The study analyzed the relationship between hurricane intensity and relative humidity.
- 23 After studying data gathered between 2002 and 2010, scientists determined that hurricanes that intensify quickly exist in environments with higher levels of relative humidity. In contrast, hurricanes that were weakening did so in environments with lower levels of relative humidity. These data represent one of the first times scientists have **ventured** to study the intensity of hurricane systems rather than just the storms' development and life cycle.
- 24 Hurricanes present one of the most awesome displays of nature's fury on Earth. From their initial stages of development, through their slow movement across the ocean, they are studied by scientists so that we might have a better understanding of these amazing storms.

- 25 The better we understand hurricanes, the more we can predict their behaviors and, therefore, provide sufficient warning to those in their path. With continued study and greater understanding, perhaps someday we can find ways to avoid the destruction of a hurricane without lessening our **awe** of its power.

## Comprehension Check

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- Overall, how is the information in this technical text presented?
  - sequentially
  - comparatively
  - causally
  - none of the above
- What is the author's purpose for summarizing the experiment in paragraphs 20 and 21?
  - to encourage readers to complete the experiment
  - to relate the results of the experiment to the overall topic of the article
  - to present theories that could be explored through an additional experiment
  - to give an opinion about ideas related to the experiment
- Throughout the text, the author indicates changes in topic through the use of
  - large section headings.
  - subsection headings.
  - titles for special elements.
  - all of the above
- What is the main purpose of the diagrams and photographs included in the text?
  - to keep readers interested in the subject matter
  - to provide visual support for the concepts being discussed
  - to introduce readers to new and unfamiliar ideas
  - to change the structure of the text
- How did the overall structure of this text contribute to your understanding of the material? Cite evidence to support your answer.

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