

Unit 5/Week 5

Title: Hurricanes¹

Suggested Time: 5 days (45 minutes/day)

Common Core ELA Standards: RI.5.1, RI.5.2, RI.5.3, RI.5.9; W.5.2 W.5.4, W.5.9; SL.5.1; L.5.1, L.5.2

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Teacher Instructions

Refer to the Introduction for further details.

Before Teaching

1. Read the Big Ideas and Key Understandings and the Synopsis. Please do **not** read this to the students. This is a description for teachers, about the big ideas and key understanding that students should take away **after** completing this task.

Big Ideas and Key Understandings

By researching natural disasters like hurricanes, scientists can learn about how to help save human lives.

¹ *This story is a “duplicate.” (It is found in other basals, as well.) This particular revision was completed by a teacher who uses a different basal, so the page numbers have been removed. This may require you to make some adjustments/add page numbers to some of the questions.*

Synopsis

This nonfiction story presents facts and details about how and where hurricanes are formed, the ways in which people are warned of hurricanes, and tips on how to stay safe during a hurricane. Hurricanes are the only weather disasters that have been given their own names.

2. Read entire main selection text, keeping in mind the Big Ideas and Key Understandings.
3. Re-read the main selection text while noting the stopping points for the Text Dependent Questions and teaching Vocabulary.

During Teaching

1. Students read the entire main selection text independently.
2. Teacher reads the main selection text aloud with students following along. (Depending on how complex the text is and the amount of support needed by students, the teacher may choose to reverse the order of steps 1 and 2.)
3. Students and teacher re-read the text while stopping to respond to and discuss the questions and returning to the text. A variety of methods can be used to structure the reading and discussion (i.e.: whole class discussion, think-pair-share, independent written response, group work, etc.)

Text Dependent Questions

Text-dependent Questions	Evidence-based Answers
In the first sentence on page ____, the author writes, "Hurricanes are huge spinning storms that develop in warm areas around the equator." Why are islands and coastal areas in the most danger during a hurricane?	The strong winds of a hurricane would create large waves. Coastal areas and islands would suffer both wind and water damage.
Reread page ____. Using evidence from the text, list some of the things that people can expect if they are in a hurricane.	People can expect strong winds, heavy rains, storm surges, flooding, and sometimes tornadoes.

<p>Use the descriptive details on page ___ to explain the origin of the word hurricane. Include facts and characteristics from the article in your answer.</p>	<p>The word hurricane comes from the people who lived in the Tropics in earlier times. The ancient Mayan people of South and Central America called their storm god Hunraken. An evil god of the Taino people of the Caribbean was called Huracan. Hurricanes are not really evil, but they can cause terrible destruction and great loss of life.</p>
<p>Reread the first two paragraphs on page ____. Describe each step in the formation of a hurricane.</p>	<p>First, the atmosphere gathers heat energy. Next, moisture enters the atmosphere and begins to power the hurricane. Then, the hurricane forms bands of clouds and winds that spiral inward. After that, thunderstorms form, heating the air and forcing the winds to rise higher and the spinning to increase.</p>
<p>Explain why Hurricane Andrew was so destructive.</p>	<p>Hurricane Andrew dropped about seven inches of rain across Florida, it caused storm tides reaching seventeen feet, and had wind speeds of 120 miles per hour. Thousands of people lost their homes.</p>
<p>Why is Doppler radar a valuable tool for the National Hurricane Center and the NOAA.</p>	<p>The Doppler radar can quickly detect changes in a hurricane's wind and location. It can also tell the path, speed, and strength of the hurricane.</p>
<p>If you are ever caught in a hurricane, what does the author advise that you should do to keep as safe as possible?</p>	<p>Listen for updates from the NOAA, leave if told to leave the area, stay away from moving water, don't play in flooded areas, use a flashlight for emergency lighting instead of a candle or lantern because of fire hazards, use only bottled water as tap water may be contaminated, and use the telephone only for emergencies.</p>
<p>The text says that hurricanes are a fact of life, but we are saving lives. Use information from the text and cite factors that contributed to fewer lives being lost in hurricanes.</p>	<p>Page ___ - Doppler radar can quickly detect changes in hurricane Page ___ - National Weather Service (NWS) radios can give immediate information about hurricanes Page ___ - Early warnings</p>

Vocabulary

	KEY WORDS ESSENTIAL TO UNDERSTANDING	WORDS WORTH KNOWING General teaching suggestions are provided in the Introduction
<p>TEACHER PROVIDES DEFINITION not enough contextual clues provided in the text</p>	<p>*Please note there are a number of Tier III, domain-specific words pertaining to storms in this story that will need to be addressed with students; however, they are not listed in this vocabulary chart, as this chart only focuses on Tier II words.</p>	<p>Page - destruction Page - atmosphere, contact, property Page - damages Page - available Page - surge</p>
<p>STUDENTS FIGURE OUT THE MEANING sufficient context clues are provided in the text</p>		

Culminating Task

- Re-Read, Think, Discuss, Write
- *Through years of research and observing hurricanes, scientists have found ways to provide us with information about how hurricanes form, what they can do when they hit land, and how people can stay as safe as they can during a hurricane. Using evidence from the text, create a short book of illustrations to show:*
 - *The formation of a hurricane over the ocean,*
 - *What happens when that hurricane hits land, and*
 - *What people should do in order to stay safe.*

Each of the illustrations must be detailed, labeled, and use details from the text to support it.

Additional Tasks

- *Use the Internet to research (from multiple sources) the ways in which communities learn to protect themselves from future natural disasters. Select a natural disaster that hit your community or nearby area. Make a chart to explain safety measures that have gone into effect since the disaster occurred.*
- *Research an infamous hurricane such as Camille in 1969 or Katrina in 2005. Using multiple sources, write a magazine article about its effects. Give specific details about where the event happened, when the event happened, how many people lost their lives or were injured, and what the property damage was.*

Answer: Students should be given an article template to use for their article. To help with scaffolding, students should read articles in the newspaper to help with how their article should be formatted. To extend this activity, students can give accounts from survivors and they can also create a class book about weather-related disasters.

Hurricane in a Bottle:Materials Needed:

- Two plastic soda bottles (1 or 2 liter size)
- Pitcher of water
- Stopwatch or watch with a second hand to record your times
- Tornado Tube

Instructions:

- Fill the soda bottle to the top with water. If you do not have access to a sink nearby to use a large pitcher to fill the bottle.
- Here's the challenge: How long will it take to empty all of the water in the bottle into the pitcher on the table? Record your prediction on a piece of paper.
- Without squeezing the sides of the bottle, time how long it takes to empty all of the water. You might want to repeat this several times to validate your time.
- Fill the bottle to the top with water just as you did before. However, this time swirl the water by moving the bottle in a clockwise or counter-clockwise motion while the water is pouring out. Keep swirling the water until you see the formation of what looks to be a tornado! The water begins to swirl in the shape of a vortex and flows out of the bottle very quickly. To everyone's amazement, you have now created a hurricane!

Note to Teacher

- Please see the note in the vocabulary chart.
- Students could be given some background information on recent hurricanes such as Sandy and Isaac.

Name _____ Date _____

“Hurricanes”

1. In the first sentence on page ____, the author writes, “Hurricanes are huge spinning storms that develop in warm areas around the equator.” Why are islands and coastal areas in the most danger during a hurricane?

2. Reread page ____. Using evidence from the text, list some of the things that people can expect if they are in a hurricane.

3. Use the descriptive details on page ____ to explain the origin of the word hurricane. Include facts and characteristics from the article in your answer.

4. Reread the first two paragraphs on page ____. Describe each step in the formation of a hurricane.

