

# LESSON 5 Hurricane Warning

## Lesson at a Glance

Through news reports, radar, and satellite images, students monitor a hurricane from hurricane watch, to hurricane warning, to actual hurricane. They then write a hurricane story to describe what happens as a hurricane nears shore, including coming to shore. Upon completion of the story, students complete the remaining part of the K-W-L chart.

## Lesson Duration:

Two 45-minute periods

## Essential Question(s)

What do we do during a hurricane watch?

What do we do during a hurricane warning?

What do we do during a hurricane?

## Key Concepts

- A hurricane watch goes into effect 48 hours before hurricane conditions are expected.
- A hurricane warning goes into effect 36 hours before hurricane conditions are expected.
- A hurricane typically has high winds, heavy rains, and damage to property.

## Instructional Objectives

- I can create a story to describe the events leading up to a hurricane in words and pictures.
- I can write a story to describe in detail what occurs during a hurricane.
- I can observe radar and satellite images and use observational details in my illustrations of a hurricane watch, warning, and an actual hurricane.

## Related HCPS III Benchmark(s):

Science SC 3.2.1  
Describe ways technologies in fields such as agriculture, information, manufacturing or communication have influenced society.

Language Arts LA 3.4.1  
Write in a variety of grade-appropriate formats for a variety of purposes and audiences.

Language Arts LA.3.5.1  
Add details, descriptions, and information from different sources to elaborate meaning.

Fine Arts FA.3.1.3 Use observational skills in creating an original work of art.



## Assessment Tools

### Benchmark Rubric:

Topic		<b>Science, Technology, and Society</b>	
<b>Benchmark</b> <a href="#">SC.3.2.1</a>		Describe ways technologies in fields such as agriculture, information, manufacturing, or communication have influenced society	
Rubric			
Advanced	Proficient	Partially Proficient	Novice
Compare how technologies in various fields have influenced society	Describe ways technologies in fields such as agriculture, information, manufacturing, or communication have influenced society	Identify, with assistance, ways that technologies have influenced society	Recall that technologies have influenced society

Topic		<b>Range of Writing</b>	
<b>Benchmark</b> <a href="#">LA.3.4.1</a>		Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as: <ul style="list-style-type: none"> <li>• stories with a beginning, middle, and end and poems with sensory details</li> <li>• short reports on content area topics</li> <li>• pieces related to completing tasks</li> <li>• friendly letters</li> <li>• responses to literature</li> <li>• pieces to reflect on learning and to solve problems</li> </ul>	
Rubric			
Advanced	Proficient	Partially Proficient	Novice
Insightfully adapt writing to grade-appropriate formats for a variety of purposes and audiences	Adapt writing to grade-appropriate formats for a variety of purposes and audiences	Write with some adaptation to grade-appropriate formats for a variety of purposes and audiences	Write with little adaptation to grade-appropriate formats for a variety of purposes and audiences

Topic		<b>Meaning</b>	
<b>Benchmark</b> <a href="#">LA.3.5.1</a>		Add details, descriptions, and information from different sources to elaborate meaning	
Rubric			
Advanced	Proficient	Partially Proficient	Novice
Add relevant details, descriptions, and information from different sources that insightfully elaborate meaning	Add relevant details, descriptions, and information from different sources that elaborate meaning	Add some trivial details, descriptions, and information from different sources that relate to but do not elaborate meaning	Add irrelevant or very few details, descriptions, and information from different sources that do not elaborate meaning

Topic		<b>How the Arts Communicate</b>	
<b>Benchmark</b> <a href="#">FA.3.1.3</a>		<b>Use observational skills in creating an original work of art</b>	
Rubric			
Advanced	Proficient	Partially Proficient	Novice
Consistently use observational skills in creating an original work of art	Usually use observational skills in creating an original work of art	Sometimes use observational skills in creating an original work of art	Rarely use observational skills in creating an original work of art



## Assessment/Evidence Pieces

### Lesson

- *Unit Self-Assessment* (found at beginning of unit)

## Materials Needed

Teacher	Class	Group	Student
<ul style="list-style-type: none"> <li>• Method to present PowerPoint</li> <li>• PowerPoint <i>Hurricane Slideshow</i></li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• 8.5" x 11" white paper (5 sheets per student)</li> <li>• Colored pencils, crayons or other drawing material</li> <li>• KWL sheet from Lesson 1</li> </ul>

## Instructional Resources

Teacher Reading: *Hurricane Watches and Warnings*

Teacher Reading: *Weather Reports*

PowerPoint: *Hurricane Slideshow*

*Unit Self-Assessment* (found at beginning of unit)

Supplemental Resource: *Predicting and Tracking Hurricanes Interactive Game (CD-ROM)*

## Student Vocabulary Words

**hurricane:** a severe tropical cyclone with maximum sustained surface wind (using the U.S. 1-minute average) is 74 mph or 119 km/hr or more, heavy rains, enormous waves, and subsequent flooding that can damage buildings and beaches. It is an area of low pressure around which winds blow counterclockwise in the Northern Hemisphere. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. The term cyclone is used for Indian Ocean tropical cyclones.

**hurricane watch:** an announcement of possible hurricane conditions within 48 hours.

**hurricane warning:** a warning of possible hurricane conditions within 36 hours.

## Lesson Plan

### Lesson Preparation

- Review the Science Background provided in the Unit's Overview and the Teacher Readings *Hurricane Watches and Warnings* and *Weather Reports*.
- Prepare and post a list of the *I Can* statements for the lesson.

### I. *Hurricane Watches, Hurricane Warnings and an actual Hurricane*

- Review with students the Instructional Objective "*I can*" statement posted on the wall.
- Ask the small groups to brainstorm on what they think they should do during a hurricane watch, a hurricane warning and during a hurricane. Have students share in a class discussion. This discussion may give the teacher some insight into any misconceptions and/or missing information that students have regarding what to do during a hurricane watch or warning, and during a hurricane.

- C. Read the Teacher Reading *Weather Reports*, News Bulletin: *A Hurricane Watch Has Been Issued* out loud to the whole class. Then show the students PowerPoint: *Hurricane Slideshow*. Then ask them questions at the bottom of the slides. Accept a variety of responses from students.
- D. Divide students into groups of four. The groups job is to discuss what they would do when a hurricane watch is issued. Within each group, assign roles such as:
  - 1) note taker/recorder: Takes notes on the group discussion.
  - 2) reporter: Gives an oral summary of the group's work to the whole class.
- E. Have the reporters summarize their group discussion on what they would do during a hurricane watch. Record their ideas on the board or overhead.
- F. Emphasize that the most important things for students to do during a hurricane watch are pay attention and make a plan, which they did in the last lesson (Lesson 4. Hurricane Preparedness). The most important things for students to do during a hurricane warning is to carry out their plan and stay in a safe area. They need to listen to the news and weather reports to hear about the storm and take appropriate action.

## II. *The Hurricane Story*

- A. Distribute 8.5" x 11" white paper, colored pencils, and crayons to students. Ask students to write a story on the paper about the approach of a hurricane using the vocabulary they have learned in this unit, including these elements: technology used to track hurricanes, what is a hurricane watch, what is hurricane warning, and the effects of a hurricane on people and property. May want to discuss and list vocabulary on the board for student reference as they create their story.
- B. Ask students to illustrate their stories with their own drawings or with images from NOAA using the photo library (<http://www.photolib.noaa.gov/nws/hurr1.html>) as classroom computer resources permit. Tell students that for every image they select, they need to write down the name of the resource as well as the complete URL.
- C. If time permits, read some of the stories out loud, sharing the pictures as well. To meet the oral presentation benchmarks in the Language Arts standards, you may also have students present their stories to the class.

## III. *The K-W-L Chart*

- A. Discuss with students what they learned about hurricane watches and hurricane warnings. Ask students to add what they learned to the right column of the K-W-L chart.
- B. Discuss with students what they learned about preparing for hurricane hazards. Encourage students to add to or modify what they wrote in the L column. You may want to have them date what they write so that their progress may be tracked over the course of the unit.
- C. Discuss with students what they still want to learn about hurricanes. Students may also want to add these questions to their W section. You may also want them to date these additions as well to monitor their progress over the course of the unit.
- D. Tell students that they will have the opportunity to educate others about hurricanes in the next lesson.

## Extended Activities

1. Students may also want to view additional photos of hurricanes, which can be found in the NOAA Photo Library <http://www.photolib.noaa.gov/nws/hurr1.html>. They may find these photos helpful to give them ideas for their stories or even to use as illustrations.
2. Students may want more information on Hawai'i and hurricanes from the Central Pacific Hurricane Center Weather Operations Slide Show: [http://www.prh.noaa.gov/cphc/pages/presentations/Hurricane\\_Preparedness\\_Talk\\_May\\_24\\_2007.ppt#336.1.Slide\\_1](http://www.prh.noaa.gov/cphc/pages/presentations/Hurricane_Preparedness_Talk_May_24_2007.ppt#336.1.Slide_1) (The originating website for this slideshow is [www.prh.noaa.gov](http://www.prh.noaa.gov) )

# LESSON 5 Teacher Reading

## Hurricane Watches and Warnings

The Central Pacific Hurricane Center (CPHC) issues warnings and watches as well as advisories and forecasts when hurricanes form in the Central Pacific or move into the Central Pacific. Hurricane watches are issued when hurricane conditions are expected within 48 hours. Hurricane warnings are issued when hurricane conditions are expected within 36 hours.

According to FEMA, once a hurricane watch or warning is issued (that is, before a hurricane), residents should secure their property with storm shutters or by boarding up windows. They should make sure trees and shrubs are trimmed and clear rain gutters. Shutters, garage doors, trees and shrubs can come loose during a hurricane and become a flying hazard.

It is very important the residents prepare to have supplies for 5 to 7 days on hand, including water, food, flashlights, radios and batteries. Many residents immediately expect the state or federal government to step in after a hurricane, but it is important to realize that individual residents should be prepared.

Once a hurricane strikes, it is important to listen to your TV or radio. Residents should make sure their homes are secure and follow all instructions including turning off utilities if asked to do so. It is important to make sure there is an adequate supply of freshwater on hand at all times. In order to do so, they should fill the bathtub and other containers around the house. During the hurricane, residents should make sure that they are in a safe place and not venture outdoors.

**Sources:**

[http://www.fema.gov/hazard/hurricane/hu\\_during.shtm](http://www.fema.gov/hazard/hurricane/hu_during.shtm) and  
[http://www.fema.gov/hazard/hurricane/hu\\_before.shtm](http://www.fema.gov/hazard/hurricane/hu_before.shtm)

# LESSON 5 Teacher Reading

## Weather Reports

For purposes of this lesson, which is designed to simulate the step-by-step approach of a hurricane toward the Hawaiian islands, the following news bulletin, weather report, and weather alert samples are to be read aloud (in parts), before projecting the PowerPoint slideshow: *Hurricane*.

### **News Bulletin: A Hurricane Watch Has Been Issued**

A hurricane watch has been issued for the islands of Hawai‘i. Residents are advised to prepare for a possible hurricane on (insert two days from present here). Winds in the hurricane have reached over 73 miles per hour.

### **Weather Report Update: Hurricane Warning**

A hurricane warning has been issued for the islands of Hawai‘i. Residents are advised to prepare for a possible hurricane on (insert next day here). Winds in the hurricane have reached over 100 miles per hour.

### **Weather Alert: Hurricane**

A hurricane is now passing over the Big Island of Hawai‘i. Residents are advised to stay inside. Winds may reach 120 miles per hour at times. Stay close to your radio for updates and follow the instructions of emergency personnel.

