

## Chapter 11: Dealing with Extreme Weather: Hurricanes in the Caribbean

Essential Question: *What causes extreme weather, and how do people deal with it?*

### Overview

In this lesson, students learn about *hurricanes* as an example of extreme weather and how people in the Caribbean deal with this physical phenomenon. In a Visual Discovery activity, students analyze five images that represent key stages in the life of a hurricane: birth, strengthening, tracking, landfall, and aftermath. Students “step into” selected images, using information from their books to bring the images to life. They apply what they have learned by creating a government agency brochure to help citizens plan for and deal with hurricanes in the Caribbean.

### Objectives

Students will

- describe the weather conditions that cause a hurricane to form and strengthen.
- identify ways in which people deal with hurricanes in the Caribbean.
- analyze the relationship between an El Niño and extreme weather around the world.

### Language Objectives:

**1. Vocabulary/Geoterms:** Students will define and explain the importance of these key geographic terms: *El Niño, extreme weather, meteorology, natural disaster, tropical cyclone.*

**2. Speaking and Structured Note Taking:** Students will use the chapter Geoterms orally and in writing while analyzing and discussing *What causes extreme weather, and how do people deal with it?*

## Chapter 11: Dealing with Extreme Weather: Hurricanes in the Caribbean

Essential Question: *What causes extreme weather, and how do people deal with it?*

1<sup>st</sup> DOW NOW

**Do Now: In your group answer and discuss the following questions:**

What are examples of extreme weather in the Boston area? How does the extreme weather impact the lives of the people living in the Boston area? What do you think causes extreme weather? Compare and contrast the effects of extreme weather in places like Boston and the Caribbean.

2<sup>nd</sup> DO NOW

**Do Now: In your group answer and discuss the following questions:**

Extreme weather, like hurricanes, can cause a lot of destruction in city or region. How would you prepare for a hurricane? What would you buy? Hint: think about not having power for at least a week.

## Checking for Understanding Questions: Chapter 11.2

1. Using the information in the “Islands in the Sun” sub-section on pp. 164, describe how the Caribbean islands went from the Taino inhabitants to a tourist attraction.

2. Answer the following questions using the information from the last three paragraphs on pp. 164.

*What is the name for a tropical cyclone in the Caribbean?*

*Where do we get our knowledge of tropical cyclones?*

3. Answer the following questions using the map on pp.165.

*What are the weather conditions southeast (SE) of Cuba?*

*How is the weather in Jamaica and Haiti similar?*

## Checking for Understanding Questions: Chapter 11.3

1. According to the first paragraph on pp. 166, where does the “weather machine” get its energy from?

2. Use specific evidence and data from text on pp.166 to support the following claim: *The sun is the “engine that drives the weather machine.*

3. Answer the following questions using the text and map from pp.166.

*How are **prevailing winds** created?*

*What is the **Coriolis effect**?*

## Checking for Understanding Questions: Chapter 11.3 (PART 2)

1. Use specific evidence from text on pp.167 to support the following claim:

*El Nino is a good example of how changes in prevailing winds and ocean currents can cause extreme weather*

2. Answer the following questions using the map on pp. 167.

*According to the map on pp. 167, which oceans have more tropical cyclones?*

*According to the map on pp. 167, which continents experience the most tropical cyclones?*

*According to the map on pp. 167, which direction do most tropical cyclones travel?*

## **Checking for Understanding Questions: Chapter 11.6/11.7**

1. Answer the following questions using the text from pp.170.

*How do meteorologists decide when a storm becomes a hurricane?*

*What method do meteorologists use to name a hurricane? When is a specific name retired?*

2. Imagine you lived in a beach front house. Meteorologists have predicted a hurricane will make landfall in your city.

*Which Saffir-Simpson scale rating (1-5) would cause you to leave your house and move inland?*

Justify your answer to the hypothetical question using specific evidence from the text and images at the bottom of pages 170 and 171.

Name: \_\_\_\_\_ HR: \_\_\_\_\_ Date: \_\_\_\_\_

**Chapter 11.2: Exit Ticket**  
**Dealing with Extreme Weather: Hurricanes in the Caribbean**

Answer the following questions using evidence from the chapter section: What motivated European colonists to set up plantations in the Caribbean? How do you think tropical cyclones impact the cash crops and tourism in the Caribbean?

Name: \_\_\_\_\_ HR: \_\_\_\_\_ Date: \_\_\_\_\_

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**Chapter 11.3: Exit Ticket**  
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Answer the following questions using evidence from the chapter section: Why do many tropical cyclones form close to the equator?

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**Chapter 11.6/11.7: Exit Ticket**  
**Dealing with Extreme Weather: Hurricanes in the Caribbean**

Answer the following questions using evidence from the chapter section: Why is the Saffir-Simpson scale important for people living in areas where hurricanes occur? What could happen if meteorologist stopped tracking and categorizing hurricanes?

**Chapter 11.6/11.7: Exit Ticket**  
**Dealing with Extreme Weather: Hurricanes in the Caribbean**

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## **Chapter 11 Assessment**

### **Dealing with Extreme Weather: Hurricanes in the Caribbean**

**Introduction:** Extreme weather, like hurricanes, has caused a lot of destruction around the world. Hurricanes are a part of the daily life for people living in regions like the Caribbean. During the last 80 years, meteorologists have been studying extreme weather and have developed effective methods to help prevent major disasters. Using the information we have gathered from the Chapter 11 text, you are going to write a persuasive essay that shows the benefits of studying extreme weather.

**Directions:** In this assignment I want you to imagine you are a meteorologist who wants more funding (money) for studying extreme weather. Write a persuasive essay that shows the benefits of studying extreme weather.

Be sure to address the following questions in your essay:

1. How are people affected by extreme weather?
2. What kind of destruction can result from extreme weather, like hurricanes?
3. How are meteorologists helping prevent major destruction from extreme weather like hurricanes?

#### **Grading Rubric:**

As with our other essays, your essay will be graded on accuracy, clarity and engagement.

**Accuracy:** 10 Points (each item is worth 5 points)

\_\_\_\_\_ Essay correctly identifies at least two pieces of evidence from the text.

\_\_\_\_\_ There is at least one strong quote from the textbook that is used correctly.

**Clarity and Engagement:** 10 Points

\_\_\_\_\_ Essay is clearly written with complete sentences and correctly uses key geography terms. (This includes using the words 'their' and 'there'.)







## Geoterms

**El Niño** a warm ocean current that flows off the west coast of South America every few years. An El Niño event changes weather patterns around the world. It may also cause extreme weather in some regions.

**extreme weather** severe or unusual weather conditions, such as hurricanes, tornadoes, and blizzards

**meteorology** the scientific study of climate and weather patterns

**natural disaster** great destruction or loss of life caused by natural forces rather than by human actions

**tropical cyclone** a severe storm with high winds that spiral around a calm center. Depending on where they form, tropical cyclones are called *hurricanes*, *typhoons*, or *cyclones*.