



Preparing for Hurricanes

PLEASE NOTE:

Students must complete the “Initiation” section of the **Monster Guard** app before they begin this activity, in order to gain access to the Hurricane training mission.



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Opening

Inform students that they are going to learn about hurricanes and how to stay safe when a hurricane happens. Ask students to raise their hands if they know what a hurricane is. Then ask them if they have ever seen a hurricane (even on TV). Assess for prior knowledge by asking students to share what they know about hurricanes (e.g. what did you see on TV, what is a hurricane?). Explain that a hurricane is a huge storm! It can be up to 600 miles across and has strong winds spiraling inward and upward at speeds of 75 to 200 mph.

Monster Guard

Tell students that the class will be learning more about hurricanes with a cool app called **Monster Guard**. Explain that **Monster Guard** was created by the American Red Cross as a way for students to have fun learning, practicing, and sharing how to stay safe during different types of emergencies.

Adapt your teaching instructions to the various methods of playing **Monster Guard** – whether you are using a smart board to play as a class or having students play in small groups or individually using mobile devices.

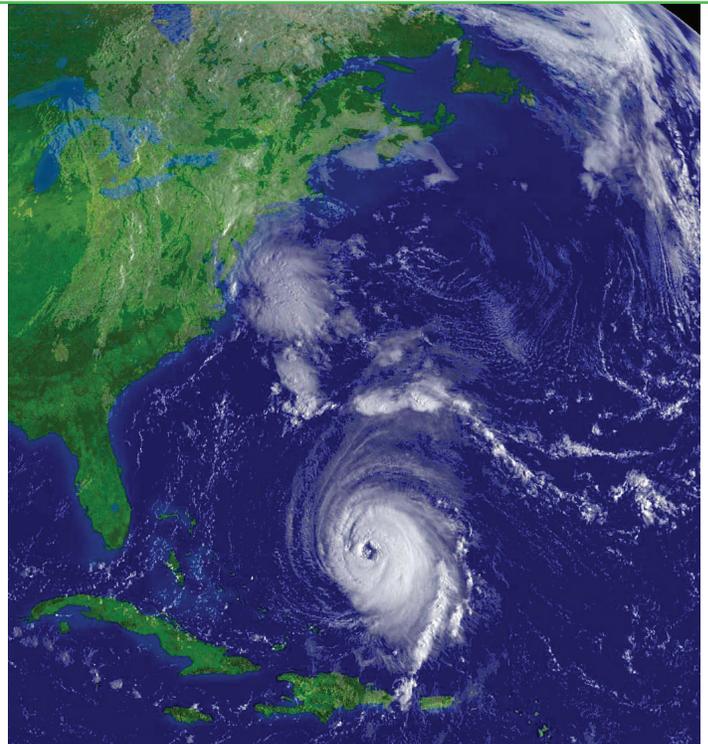
Before they begin playing, remind students that they need to watch the videos before and after the training mission for information that will help them complete the classroom activities.

Pass out the activity sheet, read the introduction together, and have students go through the Hurricane training mission with Greta. Remind them to write their score in the space provided on the activity sheet. As a class, have students suggest ways they think they could raise their scores.

Grades 1-3

PART 1. Read the introduction to Part 1 of the activity. Review the hurricane tracking map and have students work individually to mark the path of Hurricane Charley. Then work as a class to identify the places that weather forecasters, called meteorologists, would have warned as the hurricane traveled from the Caribbean Sea up the Atlantic coastline. Point out to students that hurricanes can travel very long distances in just a day, as Charley did on August 13-16, which means that forecasters must look far ahead when they issue their Hurricane Watches and Warnings.

Answers: Aug 9-Venezuela, Colombia; Aug 10-Puerto Rico, Dominican Republic, Haiti, Jamaica; Aug 11-Haiti, Jamaica, Cuba, Nicaragua, Honduras; Aug 12-Cuba, Mexico, Florida; Aug 13-Florida, Georgia, Alabama; Aug 14-Georgia, South Carolina, North Carolina, Virginia, Washington DC, Maryland, Delaware; Aug 15-Maryland, Delaware, Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, Massachusetts; Aug 16-Maine, New Brunswick, Nova Scotia. (In reality, Hurricane Charley had weakened to a low pressure system by this date.)



Continued on next page

PART 2. Have students work individually to complete Part 2 of the activity. Remind them that they can replay the **Monster Guard** Hurricane training mission if they need help. Review the answers in a class discussion.

Answers: A three-day supply of canned food; A three-day supply of bottled water; An emergency supplies kit.



Grades 4-6

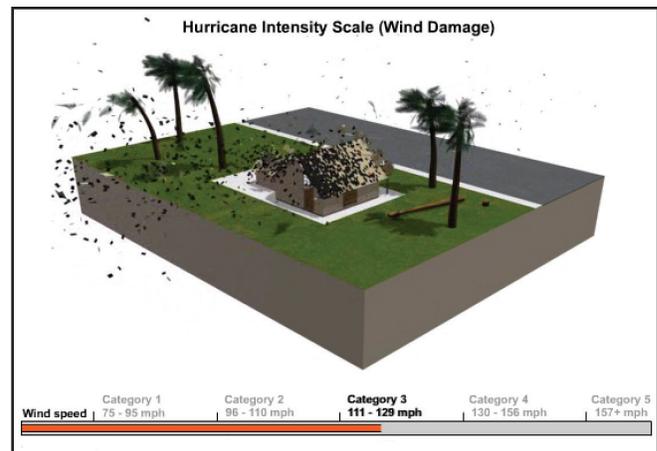
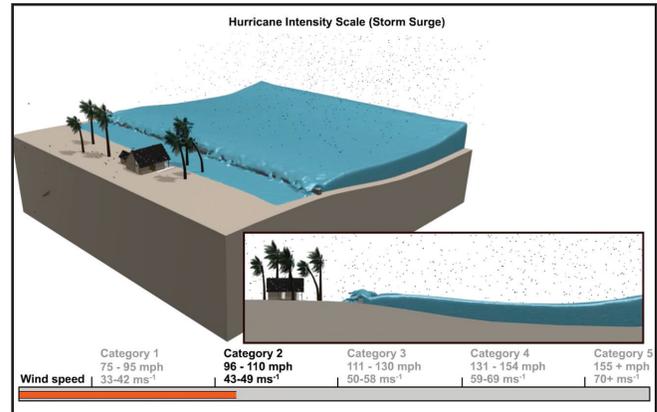
PART 1. Read the introduction to Part 1 of the activity. Have students view the storm surge animation at <https://youtu.be/b4ZhjwbNTXk> and the hurricane winds animation at www.nhc.noaa.gov/animations/images/hurricane_winddamage.swf. Explain that a *storm surge* is an abnormal rise of water generated by a storm, over and above the predicted astronomical tide.

Point out that both animations have a scale at the bottom that tracks the progression through more and more powerful hurricanes. (Students can visit www.nhc.noaa.gov/aboutsshws.php to learn about this Saffir-Simpson scale, which measures hurricane strength based on wind speed.) Ask students to take notes comparing the damage caused by wind and water, then have students work in small groups to brainstorm ideas for reducing the impact of hurricanes on shoreline communities. Schedule time for students to share their ideas in a class discussion.

PART 2. Have students work individually to complete Part 2 of the activity. Remind them that they can replay the **Monster Guard** Hurricane training mission if they need help. Review the answers in a class discussion.

Answers: (1) three, canned food; (2) three, bottled water; (3) supplies kit.

PART 3. Have students work individually or in small groups to complete Part 3 of the activity. Research your town's emergency planning suggestions and tell students how your town is prepared. Then schedule time for students to present their hurricane evacuation fliers to the class.



Teachers:

Please provide feedback on this activity using our online feedback form at www.ymiclassroom.com/mgfeedback-hurricane.



Preparing for Hurricanes

Hi! I'm Greta. In the U.S., hurricanes happen most often along the Atlantic Ocean and Gulf of Mexico coastlines. Want to learn more? Download **Monster Guard**. It's a free app from the American Red Cross that teaches kids how to be prepared for emergencies. Choose "Hurricane" on the main menu. Then join me on a training mission to learn how to get ready when a hurricane is on the way.

Note: You must have completed the **Monster Guard** Initiation section before you can access the Hurricane training mission.

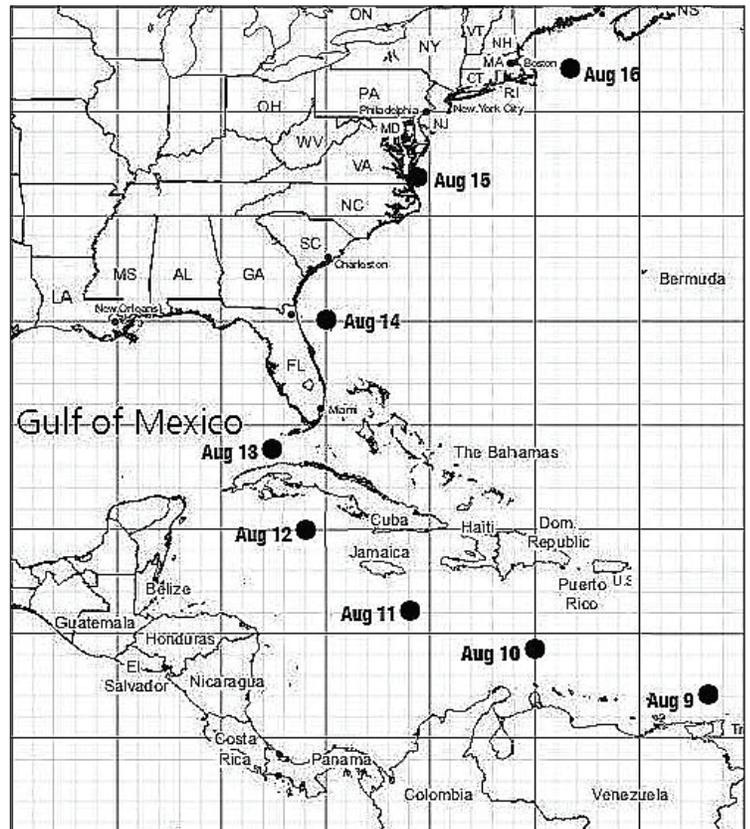
My Hurricane Safety Score: _____



Part 1

A hurricane is a tropical storm with very powerful winds that spin around and around. Every hurricane forms over warm ocean waters. It pulls up the warm air from the ocean surface inside it. The rising warm air helps the wind inside the storm grow stronger and stronger. And as it rises, the warm air creates a growing storm cloud. Strong winds blowing across the ocean push the storm westward and cause it to spin around and around. This speeds up the wind inside the storm and pulls in even more warm, moist air. When the wind speed reaches 74 miles per hour, the storm is called a *hurricane*.

Weather forecasters use satellites to track hurricanes. The forecasters can warn people when a hurricane approaches. Imagine that you are a hurricane tracker. Connect the dots on this map to mark the path of Hurricane Charley day by day. Then fill in the chart with the names of the places you would have warned each day.



Date	Aug 9	Aug 10	Aug 11	Aug 12	Aug 13	Aug 14	Aug 15	Aug 16
Places to Warn								

Preparing for Hurricanes

Part 2

Do you remember your hurricane safety training? It's very important to:

1. stay informed,
2. have a plan, and
3. have an emergency supplies kit (which includes water and food)



Now show what you learned by drawing a line to the picture that shows what you need to take with you when a hurricane is on the way.

A three-day supply of



A three-day supply of



An emergency



Replay the Monster Guard Hurricane training mission. See if you can score higher!



Preparing for Hurricanes

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My Hurricane Safety Score: _____



Part 1

A hurricane is a very large, very powerful spiral-shaped storm. Every hurricane forms over warm ocean waters that heat the air, causing it to rise and pull more warm air up after it. The rising air creates a wind that grows stronger as it pulls still more warm air upward, where the air cools to create a growing storm cloud. Strong winds blowing across the ocean push the storm westward and cause it to rotate, which increases the wind speed and pulls even more warm, moist air into the storm. When the wind speed reaches 74 miles per hour, the storm is called a hurricane.

Hurricanes are most feared for their destructive winds, which can blow down trees and damage homes, but hurricanes also push a large amount of ocean water onto the land, creating a *storm surge* that can wash away roads and buildings. A storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tide. Visit <https://youtu.be/b4ZhjwbNTXk> to view an animation that shows how a storm surge is created, then visit www.nhc.noaa.gov/animations/images/hurricane_winddamage.swf for an animation that shows only the damage caused by increasingly powerful hurricane winds. Use the space below to take notes comparing the impact of wind and water. Then get together with a small group of classmates and use your observations to come up with ideas for reducing the impact of hurricanes on shoreline communities.

Storm Surge Damage	Wind Damage

Preparing for Hurricanes



Part 2

Do you remember your hurricane safety training? Show what you learned by completing this list of things you need to take with you if you have to evacuate when a hurricane is on the way. Write the missing words in the blanks.

1. A _____-day supply of _____.
2. A _____-day supply of _____.
3. An emergency _____.

Part 3

Weather forecasters use satellites to track hurricanes so they can warn people to evacuate when a hurricane approaches. Unfortunately, sometimes people don't want to leave. They may need some help understanding the danger they are in. Using what you have learned about hurricanes, create a flier on the back of this sheet that urges people to evacuate when a hurricane is on the way.

**Replay the
Monster Guard
Hurricane training
mission. See if you
can score higher!**

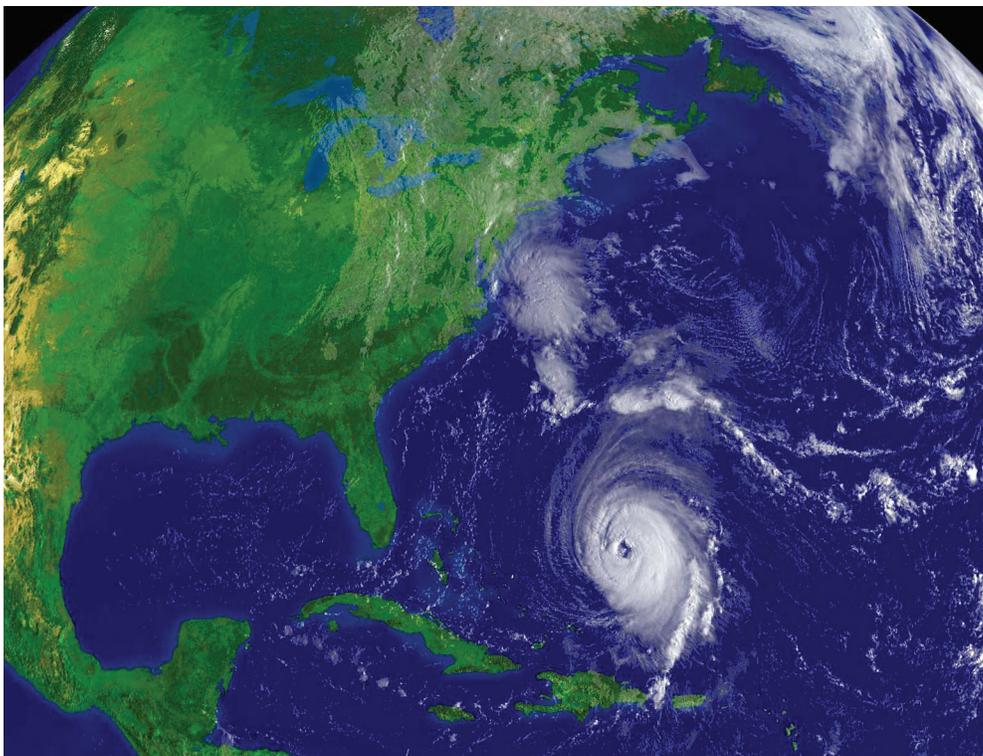


Photo: NOAA

