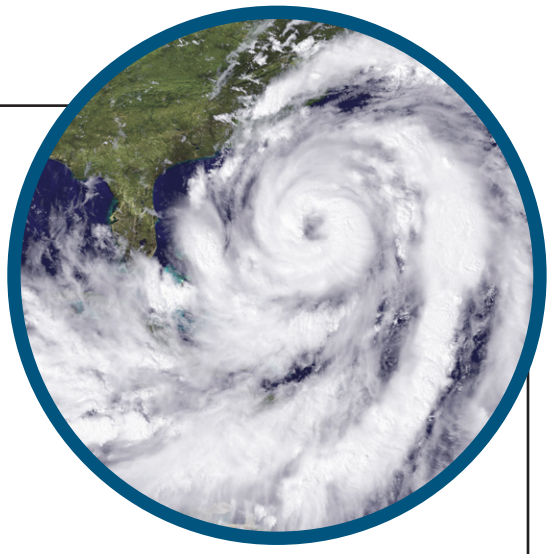
Name: _____



Hurricanes: Nature's Wildest Storms

By Erin Ryan

You may already know that hurricanes are major tropical storms that can cause devastating waves, wind, and rain. They happen during "Hurricane Season," which is from June 1st until November 30th in the Atlantic Ocean and from May 15th until November 30th in the Pacific Ocean. A hurricane that forms in the Atlantic Ocean begins as tropical disturbance. This is a large area of windy thunderstorms that forms

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or wh[illegible]all cyclonic circulation. Next is a tropical depression, which is similar to a tropical disturbance, but has winds between 23 and 39 miles per hour. A tropical storm is the next level, which has stronger wind speeds between 40 and 73 miles per hour. Once winds reach 74 miles per hour, the storm is officially classified as a hurricane. The winds pick up energy from the warm surface ocean water.

Hurricanes rotate counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere. Hurricanes can vary in size and can grow to have a diameter of up to 600 miles, which is longer than the entire state of Florida!

As a hurricane crosses over land, it begins to dissipate, or break apart and reduce in strength. This is because it is no longer over the warm ocean water that it needs for energy. At this point, a hurricane can still cause a lot of damage because of high winds, rain, and flooding, but unless it makes its way back over the open ocean, it is downgraded from a hurricane back to a tropical storm.

Hurricane Dangers

When a hurricane makes landfall, it can be very dangerous along coastlines because of a storm surge, where ocean waters rush onto land. When this is combined with heavy rainfall, there can be devastating floods.

The center of a hurricane is called the eye. While most of a hurricane contains dangerously strong winds, the eye is actually a calm area in the storm. When the eye of a hurricane passes over land, people might think that it's over, but before long the wind and rain increase again as the second part of the hurricane moves through.

Predicting Hurricanes and Protecting People

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and warnings before hurricanes approach the coastline. They use computers with satellite images to figure out where and when a hurricane will come on shore. Sometimes, if a hurricane is strong enough, officials may require citizens to evacuate, or leave their homes, and travel to a safer place.

Can you imagine flying a plane through a hurricane? If you're a hurricane hunter, it's your job! Hurricane Hunters, who work for the Air Force Reserve, fly airplanes called WC-130's on weather missions to help the National Hurricane Center make predictions about hurricanes, and gives them the information needed to issue accurate warnings. Pilots determine how fast the winds are blowing, how big the hurricane is, and which direction it's moving. This helps people to be better prepared for hurricanes as they approach shore.

Categories of Hurricanes

There are five categories of hurricanes, which are based on wind speeds. The categories help to make people aware of how much damage a hurricane may cause because the greater the wind speed, the more dangerous the storm.

Category 1 – Winds 74 – 95 mph

Winds snap branches, uproot trees, and overturn mobile homes that aren't secured to the ground.

Category 2 – Winds 96 – 110 mph

Winds are strong enough to destroy weak doors and windows, and create 8-foot ocean wave

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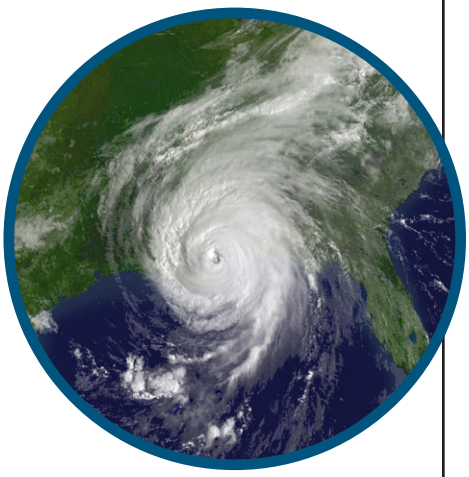
bu

Category 5 – Winds greater than 155 mph

Buildings along the shorelines are washed away. Buildings can be completely destroyed.

Tornado vs Hurricane: Which is Stronger?

Hurricanes can cover an area hundreds of miles wide, while tornadoes are almost always less than a mile wide. While they are smaller than hurricanes, tornado winds can be stronger and more powerful. Some tornadoes have winds of over 300 miles per hour, while hurricanes rarely exceed 200 miles per hour.



What's Your Name, Hurricane?

Hurricanes and tropical storms are given names to help people identify them. Scientists refer to hurricanes and storms by name as they track them across the ocean.

Before 1953, hurricanes were not given official names. From 1953 through 1978, hurricanes were only given female names, like Isabel, Camille, Claudette, and Wilma. Beginning in 1979, hurricanes were given the names of both women and men. Today, the names alternate by gender, and they are named alphabetically.

For example, in 2010, storms were named as follows:

Alex (male)
Bonnie (female)
Colin (male)
Danielle (female)
[illegible]

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Hurricanes can leave behind lots of destruction. In 2005, Hurricane Katrina ripped through Louisiana, Alabama, Mississippi and Texas. This was the sixth windiest hurricane on record, and it was one of the deadliest hurricanes in history.

Many people are surprised to learn that Katrina's wind didn't cause most of the damage. The wind had caused levees in New Orleans to break, (Levees are embankments that hold water away from cities.) When the levees broke, water from the Gulf of Mexico rushed into the low-lying land. Over 80% of the city of New Orleans was buried in flood water.

Hurricane Katrina took 1,833 lives and caused over 76 billion dollars in damages.

Hurricane Safety Tips

There is no way to stop a hurricane or make it change direction, so if you ever find yourself in the path of a hurricane, be sure to follow any emergency procedures that your community has in place. Here are some other hurricane safety tips.

- Be sure you have a battery-powered radio, batteries, fresh drinking water, and a supply of food. Also, if anyone in your family needs special medication, be sure you have a full supply.
- Tell neighbors, friends, and family members your emergency plans. Tell them where you'll go if you need to leave your home.
- If you live near the ocean, in low-lying area, or in a mobile home, leave your home and travel inland to a safe place. You could stay with a friend or family member, in an inland hotel/motel, or in an emergency shelter area.

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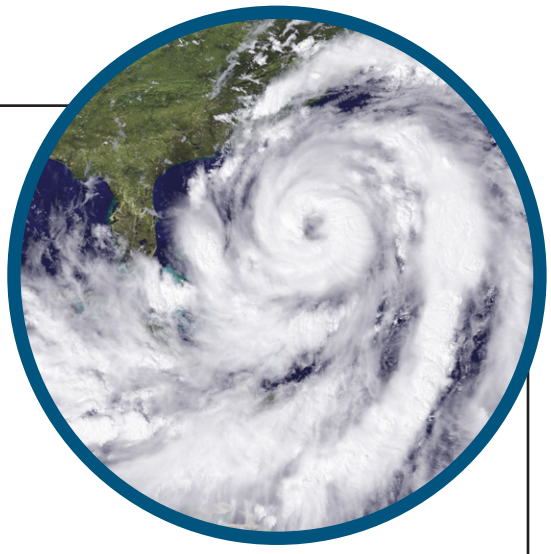
But What About My Pets?

We should always take good care of our pets and keep them indoors during a storm. If you have to evacuate your home, remember that pets are not allowed in some emergency shelters and hotel rooms. If you leave a pet behind, be sure you set out plenty of food and water for them. Also, be sure they're wearing a collar with your family's name and phone number on it.

The Five Worst Hurricanes in U.S. History

Hurricane	Year	State(s) Hit	Category	Deaths
Great Galveston Hurricane	1900	Texas	4	8,000
Lake Okeechobee Hurricane	1928	Florida	4	2,500
Hurricane Katrina	2005	Louisiana, Mississippi, Texas, Alabama	5	1,833
Cheniere Caminanda	1893	Louisiana	4	1,100
Sea Islands Hurricane	1893	South Carolina, Georgia	3	1,000

Name: _____



Hurricanes: Nature's Wildest Storms

By Erin Ryan

1. Complete the chart by listing the correct category for each hurricane.

Hurricane Name	Top Wind Speed	Category
	102 mph	
	129 mph	

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2. Explain the difference between a hurricane watch and a hurricane warning.

_____

_____

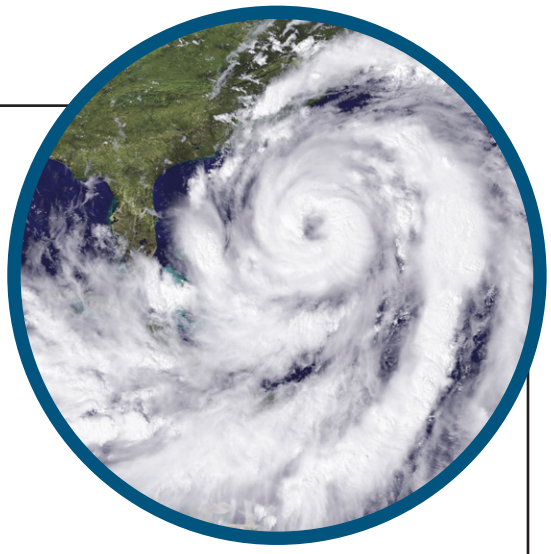
_____

3. Billy tells his teacher that his grandfather lived in the state of Florida in 1969 and survived Hurricane Michael. His teacher does not believe him. Why not? Use information from the hurricane packet to support your answer.

_____

_____

Name: _____



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1. Which of these hurricanes had the strongest winds?

- **a.** Sea Islands Hurricane, in 1893
- **b.** Hurricane Katrina, in 2005
- **c.** Lake Okeechobee Hurricane, in 1928

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- **b.** tropical disturbance, tropical depression, tropical storm, hurricane
- **c.** tropical storm, tropical depression, tropical disturbance, hurricane

4. What would you observe if you were in the eye of a hurricane?

- **a.** strong, spinning winds
- **b.** calm or very little wind
- **c.** heavy rain, thunder, and lightning

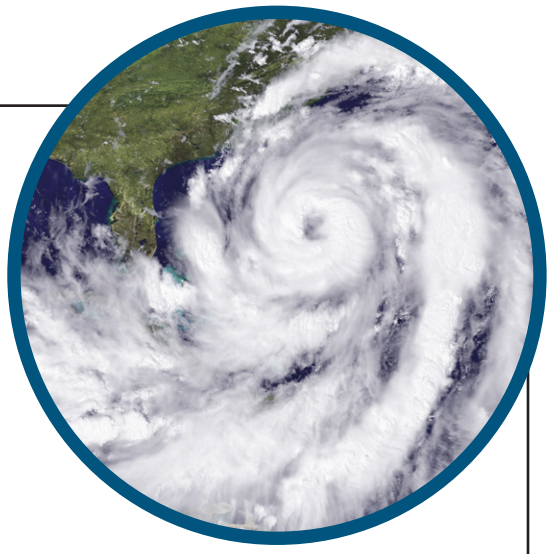
5. What caused the most destruction during Hurricane Katrina in 2005?

- **a.** floods due to breaking levees
- **b.** houses being blown away
- **c.** people going outdoors during the storm

6. What happens when a hurricane crosses over land?

- **a.** it breaks apart and forms tornadoes
- **b.** it moves more quickly
- **c.** it loses strength

Name: _____



Hurricanes: Nature's Wildest Storms

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Tell whether each statement is *true* or *false*.

1. _____ When a hurricane warning is issued, a hurricane will definitely hit landfall within 24 hours.

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7. _____ Hurricanes in the Northern Hemisphere rotate counterclockwise.

8. _____ The center of a hurricane is called the eye.

9. _____ Hurricanes are given names and tropical storms are not.

10. _____ Category 4 hurricanes have winds over 155 miles per hour.

11. _____ Mobile homes are a safe place to stay during a hurricane.

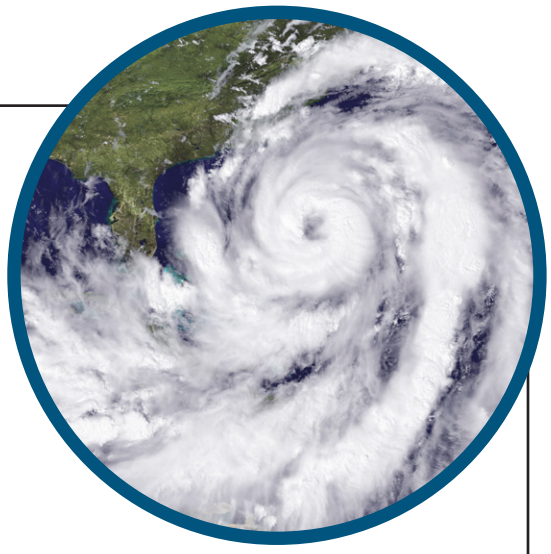
12. _____ Hurricanes were not given official names before 1953.

13. _____ Hurricane Katrina flooded the city of New Orleans in 2005.

14. _____ Scientists can make hurricanes change direction.

15. _____ A levee keeps ocean water away from cities.

Name: _____



Hurricanes: Nature's Wildest Storms

By Erin Ryan

Complete each statement with a word from the box at the bottom of the page. Not all words from the box will be used.

1. In the Atlantic Ocean, hurricane season runs from _____ 1st through November 30th.

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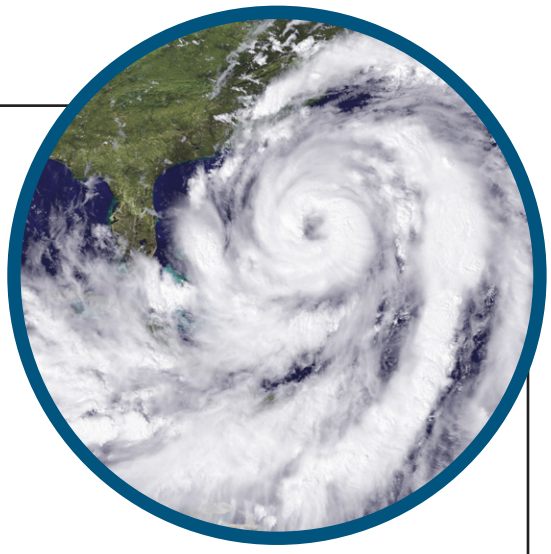
6. Hurricane Katrina flooded the city of _____.
7. During a hurricane _____, there is a possibility that a hurricane will reach landfall.
8. During a hurricane _____, a hurricane will definitely reach landfall.
9. The National Hurricane Center is located in the city of _____.
10. If a hurricane is strong enough, citizens might be required to _____, or leave their homes.

Word Box

four	clockwise	New York	depression	storm	satellite
June	disturbance	May	New Orleans	tornado	eye
Louisiana	ten	six	counterclockwise	watch	weather
Miami	Florida	April	evacuate	warning	category

Name: _____



Hurricanes: Nature's Wildest Storms

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Match each vocabulary word on the left to its definition on the right.

1. _____ levee

5. _____ tropical storm

6. _____ hurricane

7. _____ dissipate

8. _____ coastline

9. _____ evacuate

10. _____ tornado

a. an imaginary line around the center of the Earth

e. to be forced to leave a home because of danger

f. a giant wind and rain storm that forms over warm water with winds between 74 and 155 miles per hour

g. a pilot who flies airplanes through hurricanes to measure the wind speed

h. a spinning storm that is less than one mile wide, with swirling winds that can reach over 300 miles per hour

i. area where the ocean meets the shore

j. to break apart and reduce in strength

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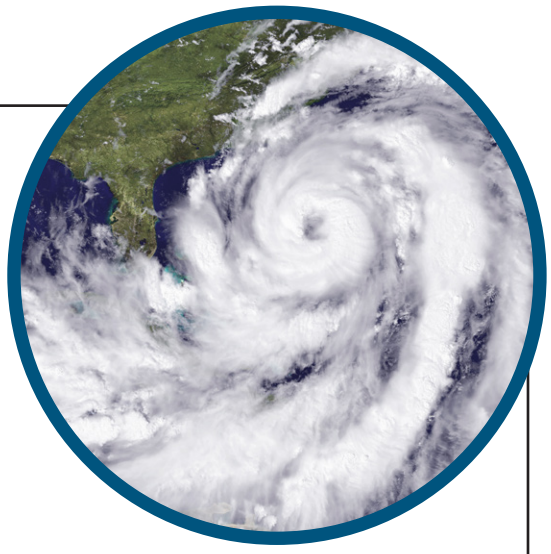
ANSWER KEY



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1. Complete the chart by listing the correct category for each hurricane.

Hurricane Name	Top Wind Speed	Category
	102 mph	Category 2
	129 mph	Category 3

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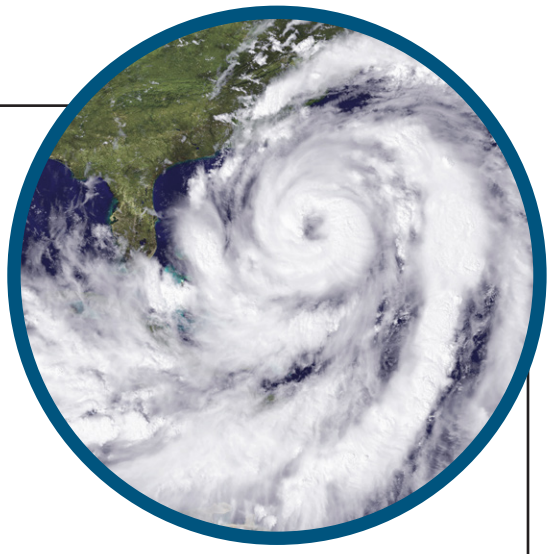
2. Explain the difference between a hurricane watch and a hurricane warning.

A hurricane watch means that there is a possibility of a hurricane approaching within 36 hours. A warning means that a hurricane will definitely approach land within 24 hours.

3. Billy tells his teacher that his grandfather lived in the state of Florida in 1969 and survived Hurricane Michael. His teacher does not believe him. Why not? Use information from the hurricane packet to support your answer.

She didn't believe him because hurricanes did not have male (boy) names until 1979.

ANSWER KEY



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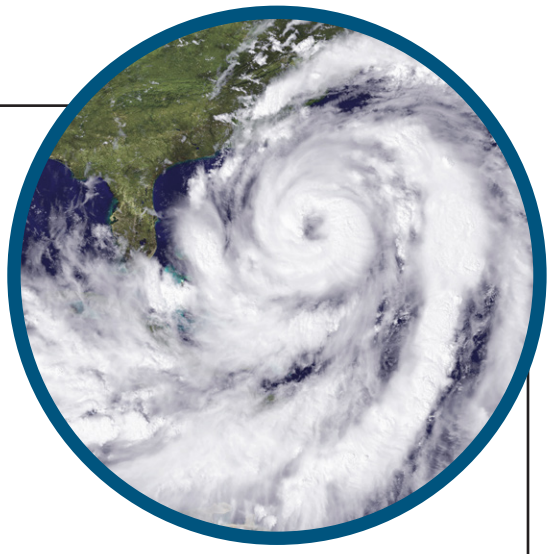

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1. **true** When a hurricane warning is issued, a hurricane will definitely hit landfall within 24 hours.

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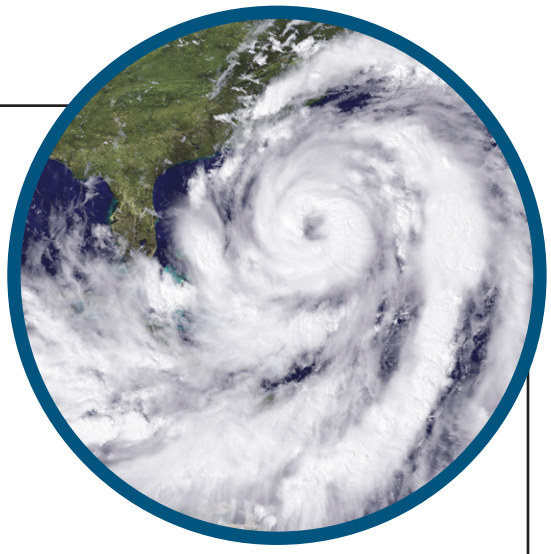
7. **true** Hurricanes in the Northern Hemisphere rotate counterclockwise.
8. **true** The center of a hurricane is called the eye.
9. **false** Hurricanes are given names and tropical storms are not.
10. **false** Category 4 hurricanes have winds over 155 miles per hour.
11. **false** Mobile homes are a safe place to stay during a hurricane.
12. **true** Hurricanes were not given official names before 1953.
13. **true** Hurricane Katrina flooded the city of New Orleans in 2005.
14. **false** Scientists can make hurricanes change direction.
15. **true** A levee keeps ocean water away from cities.

ANSWER KEY



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7. During a hurricane _____watch_____, there is a possibility that a hurricane will reach landfall.

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10. If a hurricane is strong enough, citizens might be required to _____evacuate_____, or leave their homes.

Word Box

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June	disturbance	May	New Orleans	tornado	eye
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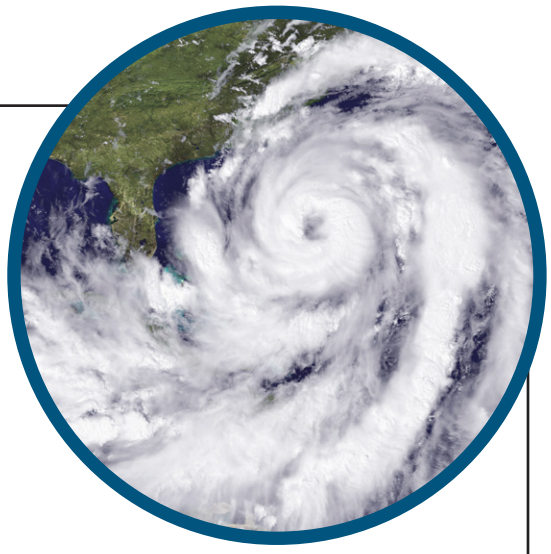

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Match each vocabulary word on the left to its definition on the right.

1. **c.** levee
5. **d.** tropical storm
6. **f.** hurricane
7. **j.** dissipate
8. **i.** coastline
9. **e.** evacuate
10. **h.** tornado

a. an imaginary line around the center of the Earth

per hour

e. to be forced to leave a home because of danger

f. a giant wind and rain storm that forms over warm water with winds between 74 and 155 miles per hour

g. a pilot who flies airplanes through hurricanes to measure the wind speed

h. a spinning storm that is less than one mile wide, with swirling winds that can reach over 300 miles per hour

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