



HURRICANES by Seymour Simon

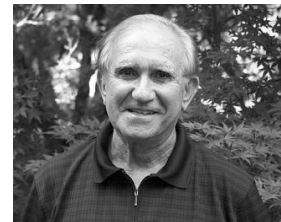
Collins/Smithsonian, 2007

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Ages 5 to 9

Why I Wrote This Book

Anyone who has ever been in a hurricane remembers the heavy, driving rains and the strong winds. But what I remember most is once being in the eye of a hurricane. The eye of the hurricane is in the center, only a few miles across. Instead of being stormy, the eye is calm, with sunny skies and few clouds. One of the reasons I wrote this book is to explain how the eye of a hurricane can be so calm and peaceful, even though it's the center of a raging storm.



Introductory Activity: What causes hurricanes to form? To help students understand how rising warm air can cause changes in air pressure, try this demonstration. Put a rock or some other small weight inside an empty glass ketchup bottle. Then put a balloon over the top of the bottle. Heat up a saucepan of water until the water is very hot. (Use oven mitts to protect your hands, and have students watch from a safe distance). Next, carefully put the bottle in the heated water in the pan and see what happens. The balloon expands! That's because the air inside the bottle expands and blows up the balloon as the molecules spread apart. Once the balloon expands, stick the bottle into a bowl of ice cold water and watch what happens to the balloon. After this demonstration, When a hurricane forms, the air is warmed by the tropical ocean waters and rises up into the atmosphere. Now read the second paragraph on page 8 ("All hurricanes form the same way.....")

Questions to Ask Before Reading

*** What are hurricanes?**

(Hurricanes are huge spinning storms that develop in warm areas around the equator. Hurricanes bring powerful winds, heavy rains, storm surges, flooding, and sometimes tornadoes.)

*** Can hurricanes happen anywhere on Earth, at any time of the year?**

(No, hurricanes usually happen only in tropical regions where the ocean temperature is warmer. Hurricane Season begins May 15 in the Eastern Pacific and June 1st in the Atlantic, and ends November 30th.)

Questions to Discuss After Reading

1. Why are hurricanes usually more dangerous than tornadoes?

(Tornadoes have much stronger winds than hurricanes. But tornadoes are usually less than a mile wide on the ground, while even a small hurricane is hundreds of miles wide. That's why hurricanes often cause more damage.)

2. Why is the eye of the hurricane calm and peaceful, when a storm rages around it?

(The center of a hurricane, known as the eye, is a low-pressure area. Air from outside the hurricane tries to move into the eye to balance the pressure. But the air does not go in a straight line toward the eye. It curves because of something called the Coriolis force. This curve becomes greater near the center – so the air blows in a circle, creating the eye. Most of the wind blows around the eye in an area called the “eye wall.” Some of the most violent winds and heaviest rains take place in the eye wall. At the top of the eye wall – about 50,000 feet above the ground – most of the air pushes outward, and then falls like water from a fountain.)

3. Why do hurricanes have names? Why are some names retired but not others?

(The National Hurricane Center has named storms since 1953. The original list only contained women's names. Men's names were introduced in 1976 and alternate with women's names. Six lists of names are used, and these lists are recycled every 6 years. The only time a name is removed from a list is when it results in a major storm. When this happens, the name is retired, and a group of scientists meet to decide an alternate name for that letter of the alphabet in the future.)

4. How do meteorologists track hurricanes?

(Meteorologists, scientists who study weather, use a variety of methods to understand hurricanes. They study satellite images taken from space, and will sometimes travel into the hurricanes in airplanes and take measurements of wind speed, and so on.)

5. What can you do to prepare if you hear a hurricane is headed your way?

(Listen closely to the radio, television, or NOAA Weather Radio for official bulletins. You can also check the National Hurricane Center's Web site <http://www.nhc.noaa.gov/> for current information. Prepare for the storm by boarding up windows and putting away any loose furniture, toys, tools etc. Follow all official instructions and evacuate immediately with your family if you are instructed to do so. If you are at home during the storm, go to a room without windows or doors and get down under a solid table or other sturdy object. Bring a battery-operated portable radio with you so you can keep listening to storm info. Have a five-day supply of water and food that won't spoil.)

Activities

- Let's Go to the Videotape! Ask students to describe what sorts of damage a hurricane can cause, then read aloud pages 12-13, and show one of these videos about how a powerful, destructive hurricanes formed.

How Katrina Formed (National Geographic)

<http://video.nationalgeographic.com/video/player/environment/environment-natural-disasters/hurricanes/katrina-formation.html>

Forces of Nature: Hurricane Winds

<http://videos.howstuffworks.com/hsw/6324-forces-of-nature-hurricane-winds-video.htm>

- Hurricane Hall of Fame. Use the Internet or other library resources to learn about a famous hurricane whose name is retired. Find out: What year it happened, what its rating was on the Saffir-Simpson Hurricane Scale, what its top wind speeds were, the number of people killed, and the path that the hurricane traveled. Then create a large poster about this hurricane to share with your class and include photos if possible. A link to get you started: <http://www.nhc.noaa.gov/retirednames.shtml>
- Make Your Own Barometer. Scientists who study weather use a special tool called a barometer. You can create your own simple version of a barometer. <http://www.weatherwizkids.com/experiments-barometer.htm>

RESOURCES

Books

Weather

By Seymour Simon (Collins/Smithsonian, 2006)

SeeMore Readers: SUPER STORMS (Level 2)

By Seymour Simon (Chronicle, 2002)

Hurricanes: Earth's Mightiest Storms

By Patricia Lauber (Houghton Mifflin, 2001)

Yesterday We Had a Hurricane/Ayer Tuvimos un Huracon

By Deirdre McLaughlin Mercier (Bumble Bee Publishing, 2006)

For a list of Seymour's articles about Hurricanes, go to:

<http://www.seymoursimon.com/index.php/blog/tags/tag/Hurricanes>

RESOURCES

Recommended Websites:

Weather WizKids: Hurricanes

<http://www.weatherwizkids.com/weather-hurricane.htm>

How Hurricanes Form: Discovery Channel

<http://dsc.discovery.com/news/video/hurricanegallery.html>

Hurricane Simulator Video

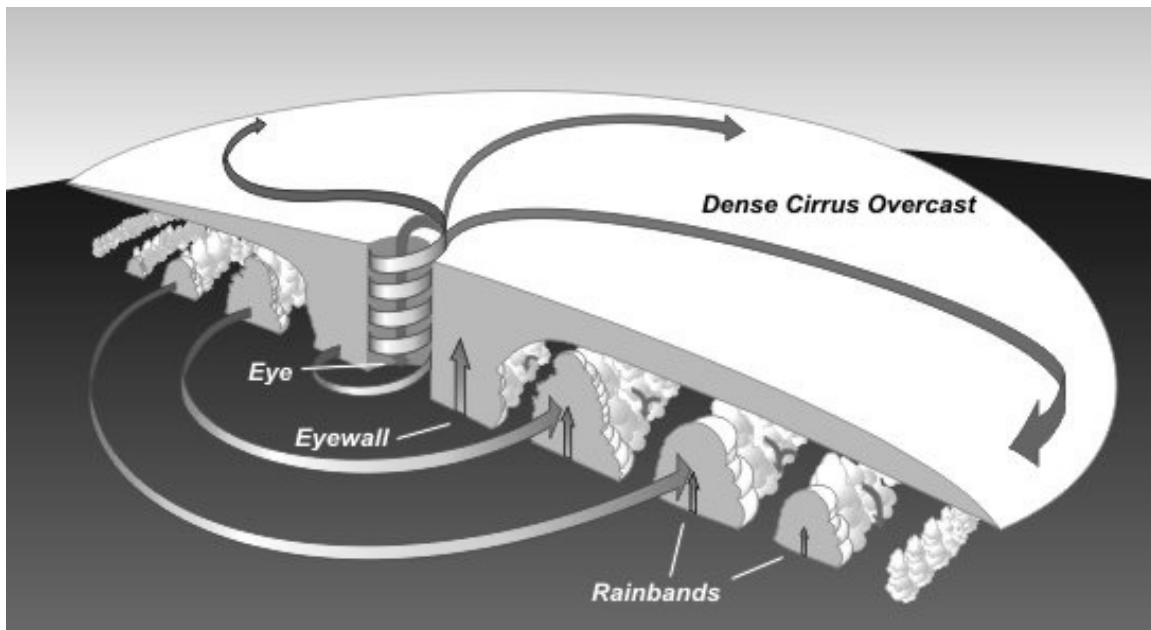
<http://videos.howstuffworks.com/university-of-florida/7667-hurricane-simulator-video.htm>

FEMA for Kids: Hurricanes

<http://www.fema.gov/kids/hurr.htm>

Watch Out! Hurricane's Ahead (National Weather Service) – a PDF file

<http://www.nws.noaa.gov/om/brochures/owlie-hurricane.pdf>



Formation of a Tropical Hurricane (Courtesy NOAA.gov)

On the Job with a Hurricane Hunter!



Imagine what it would be like to fly into the largest storms on the planet—to actually see a hurricane’s “eye” up-close! That’s what special pilots known as Hurricane Hunters do. What would it be like to be one? Use the Internet to read and watch videos about this daring and interesting job [see links below]. Use the organizer on this page to help you gather information. Then turn your notes into a short story about flying along with a famous Hurricane Hunter. Include as many details, photos and real facts in your story as you can.

Video - Hurricane Hunters (HowStuffWorks)
<http://videos.howstuffworks.com/nasa/2021-hurricane-hunters-video.htm>

Hurricane Hunters Association
<http://www.hurricanehunters.com/>

Hurricane Hunters (FEMA for Kids)
<http://www.fema.gov/kids/huhunt.htm>

