Severe Weather: Tornadoes, Hurricanes, Thunderstorms and Blizzards

WEBSITE: <http://www.nationalgeographic.com/forcesofnature/>

Once you get to this site, click on “Tornadoes”

TORNADOES

Step 1: When the number “1” is dark. Read the information about tornadoes in the gray box and answer the following questions. You may have to scroll down to see all of the information.

1. What is a tornado? Is a violently rotating colum of air that extends from a thunderstorm to the ground.
2. Which state has the most twisters per year? texas How many? Annual average of 120

Step 2: Click on the #2. Read the information in the gray box, and answer the following questions.

1. What are supercells? Large thunderstorms that have winds already in rotation.
2. Where do most tornadoes in America occur? In Tornado alley

1. Why do most tornadoes occur in the late afternoon? Because by this time the sun has heated the ground and the atmosphere enough to produce thunderstorms.

Click on the “next” button to zoom in to see a tornado.

1. When do tornadoes form? When warm, humid air collides with cold, dry air.
2. What is an updraft?When the warm air rises through the cold air.
3. Why would it start to rotate? Because the updraft will begin to rotate if winds are very sharply in speed or direction.

1. Before the storm turns into a tornado, what type of cloud does it become? A funnel cloud.

Step 3: Click on the #3. Read the information in the gray box, and answer the following questions.

1. What type of weather accompanies tornadoes? By severe thunderstorms and high winds.

Click on “see tornado damage at the bottom of the text.

1. How does the Fujita scale measure tornado intensity? By analyzing the damage the tornado has done and then matching that to the wind speeds estimated to produce comparable damage.

Move around the Fujita scale to see the effects tornadoes of different intensities have.

Click on the #4 to see a video of a tornado passing.

Click on the #5 to answer the following question. You will have to scroll down to answer the question.

1. What is the difference between a tornado watch and a tornado warning? When the weather is starting to produce a tornado the weather people just want you to watch out and be ready that is a tornado watch. When they spot a tornado coming down to hit the ground that is a tornado warning.

Click on #6 to make a tornado.

1. What conditions are perfect for making a tornado? It needs to be cold, dry and warm and moist. Pressure needs to be falling and the winds need to be variable.

HURRICANES

Now, you are moving on to “hurricanes.” Click on the hurricane symbol above the numbers, and begin.

1. How many mph must winds be going in order for a tropical storm to be a hurricane? 74 mph per hour
2. Where do hurricanes form? Over the Atlantic or eastern pacific oceans.

Where do cyclones form? Over the Bay of Bengal and the northern Indian ocean.

Where do typhoons form? The western pacific.

Click on #2, and read the information. Click the “next” button when you are done.

1. Does the eye of the hurricane have HIGH or LOW pressure? Low pressure

1. Where are the most violent winds in the hurricane? The eye wall

Click on the #3.

1. In the northern hemisphere, hurricanes always turn how? Counter clock wise
2. In the southern hemisphere, they always turn how? Clock wise

Play with the image of the hurricane to see a 3-D image.

Click on the #4.

1. All of the rain from hurricanes can cause what to occur? High winds, tornados, torrential rains and deadly storm surges.

2. What is a storm surge? Are usually the most dangerous part of a hurricane.

Click on the #5.

Read the information, and watch the video.

Click on the #6.

1. What is the difference between a hurricane watch and a hurricane warning? If the hurricane posse a possible threat then then the national hurricane center that is a hurricane watch. A hurricane warning is when they think the hurricane will hit in 24 hours.

Click on the #7.

Create 5 hurricanes.

1. Which one creates the most damage? Number 5 What factors? Category 3

2. Which one creates the least damage? Number 1 What factors? Category 1

THUNDERSTORMS

Go to <http://www.srh.noaa.gov/jetstream/tstorms/ingredient.htm>

1. List the 3 ingredients necessary for a thunderstorm. Moister, instability and a lifting mechanism.
2. Click on “Life cycle of a Thunderstorm”. Take notes on each of the three stages.

* Towering Cumulus Stage- a cumulus cloud begins to grow vertically perhaps to a height of 20,000 feet.
* Mature Cumulus Stage- The storm has considerable depth. Strong updrafts and downdrafts coexist. The most dangerous stage when large hail, damaging winds, and flash flooding may occur.
* Dissipating Stage-The downdraft cuts off the updraft. The storm no longer has a supply of warm moist air to maintain itself and therefore it dissipates. Light rain and weak outflow winds may remain for a while during this stage, before leaving behind just a remnant anvil top.

1. What are some of the potential hazards of thunderstorms? Hail, damaging winds, tornados and flash floods.

BLIZZARDS

Go to <http://www.ussartf.org/blizzards.htm>

1. How does the National Weather Service define a blizzard? Sever winter storms that pack a combination of blowing snow and wind resulting in very low visibilities.
2. List some of the dangers of blizzards. Driving when a blizzard is happening. The winds will be very strong and might blow very hard when you go outside.
3. What do we call a blizzard that moves up the east coast from the Mid-Atlantic to New England? Nor’easter
4. Scroll down to “Keep Ahead of the Storm”

What does it mean if each of the following is issued:

Winter Storm Watch- sever winter conditions, such as heavy snow and/or ice, are possible within the next two days.

Winter Storm Warning- sever winter conditions have begun or are about to begin in your area.

Blizzard Warning- snow and strong winds will produce a blinding snow, deep drifts and life-threating wind chills. Seek refuse immediately.

Create-A-Cane Game

<http://www.nhc.noaa.gov/outreach/games/canelab.htm>

Create-A-Cane Post Game Question

1. What is the ideal wind speed for a hurricane? low
2. What is the ideal temperature for a hurricane? 26.5 degrees C
3. What is the ideal latitude for a hurricane? 5 degrees – 30 degrees north
4. What is the ideal moisture for a hurricane? Very moist
5. What is needed to create a tropical depression in the ocean? Tropical disturbance.