Tornadoes

WebQuest Description: This webquest is about one of my worst fears....tornadoes.
Grade Level: 6-8
Curriculum: Science
Keywords: tornadoes, inclimate weather, super cells, bow echoes, thunderstorms, clouds, hail, wind, flashflood, green skies, cloud wall
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Introduction

Have you ever wandered who in the world would want to be a storm chaser? They chase storms in hopes of finding a tornado! Although tornadoes can occur anywhere in the world; they mostly occur in the United States.   A tornado is a violent rotation of air that reaches the ground. It almost always starts as a funnel cloud. It can do more damage than any other weather related catastrophy. And quess what? We, in Oxford, live in the "Tornado Alley". This means that tornadoes are most likely to happen in these areas. So, how are tornadoes formed? It is your responsibility to find out. A tornado begins in a severe thunderstorm called a supercell. A supercell can last longer than a regular thunderstorm. The same property that keeps the storm going also produces most tornadoes. The wind coming into the storm starts to swirl and forms a funnel. The air in the funnel spins faster and faster and creates a very low pressure area which sucks more air (and possibly objects) into it. The severe thunderstorms which produce tornadoes form where cold dry polar air meets warm moist tropical air. This is most common in a section of the United States called Tornado Alley. Also, the atmosphere needs to be very unstable. Tornadoes can form any time during the year, but most form in May. But, more severe ones form earlier because the most damge is caused in April. The more north you go, the later the peak tornado season is. This is because it takes longer to warm the northern parts of the plains so tornadoes form later. Most tornadoes spin cyclonically but a few spin anticyclonically. Because there are records of anticyclonic tornadoes, scientists don't think that the Coriolis Effect causes the rotations.

Tasks

Working in small groups, students will use the Internet to create a multimedia project about tornadoes for this weather unit. The students will learn about tornadoes, how and where they form, what storm chasers do, and weather safety. Contacting a class in Canada through email, they will tell what it is like living in "Tornado Alley." Each group will take on a different aspect of the project and then will combine all results into one big presentation. These questions should be addressed: 1. What is a tornado? 2. How and where does it form? 3. What is the scale called to measure the power of a tornado?4. Who are tornado chasers and what do they do? 5. What does the term "Tornado Alley mean?"6. Weather Safety. What are the signs that a tornado might be coming?7. What should you do if you see or hear one coming?8. What is the difference between a tornado watch and a warning? The final presentation:Students, now that you have all this knowledge about tornadoes, you will now create safety brochures to share with your friends and families.

Process

Students, first you will be assigned to a group. Each group is responsible for a role in this lesson about tornadoes.   You will:1. learn about how tornadoes are formed 2. color outline maps of the United States showing “tornado alley” 3. look at photographs and/or video clips of real tornadoes 4. learn basic safety tips about tornadoes 5. create a safety brochure for your family and friends 6. draw pictures of and write sentences about tornadoes

Evaluation

Category and Score	Poor	Fair	Good	Excellent	Score
Ability to work effectivey in a group.	Unable to work effectively with a group or by him-herself with minimun accuracy.	Unable to work effectively with a group but does work effectively by him/herself with miniun accuracy.	Able to work effectively with a group or by him/herself.	Able to work effectively with a group or by him/herself.	%25

Category and Score	Poor	Fair	Good	Excellent	Score
Draw conclusions about how and why tornadoes are formed.	Conclusions had no relevance to the assigned material.	Conclusions were relevant to the assignment but were unclear.	Conclusions were relevant to the assignment and clearly thought out.	Conclusions were relevant and insightful to the assigned project and clearly thought and explained out.	%25
Each student in the group are able to identify the characteristicsof a tornado.	Unable to clearly identify characteristics of a tornado.	Unable to identify characteristicsof a tornado but were able to explain with prompting how they occur.	Able to identify the characteristicsof a tornado.	Able to insightfully identify the characteristicsof a tornado.	%25
Each student can explain why changes in the atmosphere affects this phenomenom.	Explanation is unclear and indecisive	Explanation is unclear, but decisive about how changes in the atmospheric conditions affects the weather.	Explanation is clear and decisive about how changes in the atmospheric conditions change, but could use a little more insight.	Explanation is clear and insightful, as well as decisive, about how changes in the atmosphere affects the weather.	%25
				Total Score	%100

Conclusion

Congratulations! You have successfully completed the web quest. How do you feel about this web tool? Was it fun? Was it helpful in enchancing your learning about tornadoes? Was this assignment difficult? Was it boring? Would you like to do more lessons using this web tool? I am so proud that you were able to complete it. I am proud of the way to conducted yourselves using the computer. You should be proud of your selves.Now that you know about tornadoes and how they operate; you should be able to share this information with your family and friends. The next time this type of disaster strikes; you and your family will be well prepared. Again, I apprecaite the effort that you put forth in this assignment, and thank you for a job well done! Works Cited: http://www.windows.ucar.edu/tour/link=/earth/Atmosphere/tornado/formation.html   http://en.wikipedia.org/wiki/Tornado_Alley   http://www.nssl.noaa.gov/primer/tornado/tor_basics.html

Teacher Page

Grade level: 6-8Subject area: Earth scienceStandard:Understands basic earth processes. Benchmarks:Benchmark 3: 4. Investigate atmospheric movements that affect the Earth’s system.2001 Mississippi Science Framework(E, P)a. Analyze the cycles including nitrogen, water, carbon dioxide, and oxygencycle.b. Use weather maps for analyzing and predicting weather.c. Construct a weather map to forecast the weather over a region.

Standards

Credits

Other