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| **Name: Lisa Warstler** | **Date: 7/20/2011** |
| **Content Area: Earth Science** | **Grade Level(s): 9th** | **Topic(s): Tornados** |

**Standards (SOL)**

The SOL for this is ES 14 c – The student will investigate and understand that energy transfers between the sun, Earth, and the Earth’s atmosphere drives weather and climate on Earth.

Another SOL is 1b & c – The student will plan and conduct investigations in which technology will be used along with maps, charts, diagrams and tables.

**Objectives (UKD’s)**

To have the students understand how when energy transfers it can cause extreme weather which can effect many places at one time. Charts and technology, maps and graphs can show areas that these happen in the most.

**Materials & Resources**

Google, a United States map and graphing paper, charts and a Video Camera.

**Safety Considerations**

Make sure to get Video release (only for school).

**Engage – Time Estimate \_\_\_10 minutes**

To engage the students I would have them work on a What I Know about\_\_\_\_\_\_\_\_\_\_\_\_(Dan Mulligan, 2011) After they do this on their own they may get with buddy and discuss the answers they have put down. (John Strebe)

**Explore – Time Estimate \_\_\_45 minutes**

The students would have notes given to them about tornados and they would need to find out where the last tornado was and what the wind speeds were. As a class we would discuss what causes tornados, their paths, how to measure a tornado for the F-scale. They would need to locate the tornados on a U.S. map and find the latitude and longitude. I would like to do this lesson on a day around the tornados have touched down. The students would also need to compare the tornados and graph them to find out the path they are taking.

The next part to this lesson would be to get in a group of three. They would need to find a camera man, a news reporter and a producer. They would need to put all of their information together into one report that the news reporter could present as a reporter on the video camera.

**Explain -- Time Estimate \_\_30 minutes**

We will watch the videos as a class and make positive comments and ask questions about the material that is discussed on the video by each students group. The maps, graphs and charts will give me an idea if the students are learning the material that is essential for them to know. Discussion and review with other maps, charts and graphs in the future will help to know if they are retaining the concepts.

**Extend -- Time Estimate \_\_\_\_15 minutes**

This exercise can be used with geology, other weather, earthquakes and space exploration.

**Evaluate -- Time Estimate \_\_30 minutes**

What is referred on the video tapes will give me the idea of weather the students have an idea of what they know.

**Plans for Diversity**

The students will get help from myself, the group, or partner they are placed or choose to be with. My assistant and myself will make our way around the room and help anyone that needs help with any part that they need help. Most of the students are able to figure out the work from the directions and a little explanation while working. They give signs if they are having trouble with the reading or directions or what they are doing. Usually looking at what they are doing gives me a clue if they understand what is going on.

**Connections**

This is can be used in the atmosphere (weather) unit. It enables the students to learn the material in a active, hands on, verbal and written activities.