Name _____ Date _____ Period _____ 110

The DAY After TOMORROW

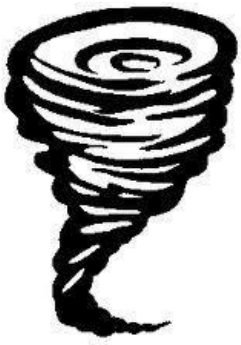
1. What continent are the main characters taking ice samples from in the beginning?

2. What happened to the ice shelf?

3. What was the vice president of the U.S. worried about at the global warming conference in?

4. What type of precipitation was falling at the New Delhi, India global warming conference?

5. What tools are used to monitor the ocean temperature by the ocean researchers?



6. What types of precipitation fell in Tokyo?

7. What types of weather did they get in Los Angeles, California?

8. When one scientist says only the sun can affect the global temperature, Jack says <u>which ocean current</u> could be responsible?

9. What states will be most affected by the weather changes in the movie, the North or the South?

10. What <u>city</u> is Sam in while waiting to return home to Washington D.C.?

11. Sam has good instincts because when the power starts to go out at the house he tells the other to do what?

12. List two reasons why Sam and his friends go to the library:

13. Why should Sam <u>stay</u> in New York?

14. What is <u>ironic</u> (involving a surprising or apparently contradictory fact) about the people crossing the Rio Grande River at the border of Texas, USA and Mexico?

15. What do they need to get from the ship?

16. What does the space shuttle see at the end of the movie?

BY JEFFREY MASTERS, PH.D. – DIRECTOR OF METEOROLOGY, WEATHER UNDERGROUND, INC.

Modern computer models of the Earth's weather show that the only types of storms planet Earth can manage are the current ordinary hurricanes, blizzards, and thunderstorms. The formation and evolution of the superstorm as described in *The Day After Tomorrow* and *The Coming Global Superstorm* is a meteorological impossibility. Let's summarize just a few of the scientific impossibilities in the movie:

- Clusters of thunderstorms cannot merge together to form a continent-scale blizzard with a calm eye over land. Huge storms with calm eyes can only happen over the oceans. These storms are called hurricanes, and require that the core of the storm be over warm ocean waters in order to utilize the powerful latent heat energy that water vapor gives up when it condenses into rain. And the laws of physics do not allow these type of storms to create blizzard conditions, only heavy rain.
- A 300-foot high storm surge whipped up by the intense winds of the superstorm smashes through Manhattan. There's a little problem here--the winds needed to create a storm surge of this magnitude are probably at least twice the speed of sound (1200 mph), yet there is little apparent wind on the ocean's surface as the wave smashes ashore.
- The superstorm is shown in many scenes rotating clockwise, and in other scenes counter-clockwise. Oops, all large-scale storm systems in the Northern Hemisphere must rotate counter-clockwise, thanks to one of the laws of physics on a rotating planet called the Coriolis force.

So, enjoy the special effects. Discuss how you wished they'd spent more money showing more special effects instead of showing so much drippy melodrama. Ponder the precautionary nature of the tale as you drive home in your fossil-fuel guzzling vehicle, and take the opportunity to learn more about the science of abrupt climate change--but don't take the movie seriously. It's science Fiction

17. Why is it impossible for the superstorm blizzard, like the one in the movie, to actually form?

18. Why is it impossible for the 300 foot storm surge from the movie to actually happen?

19. What direction do all large scale storms rotate in the northern hemisphere?

20. Do you think there are any weather phenomena from this movie that are accurately shown? Explain your reasoning.