1. What did Al Gore’s sixth grade teacher say was “the most ridiculous thing I’ve ever heard?”

   The idea that the East Coast of South America and the West Coast of Africa once fit together but have since drifted apart (the scientific fact of continental drift).

2. What does Gore say is “the most vulnerable part of the Earth’s ecosystem? Why?

   The atmosphere is the most vulnerable part of the Earth’s ecosystem because it’s so thin.

3. What type of radiation is trapped by the thickened atmosphere caused by greenhouse gases?

   Infrared radiation.

4. Gore’s university professor, Roger Revelle, was the first person to propose doing what? What did this work prove?

   Revelle was the first scientist to propose measuring the amount of CO2 (Carbon Dioxide) in the atmosphere. His work proved that there was a relationship between the rise of CO2 and increasing temperatures.

5. Explain the basic science of global warming.

   Solar radiation enters the Earth’s atmosphere, some of which is trapped in the form of infrared radiation and which heats the Earth and makes life possible. The rest of the infrared radiation is re-radiated back into outer space. Due to the increase in greenhouse gas (CO2, methane, etc.) emissions, the Earth’s atmosphere becomes thickened, causing more infrared radiation to be trapped and thus causing a rise in the Earth’s temperatures.
6. Why does the CO2 in the atmosphere fluctuate twice a year?

Most of the Earth’s land mass and thus most of its vegetation is located in the Northern Hemisphere. In the spring and summer – when the Northern Hemisphere is tilted toward the Sun -- this vegetation breathes in CO2 and breathes out O2, causing a decrease in the amount of CO2 in the atmosphere. In the fall and winter – when the Northern Hemisphere is tilted away from the Sun -- the vegetation dies and stop breathing in CO2 and breathing out O2. In addition, the dying vegetation emits CO2. As a result, in fall and winter, the amount of CO2 in the atmosphere increases.

7. What startling images seen in the film demonstrate the effects of global warming?

The melting and disappearance of glaciers all over the world.

8. How are scientists able to accurately measure the amount of CO2 in the atmosphere and the Earth’s temperatures over the past 650,000 years? What does this method demonstrate?

Layers of fallen snow accumulate and are compressed into ice that traps tiny bubbles of air inside. By drilling ice cores in Antarctica, scientists can determine both the amount of carbon dioxide in the atmosphere at different times in the past and also -- by determining the different isotopes of oxygen present in the atmosphere -- the Earth’s temperature at those times. This method confirms the relationship between increased CO2 levels and increased temperatures.

9. How is the level of CO2 different now from what it has been over the past 650,000 years? Why is this significant?

This is the first time during the past 650,000 years that CO2 concentrations have ever gone above 300 PPM (parts per million); current CO2 levels are far above the natural cycle.

10. What personal event in Gore’s life caused him to understand that what we have can someday be lost to us?

An automobile accident involving his son in which he almost died.
11. What has the overall trend in the Earth’s temperatures been since the American Civil War?

   Since the American Civil War temperature increases have been uninterrupted and have been intensifying in recent years.

12. According to the film, what types of ecological disasters have been taking place recently with increased frequency due to increased ocean temperatures? Why does this happen?

   Increased storm activity in the form of hurricanes and typhoons; as water temperatures increase, wind velocity and atmospheric moisture content increases, causing storms to intensify.

13. What type of “storm” of the 1930s was Winston Churchill referring to when he said that the world was “entering a period of consequences?” Why did Gore choose to use “Winnie’s warning?”

   The “storm” Churchill was referring to was the rise of fascist leaders in the 1930s, including Adolf Hitler, Benito Mussolini, and Ferdinand Franco. Gore used “Winnie’s warning” to point out that, with respect to global warming, we too are entering a “period of consequences” for our failure to act quickly enough to halt this problem.