

## Global Climate Change Questions

For this assignment, you will study global climate change and the science concepts people (children and adults) need to understand the issue. This assignment will involve, viewing and answering questions about the film, "An Inconvenient Truth," and the 25-page booklet.

Please do not copy and paste sentences or diagrams from the climate notes or any Internet site. *Please put your responses in your own words and do your own drawings.* This will help you develop your understanding of an important issue that many elementary students may already have some understanding of.

### I. "An Inconvenient Truth" Film

**A. Film Questions:** Answer the following during the film.

1. What evidence does Al Gore present in the film to support each explanation of global climate change?	
Explanation	Evidence
a. Carbon dioxide is increasing in the atmosphere?	
b. Global warming affects glaciers?	
c. Global warming is more than a cyclical pattern?	
d. Global warming is happening all over the world?	
e. Severe storms and drought have increased?	
f. Two major warnings (Canaries in the coal mine) have occurred?	

2. What does Al Gore present as the three reasons we haven't addressed our influence on global climate?

3. What are the three causes of misconceptions that affect awareness?

4. An Inconvenient Truth ends with this statement:

"Future generations may well have occasion to ask themselves: What were we thinking? Why didn't they wake up when they had a chance? We have to hear that question from them, now?"

Do you agree with this statement?

5. Does the film convince you that

a. climate is changing?

b. There is global warming?

c. The main cause of global warming is the increase of carbon dioxide due to human activity?

6. See page 171. How could scientists strengthen their argument for or against an aspect of global climate change?

7. How does Al Gore's presentation of the research on global climate change show different processes of science in action as you read about in Chapters 2 and 3?

8. How does Al Gore's presentation of the research on global climate change provide examples of different aspects of the "nature of science" as you read about in Chapter 8?

9. How many times have you watched "An Inconvenient Truth"?

**B. The Science Behind the Film (Use the film, websites, and the booklet on Blackboard.)**

1. Were there concepts that you didn't understand or that Mr. Gore explained too quickly? If so, which ones?

2. How is weather different from climate?

3. What are a few reasons that Earth's climate naturally changes?

4. How do scientists study Earth's past climate?

5. How does the greenhouse effect work on Earth? Make a drawing with labels. What would Earth be like without the greenhouse effect?

6. What are greenhouse gases?

7. Make a drawing of the carbon cycle. How is it connected to global warming?

8. Why does Earth's carbon dioxide level vary throughout the year?

9. Make a list of natural factors that increase greenhouse gases and a list of natural factors that decrease greenhouse gases.

10. What is the relationship between carbon dioxide and temperature?

11. How is human activity affecting the amount of greenhouse gases in the atmosphere?

12. How do the oceans affect Earth's climate?

13. What are some possible consequences or impacts of global warming?

14. What is the current daily news about climate change?

### **C. Follow-up to “An Inconvenient Truth” – Online Video**

View Al Gore’s New Thinking on the Climate Crisis (~25 minute video) and answer the following questions.

<http://video.google.com/videosearch?q=al+gore+&hl=en&emb=0&aq=f#>

1. What has happened to the Arctic since “An Inconvenient Truth?”
2. Why does Gore compare Venus and Earth?
3. If skeptics were right about the sun’s changes in energy causing global warming, what would we expect to observe regarding temperature in the atmosphere?
4. What does Gore think is our greatest challenge?
5. What does Gore think are solutions to the climate crisis?

### **D. Geographic and Cultural Impact Around the World**

Choose a region to research global climate change related issues that the people who live in the area are facing now or potentially facing.

Regions may include the east coast of U.S. including North Carolina, Darfur, the Amazon, the Arctic, South Asia, the Gulf Coast of the U.S., Lampedusa, Haiti, etc. or you may come up with a different region.

This document *Global Climate Change Impact in the United States*

<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>

and this Website (<http://www.worldviewofglobalwarming.org/>) should help you.

Explain (in a paragraph) the region, specific consequence of climate change, and the impact on the local geography, resources, culture, politics, and economics.

### **E. Reference Websites**

Review the following websites. Choose 5 that you like and write a few sentences about what you liked and how you may use the site in your life or future teaching.

Global Climate Change Impact in the United States

<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>

Carbon cycle game

[http://www.windows.ucar.edu/earth/climate/carbon\\_cycle.html](http://www.windows.ucar.edu/earth/climate/carbon_cycle.html)

EPA Climate Change: Interactive website

[http://www.epa.gov/climatechange/kids/carbon\\_cycle\\_version2.html](http://www.epa.gov/climatechange/kids/carbon_cycle_version2.html)

Interactive diagram

[http://www.seed.slb.com/en/scictr/watch/climate\\_change/carbon.htm](http://www.seed.slb.com/en/scictr/watch/climate_change/carbon.htm)

EPA Global Warming: Interactive website

[http://epa.gov/climatechange/kids/global\\_warming\\_version2.html](http://epa.gov/climatechange/kids/global_warming_version2.html)

Nature Conservancy’s Carbon Calculator

<http://www.nature.org/initiatives/climatechange/calculator/>

Earth Portal and Earth Encyclopedia on Climate Change

<http://www.earthportal.org/>

Journey North: A Global Study of Wildlife Migration and Seasonal Change

<http://www.learner.org/jnorth/>

Global Warming Current News

<http://www.edf.org/page.cfm?tagID=65>

Alliance for Climate Change

<http://www.climateprotect.org/>

References for Film:

Climate Classroom – An Inconvenient Truth Curriculum

<http://www.climateclassroom.org/>

<http://www.aninconvenienttruth.com.au/truth/guide.htm>

Click on interactive activities to make a film poster or take a geography quiz!

Worldview of Global Warming

<http://www.worldviewofglobalwarming.org/>

NWF – Climate Classroom - What's Up With Global Warming?

[http://online.nwf.org/site/PageNavigator/ClimateClassroom/cc\\_teachers\\_slideshow](http://online.nwf.org/site/PageNavigator/ClimateClassroom/cc_teachers_slideshow)

Earth Science Week – October 11 – 17<sup>th</sup> 2009 – Theme Climate Change

<http://www.earthsciweek.org/>

## **F. Reflections on the Film and Assignment**

1. Has studying this issue caused you to be more interested in climate change? In science, in general?
2. Will learning about climate change affect your future teaching? If so, how?
3. Has learning about climate change caused you to be more confident in your knowledge of science? Explain why or why not.
4. Is there anything you will do differently in your daily life as a result of studying climate change in this class? Explain

## **Recommended Books:**

Craven, G. *What's the Worst that Could Happen? A Rationale Response to the Climate Change Debate*. New York, NY: Penguin Group (USA) Inc.

Faris, A. (2009). *Forecast: The Consequences of Climate Change from the Amazon to the Arctic, from Darfur to Napa Valley*. New York, NY: Henry Holt and Company, LLC.

Flannery, T. 2005. *The Weather Makers: How Man is Changing The Climate and What it Means It Means For Life on Earth*. New York, NY: Grove Press.

Friedman, T. (2008). *Hot, flat, and crowded*. New York, NY: Farrar, Straus, and Giroux.

Lovelock, Gaia (2006). *The revenge of Gaia: Earth's climate crisis and the fate of humanity*. New York, NY: Basic Books.

Mooney, C. 2007. *Storm World: Hurricanes, Politics, and the Battle Over Global Warming*. Orlando, FL: Harcourt Inc.