

# The History of Climate Change

Your team of experts will gather in-depth information dealing with climate change over the next century. The information you gather on this topic will be vital for the group discussion that will take place toward the end of your visit to the Museum, which will focus on:

***"What evidence can be used to guide decisions related to climate change?"***

Answers to this worksheet can be found in the *Natural Climate Change*, *Recent Events*, *Measuring Climate Changes*, and *A Century of Change* stations.

## *Natural Climate Change*

1. Use the grid below to determine the average time difference between peaks in the temperature history for the last 350,000 years. Be sure to read the red line peaks!

Peak Number	Number of Years Ago	Years Between Peaks
1		
2		Peak 1 - Peak 2 =
3		Peak 2 - Peak 3 =
4		Peak 3 - Peak 4 =
		<u>Average Time Difference</u> =

2. Looking at the past 350,000 years, what was the highest level of CO<sub>2</sub> ever recorded before today? Be sure to read the blue numbers!
3. Looking at the past 350,000 years, do the peaks in the temperature and CO<sub>2</sub> history seem to be occurring at regular time intervals (like a cycle) or at random periods?

## *Recent Events*

4. Study the graph showing the climate history for the last 1000 years. How have temperature and CO<sub>2</sub> levels changed over the last 100 years?
5. How do recent CO<sub>2</sub> levels compare to peak levels for the last 350,000 years?

### *Measuring Climate Changes*

6. What are four different ways that scientists use to measure past climate changes?
- a.
  - b.
  - c.
  - d.

### *A Century of Change*

7. Examine the large chart of temperature and CO<sub>2</sub> for the past century (behind the sliding video screen) and answer the following questions:

- a. What units are used to measure CO<sub>2</sub> levels in the atmosphere?
- b. How much did atmospheric CO<sub>2</sub> change from 1920-1940? Be sure to read from the blue line!

1940 value \_\_\_\_\_ - 1920 value \_\_\_\_\_ = \_\_\_\_\_

- c. How much did atmospheric CO<sub>2</sub> change from 1980-2000?

2000 value \_\_\_\_\_ - 1980 value \_\_\_\_\_ = \_\_\_\_\_

- d. Based on your answers to b and c, have CO<sub>2</sub> levels been increasing at a faster or slower rate during the past century?

Faster -or- Slower (Circle one)

8. a. What units are used to measure temperature in the atmosphere?
- b. Looking at the red line in each of the climate graphs, what always happens to temperature when CO<sub>2</sub> levels increase?

It increases -or- It decreases -or- It stays the same (Circle one)

- c. Using the sliding temperature map, has the change in temperature been the same worldwide, or has it been greater in certain regions? Warming is indicated by areas that have become red.
- d. Which regions of the world have experienced the greatest temperature change during the last 15 years?

**OVER→**