

## Research Data Collection– Following CO<sub>2</sub> and Temperature Change

Essential Question-How did scientists collect data to produce evidence of the connection between atmospheric carbon dioxide levels and temperature change?

Evidence to choose from:

1. 4.5 Billion Years of Temperature- How do scientists know the ages/time periods of the events/organisms listed in this graph?
2. Antarctic Temperature over 160,000 years – How did scientists collect temperature data in the Antarctic?
3. CO<sub>2</sub> Concentrations over 160,000 years in parts per million- How did scientists collect CO<sub>2</sub> data from the Antarctic?
4. Average Global Surface Temperature-How and from where is this information gathered? How is represented on a graph?
5. Millennial Northern Hemisphere Temperature Reconstruction- How are tree rings used to determine temperature, where is this information gathered and by whom?
6. Millennial Northern Hemisphere Temperature Reconstruction- How are corals used to determine temperature, where is this information gathered and by whom?

You will present information in a Powerpoint related to one of the above data representations in a group of four.

Your presentation should include:

- The graph used to represent data.
- The information pertinent to that graph ie. What is measured, in what units, main idea and major trends.
- Information about the following as applicable:
  - When was data collected;
  - By whom was data collected;
  - How or by what instrumentation was data collected; and
  - Science concepts-Background information that explains how the data was collected ie. radioisotopes- what are they and how are they used?; and
  - Graphic that represents background information
  - Possible issues/questions/errors in data collection and/or representation.
- Works cited page- following JSR MLA format (also cite any graphics)
- The Powerpoint should demonstrate the following criteria:
  - 6-10 slides, including work cited
  - Large, consistent text
  - Minimal text-ie bulleted lists
  - Correct spelling, punctuation, and grammar;
  - Plain background, minimal effects