



1 Instructions

Item is not available.

This folder contains material to use for your paper topic. Texts are due April 21.

Here are two helpful links:

http://www.grida.no/climate/ipcc_tar/wg1/068.htm

http://www.grida.no/climate/ipcc_tar/wg1/074.htm

Go to the links shown above which take you to pages linked with the Beloit College's Global Warming site. These pages describe how an isotope of oxygen ("oxygen-18" or ^{18}O) is used to date ice core samples from glaciers. This isotope is used for dating ice samples but it does not decay in the ways radioactive isotopes such as carbon-14 decay overtime. Because the C-14 decay rate is known, it can be used to date artifacts that once came from living matter. However, dating methods using O-18, involve relative ratios of O-18 and O-16, which are created by temperature fluctuations where the heavier isotope collects disproportionately in colder water as it starts to freeze.

Review pages 678-679 in your hard-cover textbook (referring to C-14 dating) to learn how radioactive decay might be used for dating artifacts.

Instructions: The essay must be a minimum of two paragraphs, each a minimum of 100 words each and no more than a maximum of 1 page or approximately 570 words total.

Use the content found in the articles and research report (enclosed in this folder), links (shown above), and these pages in your chemistry textbook to discuss the importance of Palaeoclimate data to understanding current climate changes. Include in this discussion your answers to the following questions.

Questions:

1. What is the meaning of the term "proxy sources"? (search for the answer in the links above and the listed areas of the research report (articles might be helpful) provided in this folder)
2. Why are multiple "proxy sources" needed for precision in Palaeoclimate dating? (read indicated areas in the research report provided in this folder)
3. Name two possible proxy sources and describe how they might be used together to create a record of Palaeoclimate change.(any one of the provided materials might be helpful for answering this question)
4. What are the limitations of using carbon-14 dating for analyzing and dating the causes of Palaeoclimate events? (your textbook and the research report located in this folder will be helpful to answer this question)
5. What other carbon isotopes can be used instead of C-14; How are they used and why? (read indicated areas of the research report)