

Unit 2 seminar big ideas in science

[Literature](#), [Russian Literature](#)



Big ideas in science Affiliation: What types of measurements indicate that climate change is occurring?

There are several measurements used including ice core, tree rings, coral records, pollen data, formation of caves, lake and sea shores and there are also historical documents. These measure thousands of years. The usual known measurements such as barometers, thermometers and hygrometers are also used to measure the recent climate changes dating up to 200 years.

2. How were these measurements collected?

These measurements and especially those dating thousands of years are not directly measured but results are inferred or even constructed from data such as from oxygen isotopes, methane concentration and calcium dust among others. The recent measurements are directly collected.

3. What are some of the challenges associated with collecting data over large periods of time (i. e., hundreds of years)?

It takes a lot of time and resources (financial and otherwise) to collect the data, the data is not always very accurate and hence a lot of approximation is used, high technology equipment are required, shipment challenges of the equipment as well as health and safety risks of the scientists.

4. How has technology enhanced our ability to collect the data necessary to understand climate change?

Technology has made it possible to obtain indirect data and infer the results dating back thousands of years. It has also made it possible to store samples for future scientific analysis and historical references.

5. What additional data would be useful?

Timeline data on the future based on past inferences of results should be provided as well.

6. What are the risks associated with waiting for more data as well as reacting to incomplete data?

The data is crucial for the future of mankind and especially with the rapid climatical changes and hence any delay of such information may cost the end of human race or may cause unnecessary panic.

7. What other questions within science (perhaps environmental or even medical) are not fully answered but demand attention and reaction?

One of them is at what rate is the climate change occurring? And from that how long will it be until an emergency is declared? Are effective measures being taken to curb the changes?

References

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