

THE GLOBAL WARMING TEST

○ Question 3:

The main cause of Global Warming is:

- a) **pollution from factories and automobiles**
- b) orbital eccentricities of Earth and variations in the Sun's output
- c) the Greenhouse Effect

Sorry . . . that is incorrect.




The industrial revolution began 200 years ago. Global Warming started 18,000 years ago.

You didn't read the response to Question 1 very well, did you?

📍 Global Warming occurs in cycles caused mainly by changes in the sun's energy output and the sun's position over the earth.

Major Causes of Global Temperature Shifts

(1) Astronomical Causes

- **11 year and 206**  **year cycles:** Cycles of **solar variability** ([sunspot activity](#) )
- **21,000 year cycle:** Earth's combined **tilt** and **elliptical orbit** around the Sun ([precession of the equinoxes](#))
- **41,000 year cycle:** Cycle of the **+/- 1.5° wobble in Earth's orbit** ([tilt](#))
- **100,000 year cycle:** Variations in the **shape of Earth's elliptical orbit** ([cycle of eccentricity](#) )

(2) Atmospheric Causes

- **Heat retention:** Due to atmospheric gases, mostly gaseous water vapor (not droplets), also carbon dioxide, methane, and a few other miscellaneous gases-- the "**greenhouse effect**"
- **Solar reflectivity:** Due to **white clouds, volcanic dust, polar ice caps**

(3) Tectonic Causes

- **Landmass distribution:** Shifting continents (**continental drift**) causing changes in circulatory patterns of ocean currents. It seems that whenever there is a large land mass at one of the Earth's poles, either the north pole or south pole, there are ice ages.
- **Undersea ridge activity:** "**Sea floor spreading**" (associated with continental drift) causing variations in ocean displacement.

For more details see:

<http://www.ngdc.noaa.gov/paleo/milankovitch.html>

http://www.abc.net.au/science/news/enviro/EnviroRepublish_233658.htm



Question 4

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