

Analysing Greenhouse Gas Data

Graph the data in the following Table.

Label the horizontal axis "Year" and label the vertical axis "CO₂ concentrations."

Table: Atmospheric Concentrations of CO₂ (parts per million - ppm) over 240 Years

Year	Atmospheric CO ₂
1750	282 ppm
1800	283 ppm
1850	290 ppm
1900	297 ppm
1950	312 ppm
1980	335 ppm
1990	350 ppm

1. What pattern or trend do you notice in CO₂ concentrations?

2. During what years was the trend most pronounced?

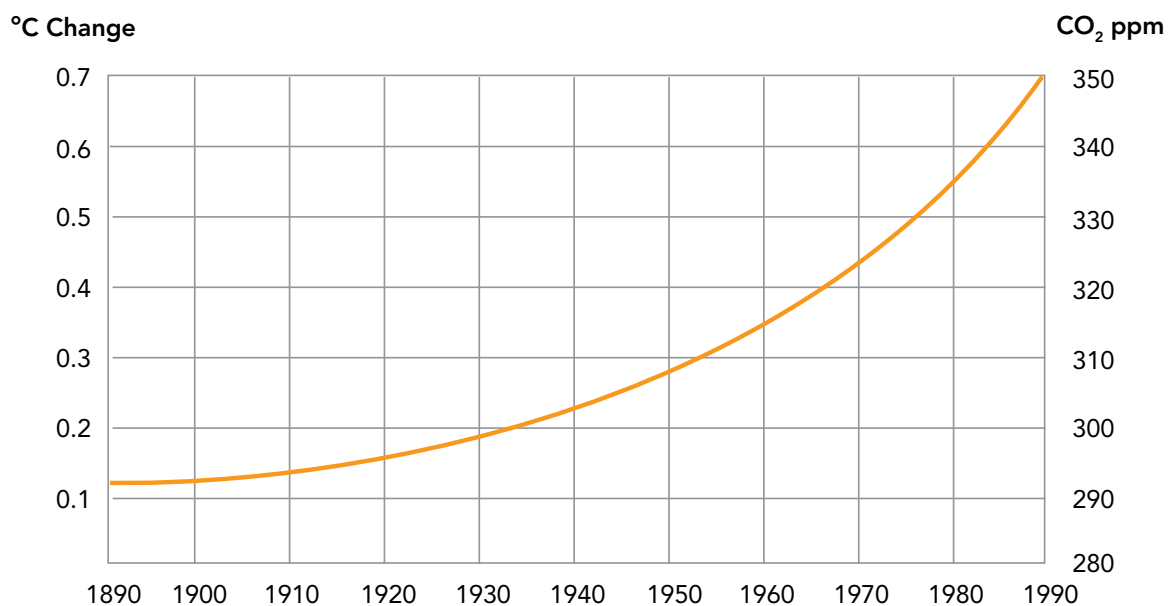
Listed in the table below are observed changes in average global temperature recorded over 100 years, using 1890 as a base year.

Table: Average Global Temperature Change

Year	Observed Change °C
1890	0.00
1900	0.18
1910	0.20
1920	0.22
1930	0.43
1940	0.54
1950	0.48
1960	0.43
1970	0.40
1980	0.55
1990	0.56

The Graph below shows CO₂ concentrations during this same time period. Graph the temperature data from the previous Table above on the graph below.

Table: Average Global Temperature Change



3. During what years was there the greatest increase in CO₂ concentrations?

4. When were the greatest changes in average global temperature recorded?

5. Does the information support the hypothesis that increasing greenhouse gas emissions are responsible for the increase in observed temperature during the 100 years examined?

6. Provide some other reasons for the observed increases in temperature?

7. Assume you were a climate specialist and were called before a government committee to testify on the global warming issue. Would you recommend public policies that would require reductions in greenhouse gas emissions? Support your position with scientific evidence.

8. Does the cost of greenhouse reduction policies affect your decision?