Teacher Version

CO_2: Is it Pollution, Life, or Both?

Can carbon dioxide be both essential to life and a pollutant at the same time?

Key Concept

Science can be nuanced and complex, often making it difficult for the public to distinguish fact from fiction or opinion. A critical part of scientific literacy is the ability to evaluate the quality and accuracy of information, especially for contentious issues.

What You Should Know

- The Competitive Enterprise Institute produced a 60-second television spot focused on "the alleged global warming crisis and the calls by some environmental groups and politicians for reduced energy use." The ads aired in 14 U.S. cities from May 18–28, 2006.
- The vast majority of scientists agree that greenhouse gas emissions, especially CO_2, from human activities are definitely causing an increase in average global surface temperature. How fast and how much is open to debate, but the overwhelming evidence has led to an unprecedented scientific consensus about the cause of global warming.

Materials

- Web-based activity: Go to http://www.youtube.com/watch?v=7sGKvDNdJNA and watch the 60-second "We Call It Life" video

Investigation A

This is a critical thinking activity. It asks students to assess the accuracy of the scientific concepts that serve as the foundation for a 60-second TV spot that aired nationally, and also to evaluate the scientific credibility of the creators of the piece.

Discussion

1) What is the premise of the piece? (What does the piece want you to believe?)
2) What basic science concepts serve as the framework for the piece?
3) Are the science concepts correctly represented, or are they misconstrued? If any science concepts are found to be misconstrued, discuss specifically how they are misrepresented (i.e., how/why might a person be confused or misled by the presentation?)
4) Evaluate the scientific credibility of the group that created the video.

Extensions

Have students make their own video or write a short piece that they think more accurately reflects the science in the piece they evaluated.

Watch comparable climate change videos made by other groups or read opinion pieces in newspapers or magazines. Ask students to highlight and label scientific evidence/facts vs. opinion in two different colors and to evaluate what they have seen or read.