

Example CMD Activity Plan:

HS-College Science: Anthropogenic CO₂

See Lesson [What is Causing Global Warming?](#)

Watch an 11-minute [demonstration](#) video of this activity

1) Teaching Context

- **Grade level:** HS **Subject area:** Earth Science **Unit:** Climate Change
- **What might come before or after this activity:** Students will have been introduced to the causes of climate change and political disagreements over the role of anthropogenic CO₂.
- **Other relevant contextual information:** This activity will support the critical thinking work students are doing in their 9th grade social studies and English classes.

2) Content Objectives:

- Students will demonstrate their understanding of the role of anthropogenic CO₂ in climate change.
- Students will identify how different sources use data to promote conflicting scientific claims.

Literacy/Critical Thinking Objectives:

- Students will analyze the messages and communication methods used in media documents.
- Students will respond to and ask questions about accuracy, credibility and bias in conflicting sources.

3) Document(s) description and link:

A 30-second video clip from 2007 UK documentary, “the Great Global Warming Swindle,” and a chart from the 2007 SOCCR report – from both the project Look Sharp lesson [What is Causing Global Warming?](#)

4) Key Questions:

- *What messages do each document give about anthropogenic CO₂? How are they communicated?*
- *How can the relatively tiny amount of anthropogenic CO₂ be a major cause of global climate change?*
- *What questions do you need to ask to assess the credibility of these documents?*

5) Decoding Plan:

- Before the decoding introduce the debate about anthropogenic CO₂ with a reminder that good science is based on a continual reassessment of one’s conclusions based on evolving information and peer review.
- Introduce the video as a clip from the 2007 British documentary, “the Great Global Warming Swindle.”
- After the 30 sec. clip ask students to: *Look for the messages in the clip about anthropogenic CO₂ and the techniques used to communicate those messages.*
- Follow with evidence probes where appropriate: e.g. *Where did you see that in the clip? or How did the film makers communicate that message?* Intent is for students to identify the film’s position that the amount of human produced CO₂ is relatively tiny compared to natural CO₂ and to identify the techniques used to communicate that message.
- After decoding the video introduce the SOCCR chart and ask students *What discrepancies do you see between the two documents?* and again, probe for evidence. Might need to also probe (e.g., *Why is that difference important?*) to help students to recognize that the chart emphasizes the balance between natural CO₂ inputs and outputs but that the video emphasizes the large number for natural inputs only.
- Probe to make sure that they understand that a relatively small amount of anthropogenic CO₂ has thrown off the pre-modern equilibrium and that this is a primary factor in climate change.
- Ask students *Which source should you believe and why?* and probe their thinking about credibility. Intent is for them to identify the difference between a heavily peer reviewed findings (the SOCCR report) and the clip from YouTube.
- Probe around the issue of bias (*Is one of these documents more biased than the other? What is your evidence?*), the issue of context (*Who might be the audience for each of these?*) and the issue of interests (*Who might be behind each of these documents?*).
- Throughout ask them *How do you know that?* Most importantly, probe to have them define *What questions should you ask when evaluating conflicting sources?* End by summarizing those questions and connecting that back to the grounding of science in peer reviewed re-examination of evidence.