

Scientific Argumentation Guide

Topic: Farker Name: _____
 Title: _____ Class: _____
 Source: _____ Date: _____

1 What is the **Claim**, including any **Qualifiers**? Are there qualifiers? **Yes/No**. (If yes, underline them.)

Humans are increasingly CO₂ levels in atmosphere amplifying
natural warmer caused by greenhouse gases

2 What **Evidence** is presented?

In column 3, identify the type of evidence with the letter: Data (D), Fact (F),
 Opinion (O), ~~_____~~

CO₂ levels pre industrial revd = (280ppm)
 1958 = 315ppm now = 400ppm
 →

CO₂ is greenhouse gas that helps F
 keep Earth warm

3 5 What chain of **reasoning (warrant)** connects the evidence to the claim? In column 6, identify type of reasoning with the letter(s):

For **AUTHORITY (A)**, **THEORY (T)**, or type of **LOGIC: Analogy (AN)**, **Correlation (C)**, **Cause-Effect (CE)**, **Generalization (G)**

D increased use of fossil fuels,
 every decade increases CO₂ levels CE

Use of NOAA data: A
 explained effect of greenhouse gases T

4 Evaluate the quality of the evidence as poor, average or good. **Explain** your evaluation.

Reliable -good: data in graph is consistent
 Valid -poor: shows CO₂ rise but no connection to human
 Objective (no bias) -good: government org data
 Methodology -poor: graph shows 48 yrs Earth is 4bil

7 Evaluate the quality of the chain of reasoning as poor, average or good. **Explain** your evaluation.

Strength of Authority: good - national organization
 Application of Theory: good - accurate &
 Type of Logic: poor - no direct evidence of human impact

8 What are your concerns about the believability of the claim? (Your counterarguments, rebuttals or new questions)?

→ withhold judgement: more fossil fuels = climate change is likely explanation but not
proven in this article

9 Accept, reject, or withhold judgment about the claim. **Explain** your judgment.

→ No comparison of CO₂ levels over 4 billion years just 50 year
 → showed CO₂ level rise but did not prove human caused