

Greenhouse Effect Lab - Investigation Sheet

Driving Question: What impact does the greenhouse effect have on atmospheric temperature?



Greenhouse effect Laboratory Prediction

Predict which container's atmosphere, control (air) or CO₂ will heat up faster. Which container's atmosphere will reach the highest temperature? Which atmosphere will retain heat longer? Include a reason for your prediction.

RECORD HEAT TURN OFF LIGHT



Greenhouse Effect Data Collection Table *(record in Celsius)*

Container Type	BEFORE <i>(Record before light is turned on)</i>	0 min. <i>(Turn Light On)</i>	2 min.	4 min.	6 min. <i>(Measure greatest heat increase)</i>	8 min. <i>(Turn off light after recording this measurement)</i>	10 min.	Heat Increase <i>(8 min. - Before)</i>	Heat Reduction <i>(8 min. - 10 minute)</i>
Control									
CO ₂									
Container with Greatest Heat Increase at 6 min:									



Greenhouse Effect Lab Analysis

1. Which container type (control or CO₂) had a greater heat increase?

Why do you think this occurred? Think about how blankets work.

2. What did you notice about the rate of heat loss after the lights were turned off?

How did the heat gained over the first 8 minutes compare to the amount of heat reduction during the last 2 minutes?

3. Which container shows a larger greenhouse effect? Why?

4. **Drawing conclusions.** Write a well-written paragraph that addresses the investigative question: What impact do you think the greenhouse effect has on our atmospheric temperature? Consider the following points in your discussion:
 - Summarize your prediction and state whether your prediction was accurate.**
 - Why is the greenhouse effect necessary to sustain life on the Earth?**
 - How do the results from your experiment demonstrate the effects of extra human-produced CO₂ in the atmosphere? Support your claim with evidence.**

5. Based on your knowledge prior to this laboratory think about activities that you do that might increase greenhouse gases like **CO₂**.

- a. Using the table below make a list of ways you have contributed to current levels of greenhouse gases in the column labeled **My Contribution**.
- b. Think about ways you could change your behaviors to reduce greenhouse gas emissions. In the column labeled **Can I Make a Change? / How?** Answer yes or no. If you write yes, please describe how you can make a change.

My Contribution	Can I Make a Change? / How?