

# Carbon Dioxide in a Bottle



## What's happening?

Temperature in the carbon dioxide bottle is higher than the temperature in the nitrogen bottle.

## Why this is happening?

Carbon dioxide ( $\text{CO}_2$ ), water vapor ( $\text{H}_2\text{O}$ ), methane ( $\text{CH}_4$ ), nitrous oxide ( $\text{N}_2\text{O}$ ), and a few other gases are greenhouse gases. They all are molecules composed of more than two component atoms, bound loosely enough together to be able to vibrate with the absorption of heat. The major components of the atmosphere ( $\text{N}_2$  and  $\text{O}_2$ ) are two-atom molecules too tightly bound together to vibrate and thus they do not absorb heat and contribute to the greenhouse effect.