



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Alexandra D. Singer	Project Number J2321
Project Title How Do Increased Carbon Dioxide Levels Affect Plant Growth?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I am concerned about global warming and its impact on the environment. Carbon dioxide is one of the greenhouse gases that is increasing in concentration in the world's atmosphere due to the human action of burning fossil fuels. The purpose of my experiment was to find out how increased carbon dioxide levels affect plant growth.</p> <p>Methods/Materials I conducted this experiment using two sets of plants. Each set had the same glass jar, plant type, amount of soil, and amount of water. For each set of plants, one of the plants was in a sealed glass jar with air and the other was in a sealed glass jar with increased carbon dioxide levels. Plant height was measured every few days for approximately three weeks.</p> <p>Results My experiment results were that increased carbon dioxide levels had a negative effect on plant growth. In other words, the plants in the jars with high levels of carbon dioxide did not grow as well as the plants in the jars with regular air.</p> <p>Conclusions/Discussion My hypothesis was that I expected higher carbon dioxide levels to help plant growth but my experiment showed the opposite, that higher carbon dioxide levels actually hurt plant growth. I believe higher carbon dioxide levels have a positive and a negative effect on plant growth. The positive part is that plants need carbon dioxide to make their food. On the negative side, carbon dioxide particles reflect sunlight and so less sunlight reaches the plant. Plants need sunlight to make their food and so by blocking sunlight, carbon dioxide hurts plant growth. I have concluded that carbon dioxide hurts plants. However, my experiment is one that many scientists who are concerned about global warming have studied with uncertain and conflicting results.</p>	
Summary Statement This study will try to determine how increased carbon dioxide levels affect plant growth.	
Help Received My parents helped me use a glue gun for the model and display.	