



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Bryce A. Vlach</b>	<b>Project Number</b> <b>J1627</b>
<b>Project Title</b> <b>Does Carbon Dioxide Affect the Production of Oxygen by Elodea?</b>	
<b>Objectives/Goals</b> The purpose of my project is to determine if placing Elodea in a pure carbon dioxide environment affects the production of oxygen by the Elodea.	
<b>Abstract</b>	
<b>Methods/Materials</b> (1) Place 5cm water into large container. (2) Cut forty-two inch long Elodea segments and insert each into individual test tubes filled with water. (3) Flip each test tube upside down in the container so that no air enters the tube. (4) Divide test tubes up into four groups of ten and put each group in a rack. (5) Fill two-one gallon jars with water and flip them upside down under water so no air enters the jars. (6) Insert one test tube rack into the jar and fill with CO <sub>2</sub> . (7) Repeat with second jar. (8) Repeat steps 5 -7 with normal air. (9) Wait four days and then measure the air levels in all of the test tubes separately by placing air from the test tube into a graduated cylinder.	
<b>Results</b> My preliminary results indicate that the Elodea placed in a pure carbon dioxide environment produced 219 ml of oxygen while the Elodea in the normal air environment produced 28 ml of oxygen.	
<b>Conclusions/Discussion</b> A pure carbon dioxide environment makes the Elodea produce more oxygen than Elodea grown in a normal atmosphere environment. All materials a plant needs to undergo photosynthesis and produce oxygen are carbon dioxide, sunlight, and water. By increasing carbon dioxide levels in the Elodea's environment, the chemical reaction of photosynthesis increased because more particles of carbon dioxide were available to react in the process of photosynthesis.	
<b>Summary Statement</b> The purpose of my project is to determine if placing Elodea in a pure carbon dioxide environment affects the production of oxygen by the Elodea.	
<b>Help Received</b> Mr. Duerr helped me with experimental design and advised me on the design of my graphs on Microsoft Excel.	