



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

<b>Your Name</b> (List all student names if multiple authors.) <b>Edwin N. Osornio-Centerwall</b>	<b>Science Fair Use Only</b>  <h1 style="margin: 0;">J1816</h1>
<b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) <b>CARP GROWTH AT DIFFERENT TEMPERATURES</b>	<b>Division</b> <b>J Junior (6-8) J Senior (9-12)</b>
<b>Preferred Category</b> (See page 5 for descriptions.) <b>18 - Zoology</b>	
<b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p><b>Objective:</b> This experiment is to determine if carp eat more and therefore grow faster at the higher or lower end of their optimal temperature range.</p> <p><b>Materials and Methods:</b> A tank was set up with water, a filter, a heater, and a thermometer. The temperature was regulated to 24°C. Two carp were weighed and introduced into the tank. They were fed all they wanted for two weeks. Then they were weighed again at the end of the two weeks. This procedure was repeated at 28°C.</p> <p><b>Results:</b> The fish that were kept at 24°C ate 3½ Tbs. of fish food, and gained 2.66 oz. The fish that were kept at 28°C ate 6 Tbs. of fish food and gained 3.32 oz. There was a difference in how much was eaten and how much weight was gained at the different temperatures.</p> <p><b>Conclusion:</b> The results of the experiment show that carp eat more and grow faster at the higher end of their optimal temperature range. This shows that water temperature can make a significant difference in the growth of carp.</p>	
<b>Summary Statement</b> (In one sentence, state what your project is about.) This project is about finding the temperature at which carp grow best.	
<b>Help Received in Doing Project</b> (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. I would like to thank my teacher, Mrs. Clark, for encouraging me to do this project, my dad for helping me to set up and dismantle my project, and my mom for helping me keep the water temperature constant and type part of the report.	