



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jennifer J. Massa</b>	<b>Project Number</b> <b>S2012</b>
<b>Project Title</b> <b>The Effect of Feeding and Temperature on Anthropluera elegantissima Growth Patterns</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The effect of temperature and feeding on the growth rate of Anthropluera elegantissima was examined. Variation in polyp growth at several temperatures and feeding regimens was tested within the local range of temperatures and feeding times. Under experimental conditions polyps were tested in three trials that were conducted each with a different temperature and feeding regimen. Even though polyps appear to be able to acclimate to high temperatures they cannot sufficiently avoid shrinkage of tissues with higher water temperatures.</p> <p><b>Methods/Materials</b> Twelve anemones were collected from an unprotected coast in la jolla caifornia. Four trials were conducted, the trials differed in that of the temperatures, one of 15, on of 20 one of 25 and one of 30. The anemones in tank one were fed once a day, tank two was fed once every other day and tank 3 was fed once every fourth day. The fourth tank was the control anemones which were kept at a constant temperature of 18-19 degrees Celsius and were fed once everyday. Through out experimentation wet Mass, dry mass and caliper diameter of the anemones mouths was collected. Trials lasted eight days with two day acclimation period in between.</p> <p><b>Results</b> Possible explanations to my findings could include that the experiment was shortened vastly in order for time to permit. Maturity of the anemones could also result in irregular data reading since juveniles tend to grow faster. Further more additional investigations could include using longer extents of time for accurate results and using more test subjects to have a larger comparison between the experimental groups and control group. Since little is known about these marine invertebrates improved experimental techniques and design could provide more detail as to how the growth rate of anemones is impacted.</p> <p><b>Conclusions/Discussion</b> The experimental groups were compared to a control group of anemones which remained at a water temperature of 18-19 degrees and were fed constantly every day. In trial one and two, mass change resulted in a positive growth, in trials three and four, mass change resulted in a negative growth. However there was no significant difference in caliper diameter readings in each trial even though the temperature varied from 15-30 degrees Celsius.</p>	
<b>Summary Statement</b> the effect of feeding regimens and temperature change was tested on aggregating clone anemones in order to determine their change in growth patterns and to discover if the water temperatures produced a negative or positive affect on growth.	
<b>Help Received</b> Teacher, Todd Linke, helped edit and revise notebook; Peers helped edit notebook ; Friends helped collect anemones; mother and father helped provide area for experimentation; friend helped design backboard.	