



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Amanda B. Cole	<b>Project Number</b> <b>S1902</b>
<b>Project Title</b> <b>A Study of Growth Ring Size of Coastal Redwood Trees Compared to Their Height and Girth</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective was to see if the height and girth of a coastal redwood tree would make a difference in its growth ring size.</p> <p><b>Methods/Materials</b> Each core sample was taken, using an increment borer, 1.5m from the base of the tree and from the south side of nine different coastal redwood trees. The height and girth of each tree was also measured. The size of each tree ring for each core sample was measured to the nearest one-hundredth of a millimeter. The height and girth of each redwood tree was compared to the average ring size for that tree.</p> <p><b>Results</b> The average size of the growth rings was larger in the bigger redwood trees. The relationship between the ring size and the tree girth was linear, while the relationship between the tree height and ring size was exponential. The largest tree did not fit the pattern. Its rings were smaller than expected.</p> <p><b>Conclusions/Discussion</b> My experiment supported my hypothesis. After finishing this experiment I now know more about how tree rings are formed. I also learned how tree ring size is related to the tree's height and girth. I would like to continue these measurements with larger redwood trees to see if the large tree that did not fit expectations is normal.</p>	
<b>Summary Statement</b> This experiment looked at the growth ring size of coastal redwood trees in comparison to the tree's height and girth, and a relationship was found between these factors.	
<b>Help Received</b> Mother helped in typing the report. Father helped in making the measurements and creating the graphs.	