



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jennifer M. Maulding</b>	<b>Project Number</b> <b>S1914</b>
<b>Project Title</b> <b>Does Size Matter? Bird's Beak Size to Seed Size</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The basic idea of my project was to determine whether or not the size and shape of a bird's beak is proportional to the seed size and shape that it would choose to eat. I did this with Charles Darwin's theory of natural selection in mind. <b>Methods/Materials</b> To complete this project I chose millet, buckwheat, safflower and sunflower seeds to test with. The birds I chose had a wide variety of beak sizes, but the beak shapes were controlled. These birds consisted of parakeets, lovebirds, cockatiels, and parrots. The first thing I did was separated the seeds, and then put them into petri dishes in certain amounts (millet- 44.46 grams, buckwheat-29.63 grams, safflower- 34.03 grams, sunflower-22.51 grams). By placing these seeds into the cage of each bird, one bird to one cage, at the same time, I allowed the bird to have a choice at what seed they wanted to eat. I was not forcing them to eat anything. I left the seeds in for twenty-four hours, then upon my return I collected both the seeds and the leftover shells. I weighed this and recorded each weight. I repeated this for a total of thirty trials. <b>Results</b> My results came out showing that my hypothesis was correct in thinking that the size and shape of a bird's beak is proportional to the size and shape of seed it will eat. The smaller beaked birds, the cockatiels and parakeets, chose the smallest seed, millet. The middle sized beaks of the lovebirds chose the middle sized seed, safflower. Then finally, the largest beaked birds, the parrots, chose the largest seed of them all, the sunflower seed. <b>Conclusions/Discussion</b> My conclusion is that the experiment was a success. I was able to determine what seed they preferred, and by doing so concluded that the theory of natural selection goes hand in hand with my project. It just takes common sense to see that a large seed is not going to fit into the small beak of a small bird. Seed size is proportional to beak size, and evolution has played its part, and made the birds beaks the way they are today.	
<b>Summary Statement</b> To see if the size and shape of a bird's beak determines what size and shape seed it will eat.	
<b>Help Received</b> Mother helped with display boards "look", Father constructed board, Grandmother let me use her birds.	