



CALIFORNIA STATE SCIENCE FAIR 2012 PROJECT SUMMARY

Name(s) Tara Foroohar	Project Number J2204
Project Title The Effect of Calcium on Bones	
Objectives/Goals Through my investigation, I hope to discover the effect of a loss of calcium on bone strength. I have heard that you must have a lot of calcium per day in order to have strong bones, but I have not yet understood exactly how the calcium impacts the bones. So, my question is, what is the result of a loss of calcium in bones? Abstract Methods/Materials I start the experiment with nine chicken bones, in which three of them are put in just vinegar, while the other six are also put in vinegar but with different amounts of calcium (from calcium tablets: 300 mg, 600 mg, 1,200 mg, 1,800 mg, and 2,400 mg). The control is one of the bones in water. The independent variable is the amount of calcium each bone receives, and the dependent variable is how bendy the bone becomes. Each day, I examine the bones (touch and bend them) and record what differences they have. I repeat this process for five days, and then the experiment is complete. Results I found many astounding results from my projects. First, the bones in the vinegar became bendier every day. Also, the bones got spongier every day. However, the bones that were in calcium stayed pretty strong throughout the entire project. The more calcium the bone had, the stronger it was. For example, on the last day of the experiment, the bone with 300 mg calcium was a bit spongy, but the bone with the most calcium (2400 mg) was the strongest. Also, the bones got darker on the tips every day. Conclusions/Discussion I concluded from my experiment that calcium is a very important substance that your body requires. This experiment completely answered my question to how important calcium is to your bones. The more calcium you have, the stronger your bones are. However, a lack of calcium causes your bones to become spongy and weak. I did prove my hypotheses in saying that calcium is very important to your bones. If I were to do this project again, I would keep the bones in the vinegar until even the bone with the most calcium becomes weak. This might give information on how much calcium your bones require to stay healthy and how often calcium should be taken. This project will inform people about how important calcium is, and it can help prevent people from getting osteoporosis.	
Summary Statement This project is about the effect of calcium on bones, and what happens to bone if there is a loss of calcium.	
Help Received Teacher instructed me; Parents helped me construct my board and take pictures.	