



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Brooke J. Rothschild-Mancinelli	Project Number J1028
Project Title Viability of Cheek Cells Due to Osmosis	
Abstract Objectives/Goals To determine whether cheek cells do osmosis and if they are alive or dead as a result of different food salinities. Methods/Materials To test my hypothesis I did in vivo and in vitro experiments. For the in vitro experiments, I mixed my cells with NaCl on a microscope slide and then measured the size of the cells. For the in vivo experiments, I did a control of my cheek cells, I ate fritos for the salt, and I drank water as no salt. To measure the salinity of my saliva I used a refractometer. I mixed my cheek cells with Live/Dead stain to determine viability. Results Using microscopy, my cells did change in size depending on the salt concentration. I found that with the fritos the cells wrinkle and get smaller then the control. The water treatment cells expanded and most of them lysed (exploded). I used fluorescence microscopy to see whether the cells were alive or dead. The largest percentage of injured and alive cells was after eating fritos. The largest percentage of dead cells was after drinking water. The fritos had a little more then the control on the percentage injured. Conclusions/Discussion I conclude cheek cells do undergo osmosis and water is good for us but not cheek cells because water makes the cheek cells lyse.	
Summary Statement To determine whether cheek cells respond to food by undergoing osmosis and whether they are alive or dead.	
Help Received Mother discussed project with me and taught me how to use the equipment in her lab.	