



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Barbara A. Shinaver</b>	<b>Project Number</b> <b>J1329</b>
<b>Project Title</b> <b>Comparing Bacterial Growth in Various Types of Natural Baby Foods</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my science project is to determine which types of commercially prepared natural baby foods are the most susceptible to bacterial growth.</p> <p><b>Methods/Materials</b> I used ten different types of Beach Nut Naturals baby foods as my test material. I first unsealed each jar of baby food and let it sit at room temperature for two days. I then took a sample of each baby food and reduced each sample to an one-in-one hundred solution. I then swabbed this dilution solution for each baby food into ten different agar plates, each. I incubated these plates for two days and then counted the bacterial colonies in each agar plate. My control was a sample of each baby food taken from the jar immediately after opening, and then diluted and incubated exactly as described above. I took great care in following proper scientific procedures in testing, and in properly disposing of the bacterial waste afterwards.</p> <p><b>Results</b> The results of my experiment showed that the vegetable and fruit based baby foods generated the least amount of bacteria, and thus were the safest for the longest period of time once they were opened and left exposed. The meat based baby foods overall generated the highest bacterial counts. Most surprising of all, however, was that the combination of meat and vegetable baby foods (such as Chicken &amp; Vegetable) generated the very highest bacterial counts # more than each type of baby food generated separately.</p> <p><b>Conclusions/Discussion</b> After finishing my investigation, I found that baby foods containing meat products produced the highest bacterial counts of all natural baby foods. The lowest bacterial counts came from fruit based baby foods. Bacterial counts from vegetable baby foods were also low. I was very surprised by the finding that the highest bacterial counts of all were from those baby foods that combined meat and vegetables in one jar. From this I learned about the synergistic effect. In conclusion, while it is unwise to leave any unfinished baby food out for very long, mothers can feel safer with the fruit and vegetable baby foods once they are opened. All other baby foods must be immediately refrigerated after opening to prevent bacterial growth.</p>	
<b>Summary Statement</b> Comparing bacterial growth in various types of natural baby foods.	
<b>Help Received</b> Mr. Nathan Whittington helped by providing supplies and necessary equipment. My Mom helped with the display board, taking me to the library, and properly bleaching and disposing of the petri dishes. My Dad helped with sterilizing the glass bend after each swab.	