



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Anirudh G. Madabhushi	Project Number J1320
Project Title Do Bacteria Like Gasses?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this project was to determine whether aerobic bacterial growth is influenced by various gaseous environments. I believe that aerobic bacteria will grow the best under an oxygen environment.</p> <p>Methods/Materials 4 sheep blood agar plates inoculated with a culture of bacteria (<i>Staphylococcus epidermis</i>) were used in this experiment. Each of these plates were then placed in a Mylar resealable bag and filled with a different gas. The gases used in this experiment were carbon dioxide (CO₂), nitrous oxide (N₂O), oxygen (O₂), and ordinary air (control group). These bags were then placed in an incubator for 24 hours. I performed three trials.</p> <p>Results On an average, the plate placed in the bag with oxygen had the most number of bacterial colonies, while the plate in the carbon dioxide bag had the least number. The colonies in O₂ plate were bigger in size (about 2X the CO₂). However, the colonies in N₂O were bigger than those in O₂ (about 2.5X the CO₂) even though their number were less.</p> <p>Conclusions/Discussion My conclusion is that various gases do indeed have an influence on the growth of aerobic bacteria and aerobic bacteria grow the best under oxygen. However the disparity in size between O₂ and N₂O needs to be further studied.</p>	
Summary Statement My project is about the influence of various gases on the growth of aerobic bacteria.	
Help Received I used equipment of Monte Vista Lab under supervision of Mr. Jeff Cordill. Dad helped me fill the gases at Hemet Hospital Operating room and took me to lab. Mom helped me prepare journal.	