



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Lauren E. Palmer	Project Number J1327
Project Title Drool and Saliva: Is a Dog's Mouth Cleaner than a Human's?	
Abstract Objectives/Goals My experiment was to determine if an old saying had foundation in fact; "A dog's mouth is cleaner than a human's." Last year, two kids in my class were quarreling about whether or not a dog's mouth was cleaner than a Human's. Ever since then, I've pondered if canines had cleaner mouths than humans; for this year's science fair experiment, I have decided to find an answer to this question. Methods/Materials I swabbed saliva from twenty-five dogs and twenty-five humans with variables reduced as much as possible. To see how much bacteria was in my participants' oral cavities, I put some of each participant's saliva on a specially prepared blood agar plate, diluted small amounts of the original saliva 1-3 times (depending where it was placed on the agar plate), and then put the dishes in an incubator for 72 hours at 98.6°F. Every 24 hours, I checked the bacteria colony growth (while wearing gloves), counted the amount of bacteria colonies on each section of the agar plate, and recorded my data. To compare results, I created a control group by putting an agar plate with no saliva on it in the incubator (no bacteria grew). Results Canines had consistently lower averages of bacteria growth compared to humans, and very few reached the highest category of growth (growth in all three segments) whereas most humans reached the highest category. Humans all had growth on day three, but 28% of dogs had no growth at all on day three. Unlike most humans who had a total of at least 250 bacteria colonies on their agar plate, most dogs had 100 and below. Conclusions/Discussion To my surprise, the mouth of man's best friend was cleaner than his master's.	
Summary Statement The purpose of my project was to determine whether a dog's mouth was cleaner than a human's by measuring the number of colonies of bacteria in each species' saliva.	
Help Received Mom and Dad edited papers; Dr. Bill Ruehl provided incubator, agar plates, sterile swabs, books on microbiology and set up an appointment at a veterinary hospital; Erika Horst handled all dogs when I took the saliva samples; 25 people and 25 dogs let me swab their mouths for saliva.	