



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Veralyn R. Vanderkraan	Project Number J1334
Project Title Tobacco Is a Mouthful	
Abstract Objectives/Goals My objective was to find out if the different amounts of nicotine and tar in cigarettes affected the amount of bacteria in your mouth. Methods/Materials I had the adult smoke three different types of cigarettes (ultra light, light and dark) on various occasions. Thereafter, I took seven samples from the adult's mouth, and placed them in petri dishes. I also took seven samples from the adult's mouth before they smoked any type of cigarette. These samples then grew in an incubator. The amount of bacteria was later counted for my results. Results The major findings of this experiment show that on average there were: 351 colonies of bacteria in each petri dish for the before samples, 357 colonies for the ultra light, 451 colonies for the light and 549 colonies for the dark cigarettes. These results show that on average there were 198 more colonies of bacteria in your mouth after smoking a dark cigarette, then if you had never smoked at all. Conclusions/Discussion I have found that, the more nicotine and tar in the cigarette, the more bacteria in your mouth. This makes my hypothesis the exact opposite of my conclusion. This happened because, the nicotine destroyed a certain element of your saliva that is responsible for protecting the mouth from extra bacteria. Without this element, bacteria is able to grow freely and multiply faster. In short, smoking a cigarette high in nicotine will increase the amount of bacteria in your mouth, which can possibly lead to disease. So in conclusion, DON'T SMOKE!	
Summary Statement My experiment was to find out if the amount of nicotine/tar in cigarettes affected the amount of bacteria in your mouth.	
Help Received Science teacher helped make agar for petri dishes.	