

## CALIFORNIA STATE SCIENCE FAIR 2002 PROJECT SUMMARY

Aditya Kashyap  Project Title  Effect of Various Concentrations of Glucose in Solutions on the Oral pH of Humans and Does Genetics Affect the Outcome?  Objectives/Goals  To find a threshold concentration of glucose in a soltuion uncer which it has not free Dn oral pH. To find if genetics can affect how prone one is to tooth decay  Methods/Materials  I6 Families; 50 people; pH strips with 0-14 level range; 100 ml at wrier; as much glucose as needed; graduated cylinder; measuring cup Give your test subject water with concentrations of glucose at 10x, 90x; Ask your test subject to rinse thier mouth with the solution and wait for approx. 2 minutes. Make them spit it out into a sink and now, take the oral pH level of your subject and record your fissin. Also, record which family the test subject is a member of, if any. Repeat steps 3-8 with the different with water thoroughly so no glucose from a previous test is left in their mouth, which might affect the results of the next test. For the family members, who are all brothers and sisters, alsolarityze the continuon of thier teeth and find out how many fillings they have. Results The threshold concentration of glucose in the consuming a glucose concentration of 90%, 60% of the test subjects were at a much by the or one of the oral pH level of humans. Also, found on the after consuming a glucose concentration of 90%, 60% of the test subjects were at a much on the order of mergers, or a 50% chance of tooth decay. Each family and its family members had a unique patter of progress. The system was no consistancy amongst random individuals or among familie.  Also, I found out that the for Afsun famility all were less prone to tooth decay than the other American families because the normal families and shifter all were less prone to tooth decay than the other American families because the normal families and the other and their pH levels for a more of progress in a single all were less prone to tooth decay than the other American families because the normal f
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dropped lower than 6.5, almost a permal level.
Conclusions/Discussion
Also, now that people know that an 85% of 90% glucose solution can increase the chances of tooth decay, I think people should find but what the glucose concentration of their mouthwash is. If it is higher than
75% then perhaps they hould stop using it in order to decrease their chances of a cavity. Finally, now that
we know that there is probably a sharice that genetics has something to do with people being more prone
Summary Statement
The effect of different concentrations of glucose in a solution on the oral pH of a human and can genetics
determine how profe one is to tooth decay?
Help Received
Mother helped make solutions