



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

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Project Title Does What You Drink Affect the Rate of Tooth Decay?	
Abstract Objectives/Goals The objective is to determine if what you drink can affect the rate of tooth decay due to the acidity and increase in growth of oral bacteria. Methods/Materials Human teeth were incubated in distilled water, Coke, Gatorade, Apple Juice, and RedBull and was observed over time for evidence of tooth decay by weighing each tooth, as decay increases so does the weight of each individual tooth. Drinks were evaluated to determine which caused the most bacterial growth by incubating saliva and the drinks on agar plates. Each drink studied had its pH, sugar content, and initial tooth weight recorded as the start of the experiment. Results The results from the pH and sugar content analyzed proved that Gatorade was the most acidic drink with a pH of 1.5 and had 21 grams of sugar. Drink samples incubated on agar plates with bacteria from mouth swabs showed that Gatorade grew significantly more bacteria than any samples tested resulting in more tooth decay than the other drinks sampled. Conclusions/Discussion The leading cause of tooth decay in American teens is drinking highly acidic drinks like soda or energy drinks. Acid and sugar-fed bacteria invades the innards of the tooth when tooth enamel has decayed from saturation of the acid and bacteria causing tooth decay. Current research has shown that the worst factors to cause tooth decay is high acidity and an increase in harmful oral bacteria.	
Summary Statement By understanding the content in what you drink, can you a make better choice in what you drink to maintain healthy teeth.	
Help Received My mother helped to obtain the human teeth used in this experiment from all the local dentists.	