



**CALIFORNIA SCIENCE & ENGINEERING FAIR  
2018 PROJECT SUMMARY**

<b>Name(s)</b> <b>Charlotte E. Newman</b>	<b>Project Number</b>  38687
<b>Project Title</b> <b>Discovering Effective Ways to Reduce Bacteria in the Mouth</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project focused on the effectiveness of different mouth cleaning products that claim to destroy damaging bacteria from the mouth. Because my dentist recommended that I use the Philips Sonicare Kids electric toothbrush, I hypothesized that the electric toothbrush with toothpaste would be the most effective at removing bacteria. My hypothesis was proven wrong after I assessed my data and found that Cool Mint Listerine Antiseptic removed the most bacteria. Looking back on my data, I can see that this result makes sense. Whereas the electric toothbrush removes food particles and plaque, it only moves the bacteria around. The Listerine, on the other hand, is an anti-bacterial and bacteria killing mouthwash. Further studies could study what product cleans teeth the best of plaque or food particles. This study proved that Listerine mouthwash is superior to other products when it comes to removing bacteria. <b>Methods/Materials</b> Swabbed subjects' mouths before and after use of different products to determine which product was the best at reducing bacteria. The following materials were used: One bottle of Listerine Cool Mint Antiseptic One bottle of Listerine Kids Smart Rinse Two tubes of Colgate Maximum Strength toothpaste Six Up & Up brand Contour soft bristle toothbrushes Six Philips Sonicare replacement toothbrush heads One Philips Sonicare Toothbrush base 36 Sterile cotton swabs 70 squares of Parafilm 35 Petri dishes with nutrient agar 2 Petri Stickers <b>Results</b> I found that Listerine Cool Mint Antiseptic was better at reducing bacteria than the other methods tested. The Phillips Sonicare electric toothbrush with Colgate toothpaste was worse than the other methods. <b>Conclusions/Discussion</b> This project shows that to reduce bacteria, an antiseptic or antibacterial should be used.	
<b>Summary Statement</b> My experiment is about finding the best way to clean bacteria from your mouth without going to the dentist.	
<b>Help Received</b> My science teachers Dr. Jay Fisch and Mrs. Arpa Ghazarian	