CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)	Project Number
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Project Title

The Effect of Different Types of Toothpaste on Oral Bacterial Growth

Abstract

Objectives/Goals

The object of this study was to find out which type of toothpaste removes the most bacteria from my teeth.

Methods/Materials

To conduct this experiment I needed petri dishes with agar, swabs, a mouth with teeth, sterile toothbrushes, and four types of toothpaste. Each morning and night at least 8 hours apart, I brushed my teeth with one type of toothpaste for two minutes, swabbed my mouth, and rubbed the swab on the petri dish. I tested each type of toothpaste four times. For my control I used no toothpaste when I brushed my teeth.

Results

I tested each type of toothpaste four times. For my control I used no toothpaste when I brushed my teeth. To find my results, I counted the colonies on the petri dishes after fifteen days and averaged the results for each toothpaste. The toothpaste with the smallest number of colonies showed that there was less bacteria on my teeth. I found that the Crest Pro-Health Advanced Deep Clean Mint Toothpaste removed the most bacteria from my teeth, which confirmed my hypothesis. In addition, I found that the Colgate toothpaste removed the least amount of bacteria from my teeth.

Conclusions/Discussion

The Crest toothpaste removed the most bacteria from my teeth because it contained stannous fluoride and a strong abrasive. Stannous fluoride is an antibacterial agent not found in the other three brands of toothpaste. In addition, while researching the ingredients of the Colgate toothpaste, I found that one of its ingredients is triclosan, an endocrine disruptor which can be very harmful to your body. The information gained from my project can be used by every consumer who needs to know what type of toothpaste is the best to purchase and use.

Summary Statement

I found that Crest Pro-Health Advanced Deep Clean Mint Toothpaste grew the least amount of bacteria on the petri dishes, showing that it is the most effective bacteria-removing toothpaste tested.

Help Received

I designed and conducted the experiment by myself. My mom, who is my science teacher, showed me how to research the ingredients it the toothpastes. I plan to meet with my dentist to discuss my results for review and future investigations.