

## **Abstract**

**Project Title: Toothbrush Trouble**

**Project ID:284**

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It's good to know which place is the best to store your toothbrush in the bathroom so you don't get sick. It is interesting because I want to know if the toilet can get germs on my toothbrush. The reason this topic is important because people need to know where the best spot to put their toothbrush in the bathroom in order to prevent getting sick. A 2005 study done by the Journal of applied Microbiology stated that a toilet plume could reach 2.7 feet, but other studies suggest it has as high as 6 feet. I decided to test my bathroom to see how it all worked in my environment.

**Introduction:** I hope my project allows people to make a good choice about where they put thier toothbrush in a bathroom. It may help you not get sick.

## **Question**

Where is the cleanest place to put your toothbrush in the bathroom?

## **Hypothesis**

The cleanest place to put the toothbrush in the bathroom is in a drawer because it is in a closed area where germs can't get in. The worst spot to put the toothbrush is in a plastic bag on the counter because the germs will multiply in the trapped space. We're going to measure the bacteria using petri dishes and an incubator to determine which brush has the most bacteria.

## **Procedures:Procedures**

We took 4 brand new toothbrushes out of the package. I brushed my teeth with all 4 brushes. Then I placed each of the four brushes in its spot in the bathroom.

1. In a drawer
2. In a plastic bag
3. On the counter without any covering
4. In a dixie cup on the countertop.

Next we are going to use petri dishes to collect a bacteria sample from each brush. We are going to grow the bacteria sample in an incubator for 5 days. We will take pictures of the samples each day. We will make a determination of which one has the most bacteria by estimating the total number of bacteria colonies. We will then rank them accordingly.

## **Conclusion: CONCLUSION**

The samples ranked from lowest amount of germs to the most amount of germs as determined by bacteria colony observations.

Lowest -Control, dixie cup, in the drawer,in a plastic bag and highest is on the counter.

The dixie cup toothbrush was surprisingly clean. I thought it would have been dirtier because it barely had any covering. I thought this would leave more space for germs to get in from the toilet plume. The counter top one was as dirty as expected. There was plenty of exposed tooth brush to collect germs from the toilet plume and from the air. The possible reasons it was dirtier are that it was completely open to germs in the air and it was touching the countertop which may have more germs than I expected. I thought the one in the drawer would be the cleanest. Perhaps the drawer is dirtier than I expected causing the toothbrush to have more germs.

Overall the most important thing that I learned is that bacteria can be found anywhere in your bathroom. So steps need to be taken to make sure your toothbrush stays clean. You can clean your toothbrush and you need to clean the place where you store your toothbrush. Also, according to my research I found that closing the toilet before flushing limits the number of germs put into the air.