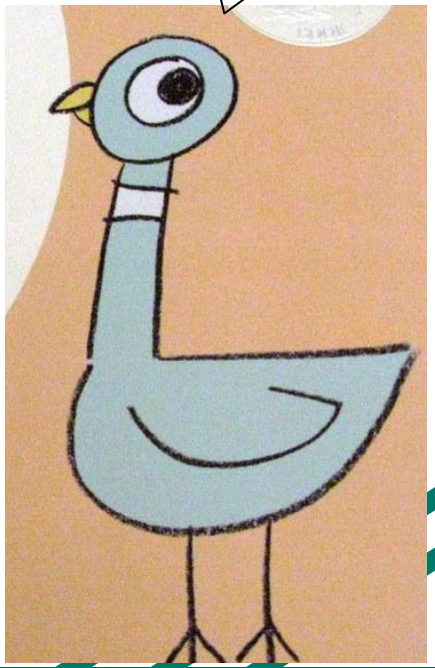
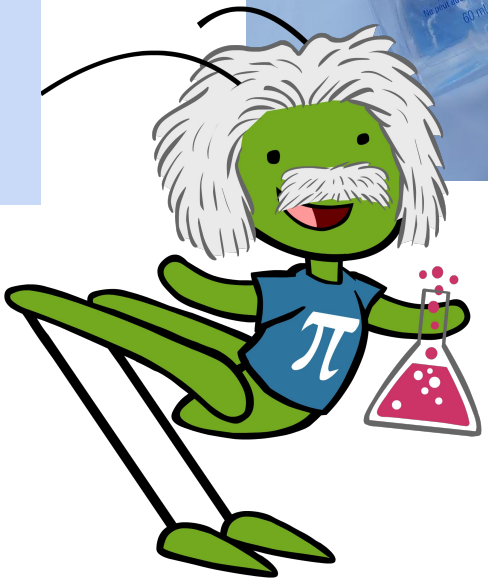
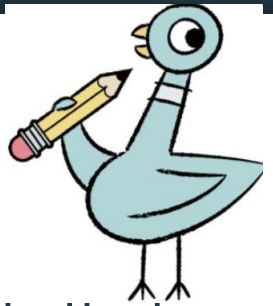
Look for me Throughout this slide!!



The Most Effective Hand Sanitizer Experiment



Anne U.,
Carolyn C.,
and Abby P.



Question

We are testing to see which hand sanitizer brand is the most effective when it comes to killing germs and bacteria.

Hypothesis

Our Hypothesis is that the hand sanitizer with higher levels of alcohol will kill the most germs.

Ethanol

Hand sanitizer should have 60% alcohol. Most alcoholic hand sanitizers contain ethanol, or ethyl, for short. Its chemical formula is C_2H_6O. Ethanol is a flammable alcohol that is used in gasoline, in food extracts in which it enhances the flavor of, it is in some paints and cleaning products, and it is in many beauty products. It is also in hand sanitizer! Ethanol is effective in killing microorganisms, like bacteria, fungi, and viruses, including COVID-19.

Brands of hand sanitizer

Like we said before, an alcohol based hand sanitizer should be at the very least 60% ethanol to kill the germs and bacteria on your hands.

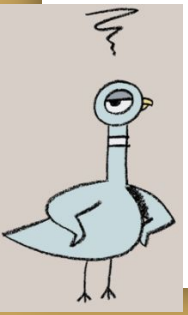
We are going to use 2 brands of hand sanitizer and plain alcohol:

Experiment Design

MATERIALS: Bread, hand sanitizers: purell, germs be

Gone, and an alcohol based hand sanitizer.

SETUP We got 4 pieces of bread and bags and labeled them; control, purell, germs be gone, and an alcohol based hand sanitizer.

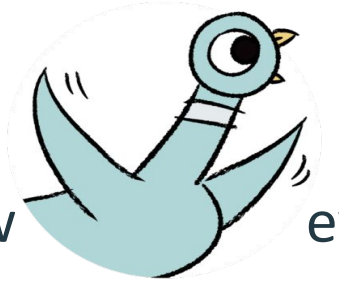


PROCEDURE We will wipe are hands to get then germy on are computers and then use one of the types of sanitizer. Next we will wipe our hands on the bread, and then put it in a bag. We will repeat with the other sanitizers.

These are the hand sanitizers that we are going to test.

We wiped our hands on bread without hand sanitizer this is what looked like before

Results



The mold did not grow even though the bread was left to mold for about 3 weeks.

Description

We did use bread that had preservatives in it, so we think that is the reason that the bread didn't mold. Or it might just not have had enough germs on it to mold.

Conclusions

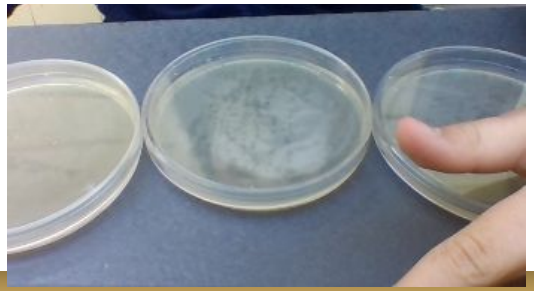
We don't know if our hypothesis is correct because the bread didn't mold. We learned that if we want to make bread mold, we should use organic bread. However, we are going to try this experiment again with agar plates and hope that it works.

Experiment Number 2

Explanation

Since our last experiment didn't work, we are going to try the same experiment only with agar plates. We are going to use the same hand sanitizers. All of us are going to do use 3 agar plates, and each of us will use each of the sanitizer. There will also be one control agar plate.

Here are the agar plates that we are going to use.



Results-photographs-Abby

Before

After

Alcohol based

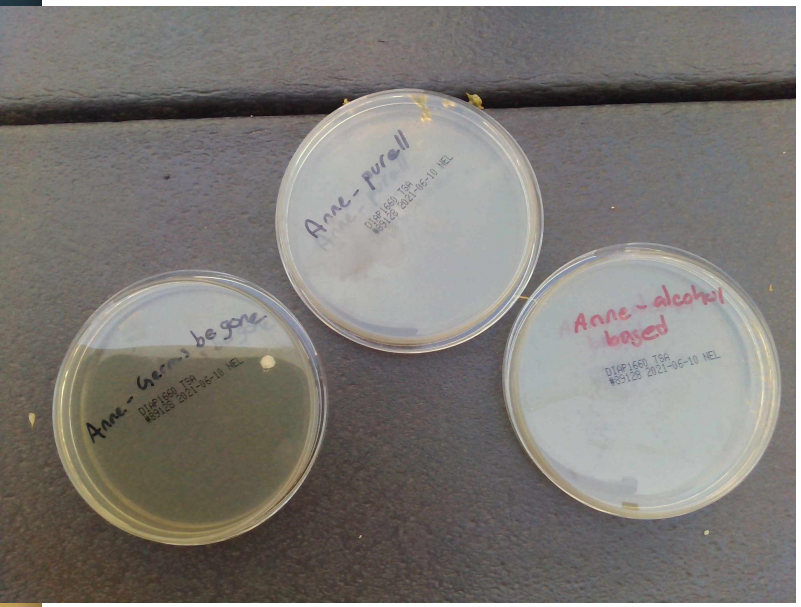
Purell

Control

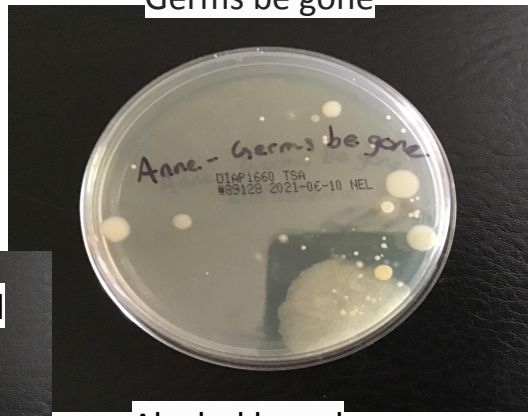
Germs be gone

Results-photographs-Anne

Before



After



Results-Photographs-Carolyn

before

After

Results-Description

Abby

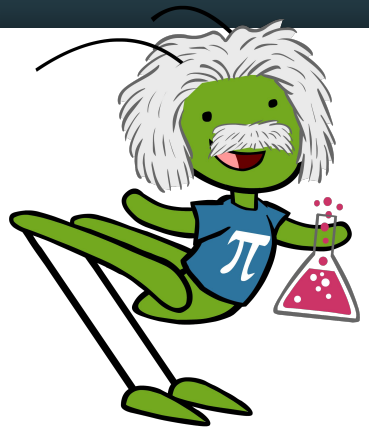
The control plate has about 7 big spots of bacteria and a lot of other little ones. The alcohol based plate has about 3 sort of big spots of bacteria and a few little spots. Next the purell plate has only 2 little spots of bacteria. Now last but not least germs be gone plate has 2 sort of big spots of bacteria and a few little spots.

Carolyn

The agar plate with the most mold was the one that we tested with Purell. The one with the second most mold was the agar plate that we tested with an alcohol based hand sanitizer. The agar plate with the least mold was the one that we tested with the hand sanitizer Germs be Gone. Therefore the hand sanitizer that was most effective was Germs be Gone.

Anne

In the end, the purell molded the most, with a lot of medium sized spots on it. The alcohol based had 11 spots on it, plus some other tiny ones, but the germs be gone had 7 spots on it, with the additional tiny ones, but it had one spot, that was really big.



Conclusion

In the end, we think it best to go with Germs Be Gone. Purell just isn't as effective, and the other alcohol based one is actually more like water, and less like hand sanitizer, and drips everywhere.

So after 2 experiments, 4 pieces of bread, 15 slides, 10 agar plates, and 3 hand sanitizer bottles, we have decided that germs be gone is is the most effective hand sanitizer, out of the small three that we tried.

Or, you could just simply wash your hands.