

THE MASK EXPERIMENT

By: Audrey Brook Matoush, Grade 6 Voyageur Memorial School

Materials



Question

For my experiment I want to know which mask is the best to use.

Hypothesis

I think the cotton mask with a filter and a vent will work the best.

Experiment

I did three different tests on four types of masks. The masks I tested were a homemade cotton mask, a polyester mask, a cotton vent mask, and a three-ply surgical mask.

The first test I did was a distance test. I used two dummies, water bottle filled with blue water and the four masks. I wanted to see if each mask could prevent the water from coming out.

The second test I did was an air test. I used a candle and the four masks to see which mask would prevent air from going through.

The last test I did was a droplet test. I made a black box, a homemade black light, a highlighter, a spray bottle filled with water, and a camera.

Results

After I did all three tests, the surgical mask and the cotton vent mask passed all the tests.

Analysis

Since the surgical and vent mask both passed the tests, I still wanted to find out which one is better. I did some research on the internet and I read that surgical masks are for one-time use only. Which means, you can only wear it for about a day. Many people who don't throw them in the garbage, have thrown them on the ground. This has caused a lot of pollution on the land and in the water. Some animals might mistake this for food and make them very sick. The vent mask with the filter is better for the environment because you only have to change the filter which is biodegradable. Biodegradable means it can break down into tiny particles and not hurt the Earth. Also, you can wash the vent mask and reuse it.

The other thing I found out in my box experiment is when I sprayed the liquid without a mask, the particles stayed in the air for a long time. I decided to leave my camera on for a few minutes and I was surprised to see that there were still particles floating. I read online that germs can stay in the air for fourteen minutes.

Also, when I did the first test with the dummies, when I sprayed the blue water without a mask at a distance of six feet, the blue liquid was about one foot close to the dummy. This is why it is so important to keep your distance. This also made me think that not everyone sneezes or coughs the same amount. The liquid could have been even closer. Wearing a mask and keeping your distance is so important.

Conclusion

My hypotheses was partly correct. I said that the vent mask would pass all the tests but so did the surgical mask. This is why I decided to do a little research about each mask. I had fun doing this project and I learned a lot about masks.