

OFFICIAL ABSTRACT and CERTIFICATION

Category

Biochemistry & Microbiology

Which Face Coverings Work Effectively?

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My science fair project was about which face coverings work effectively in preventing the spread of COVID-19. I used 7 agar plates. I held the agar plate at arm's length and spoke a 1 minute script. I then closed the agar plate and put it in an incubator. I recorded observations every 24 hours, 48 hours, 72 hours, and 7 days to observe the germs grow on the agar plate. I found out that the 4 layered cloth mask, N-95 mask, and double mask (cloth and N-95 mask) were proved to be the most effective in preventing the spread of COVID-19 and barely grew any colonies in the one week time period. The 3 layered surgical mask, KN-95 Mask, and the Face Shield were proved to be not as effective and started growing colonies from Day 1. The colonies were significantly growing in the one week time period. The No Mask agar plate grew lots of colonies from the beginning and was growing a lot of colonies and had around 500 Colonies of germs at the end of the 1 week time period. In the end, my hypothesis was correct. The Double Mask, Cloth Mask, and N-95 mask were very effective in preventing the spread of COVID-19. The Surgical Mask, KN-95 Mask, and Face Shield were not proved to be as effective as the other 3 facial coverings. Finally, The No Mask Agar Plate was proved to be the most dangerous in preventing the spread of COVID-19.

- As a part of this research project, the student directly handled, manipulated, or interacted with (check ALL that apply):

☐ human Participants	☒ potentially hazardous biological agents
☐ vertebrate animals	☒ microorganisms ☐ rDNA ☐ tissue
- I/we worked or used equipment in a regulated research institution or industrial setting:

☒ Yes	☐ No
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- This project is a continuation of previous research:

☐ Yes	☒ No
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- My display board includes non-published photographs/visual depictions of humans (other than myself):

☐ Yes	☒ No
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- This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year's work only:

☒ Yes	☐ No
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- I/we hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work:

☒ Yes	☐ No
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This stamp or embossed seal attests that his project is in compliance with all federal and state laws and regulations and that all appropriate reviews and approvals have been obtained including the final clearance by the Scientific Review Committee.