**How to Reduce the Spread of COVID-19**[[1]](#footnote-1)

COVID-19 has killed over 4 million people worldwide and 640,000 people in the US. The coronavirus that causes COVID-19 has been evolving to become more contagious; this has resulted in more cases of COVID-19 and more deaths. To prevent more deaths and the evolution of more dangerous versions of the coronavirus, we need to reduce the total number of COVID-19 cases.

To understand how we can reduce the spread of the coronavirus, watch the video “How Coronavirus Spreads Outdoors vs. Indoors” (<https://www.youtube.com/watch?v=n6QwnzbRUyA>).

**1.** Based on this video, list and explain some ways that you can reduce your risk of COVID-19.

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| How can you reduce your risk of COVID-19? | Explain why this would reduce your risk of COVID-19. |
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The video was made before COVID-19 vaccines were available, so it does not mention vaccines. Vaccination significantly reduces the risk of coronavirus infection, with especially strong protection against severe COVID-19 that causes hospitalization and sometimes death. Vaccinations are another effective way to reduce the spread of COVID-19. However, vaccines alone can’t do the job of preventing the spread of COVID-19, because:

* The vaccines provide good, but not 100% protection against mild COVID-19.
* Millions of people in the US have an illness or treatment for an illness that has weakened their immune system, so the vaccines are less effective for them.
* Some people are not vaccinated yet; this includes almost all children under 12, since vaccines for them are still being tested.

**2.** Suppose that you have a classmate who has cancer. His treatment has severely weakened his immune system, so vaccinations are less effective for him. If he gets a coronavirus infection, he is likely to have severe COVID-19. He wants to attend school with his friends. Describe two ways that you and your classmates can reduce his risk of coronavirus infection. Explain your reasoning.

**3.** The risk of fatal COVID-19 is very low for children and increases with age. Explain how prevention of COVID-19 in children and teens can reduce adult deaths due to COVID-19.

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| Everyone releases respiratory particles into the air, especially when they talk, shout, sing, sneeze or cough. Larger respiratory particles drop out of the air within a few feet, but tiny respiratory particles can float in the air and spread around a room.  A person who has a coronavirus infection releases respiratory particles that contain coronaviruses. Even if the person does not have any symptoms, their respiratory particles can infect other people.  A mask worn by an infected person reduces the risk that he or she will transmit the infection to others. A mask worn by someone who is not infected reduces the risk that he or she will become infected with the coronavirus. However, some types of masks or ways of wearing a mask are not very effective. |  |

**A collage of a person's face and a person's face

Description automatically generated with low confidence**

**4a.** Which picture shows the most effective way to prevent transmission of the coronavirus?

A \_\_\_ B \_\_\_ C \_\_\_

**4b.** Explain why the face coverings shown in the other two pictures will be less effective.

**5.** Experts recommend that all students and teachers should be required to wear masks in school. Even those who have been vaccinated and those who don’t have any symptoms of COVID-19 should wear masks when inside a school. Explain the scientific reasons for this recommendation.

1. ### By Dr. Ingrid Waldron, Dept Biology, Univ Pennsylvania, © 2021; this Student Handout and Teacher Notes (with instructional suggestions and background biology) are available at <https://serendipstudio.org/exchange/bioactivities/coronavirusprev>.

   [↑](#footnote-ref-1)