Centers for Disease Control and Prevention

Interactive Home Ventilation Tool

Updated Feb. 9, 2022

Small particles that people breathe out can contain virus particles, including the virus that causes COVID-19. If a guest visits your home, improving ventilation (air flow) can help prevent virus particles from accumulating in the air. Good ventilation, along with other preventive actions, like staying 6 feet apart and correctly wearing masks, can help prevent you from getting and spreading COVID-19.

We need your feedback! Help us improve this tool by taking a quick survey after using the tool below.

How can I decrease the level of virus particles during and after a guest visits my home?

Select the options below to see how particle levels change as you adjust ventilation settings.

(To create additional scenarios, including to adjust the length of the visit and size of the home, see the expanded model from the National Institute of Standards and Technology.)

HVAC Operation

Off/Not applicable

Filter (Skip if no HVAC system)

Premium (MERV 13)

Portable HEPA Air Cleaner

No

Open Window

No

Extra hour of ventilation

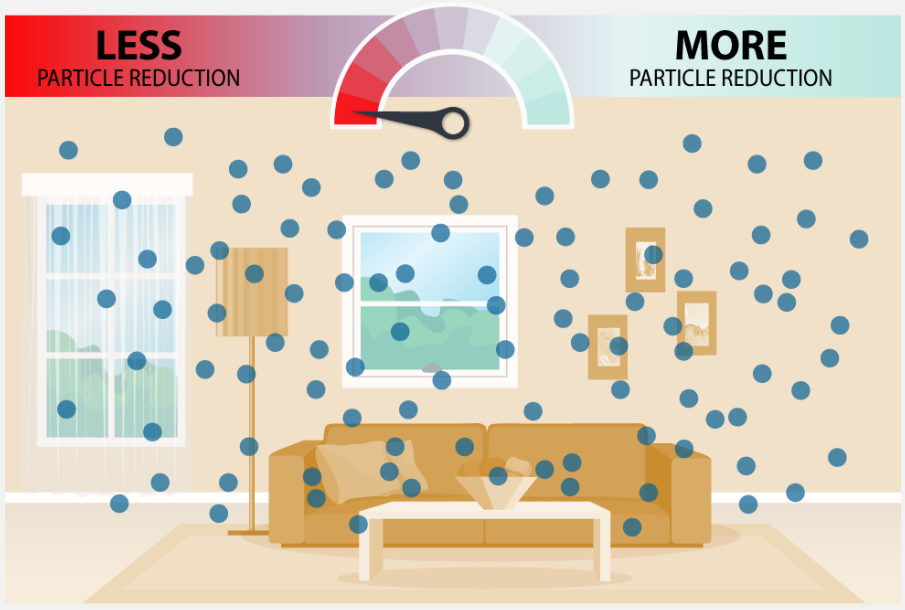
Yes

Submit

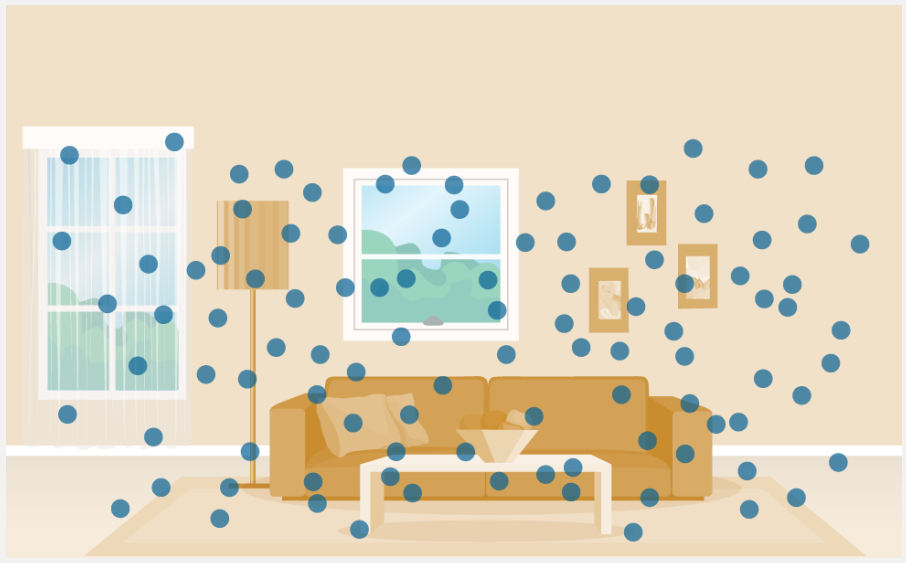
Your Results

End of 4-hour visit	1 Hour Later
0%	0%

0% particle reduction achieved in your home by using ventilation.



0% particle reduction achieved in your home by using ventilation. **You can decrease particles even more by continuing to ventilate for an extra hour.**



> The risk of getting COVID-19 varies according to individual susceptibility and the number of virus particles to which a person is exposed. The ***fewer*** virus particles in the air, the better.

Model assumptions

This tool uses modeling data from the National Institute of Standards and Technology. The results are estimates and might not be exact in the real world. Our model assumes a visitor is staying for 4 hours in a 1,000 square-foot space and is not wearing a mask. This size is used because 1,000 square feet is the size of an average one-bedroom apartment in the United States, or about one floor of a larger home. The first panel shows particle reduction based on levels that would be in the air at the end of a 4-hour visit. The second panel shows particle reduction 1 hour after the visitor leaves.

If the “Open Window” option is selected as “Yes,” the tool assumes one single open window. All scenarios are compared against a scenario with no open windows, no HEPA air cleaner, and no HVAC system use. For this model, a “premium” filter is based on one rated for MERV 13 filtration and “regular” filter is based on MERV 6 filtration. Learn more about HVAC filters and portable air cleaners. Visit Ventilation in Buildings (item #3 in Ventilation FAQs) to learn more about MERV ratings.

Download Data [CSV – 2 KB]

Last Updated Feb. 9, 2022

const { default: imageminSvgo } = require("imagemin-svgo");