

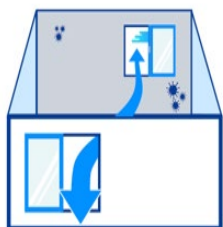


Ventilation Information for K-12 Schools

WHY IS VENTILATION IMPORTANT TO SCHOOLS?

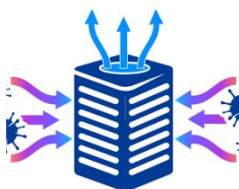
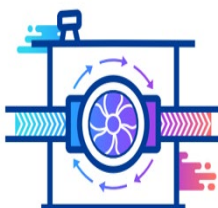
- Improved air quality in schools has a major impact on **student health** and **academic performance**, including reduced school closures, reduced absenteeism, and improved educational outcomes.
- Prioritizing ventilation in schools is also crucial to **stop the spread of COVID-19 and other infections**, as well as limit exposure to chemicals that may exacerbate asthma and other chronic diseases.
- A study found that bringing classroom ventilation rates up to the State standard would decrease illness absence by 3.4% and increase attendance-linked State funding by \$33 million annually. ¹
- **Keeping schools open and students in classrooms is also essential for recovering from pandemic-related learning loss.**

WHAT CAN SCHOOLS DO TO IMPROVE VENTILATION?



Open Doors and Windows
(Natural Ventilation)

Optimize or Upgrade Your
Mechanical Ventilation (HVAC)
System



Add Portable Air Cleaning
Devices (PACs)

To find an **air quality consultant** to assess your school's ventilation system and provide recommendations, visit:

<https://www.aiha.org/consultants-directory>

The California Department of Education maintains a list of **federal stimulus funding** opportunities to support ventilation improvements in schools at:

<https://www.cde.ca.gov/fg/cr/index.asp>

Information on federal stimulus funding from the **American Rescue Plan** within the Elementary and Secondary School Emergency Relief Program can be found at:

<https://www.cde.ca.gov/fg/cr/arpact.asp>

¹Mendell et al. (2013) Association of classroom ventilation with reduced illness absence: a prospective study in California elementary schools. *Indoor Air*

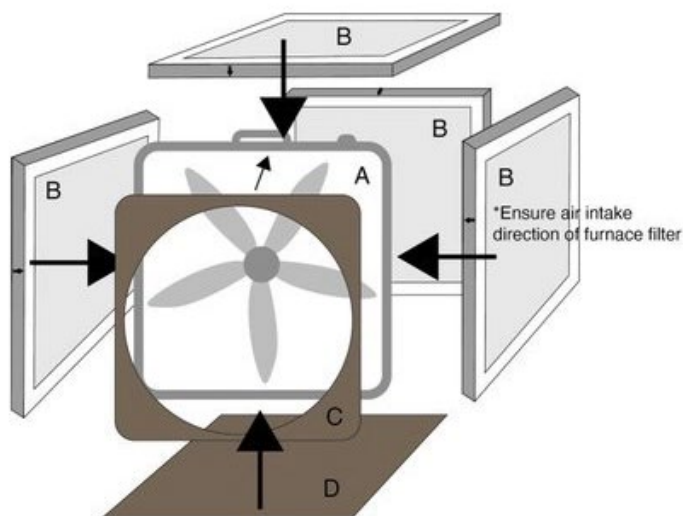


CONSTRUCTING A CORSI-ROSENTHAL BOX

Corsi-Rosenthal Boxes are reported to process approximately 600 feet per minute of air through the 3 speed box fans. Supplies needed to construct a Corsi-Rosenthal Box include:

1. (1) 20"x20" box fan – approximately \$20
2. (5) 20"x20"x1" MERV13 filters – approximately \$50 for 5
3. Duct tape

In an average size classroom, a Corsi-Rosenthal filter with 600 feet/min airflow can produce an **additional 4 Air Changes per Hour (ACH)**. This is in addition to existing ventilation systems with fresh air entry and open windows when possible. Ventilation guidelines for school classrooms are 4-6 ACH. Utilization in Special Educational classrooms may be highly beneficial. It is recommended that filters be changed every 3 months for maximum efficiency.



Materials:

- (A) 1x 20"x20" box fan
- (B) 4x 20"x20"x1" furnace filters
MERV 13*/Filtrete FPR 1900
(*can use MERV 11 if not available)
- (C) 1 fan shroud made of fan box
- (D) 1 fan bottom made of fan box
- lots of duct tape to seal everything super well

References:

Twitter: @corsiaq, @jimrosenthal4, @kprather88
<https://www.texairfilters.com/a-variation-on-the-box-fan-with-merv-13-filter-air-cleaner/>
[https://www.texairfilters.com/how-to-improve-the-efficiency-of-the-bo](https://www.texairfilters.com/how-to-improve-the-efficiency-of-the-box-fan-and-merv-13-filter-air-cleaner/)
x-fan-and-merv-13-filter-air-cleaner/

