

Improving indoor air quality in Utah schools with free air purifiers

Fact Sheet for School Districts

The Utah Department of Health and Human Services (DHHS) is working with partners to provide **free air purifiers in Utah schools**. This fact sheet explains why indoor air quality in schools is important for students' health and how your school can improve air quality.

Air pollution and children's health

Air pollution is a mix of hazardous substances from both man-made (e.g. vehicle emissions, power plants, industrial facilities, and factories) and natural sources (e.g. wind-blown dust and wildfires). Air pollution affects everyone's health, but children are especially vulnerable because their lungs and bodies are still growing. On a pound-per-pound basis, children also breathe more air compared to adults. Emerging evidence shows that air pollution can affect neurodevelopment, however more research is needed to understand the long-term health impacts. A study paid for by the National Institute of Environmental Health Sciences (NIEHS) at the University of Southern California is one of the largest studies of the long-term effects of air pollution on children's respiratory health.

Among its findings:

- Higher air pollution levels increase short-term respiratory infections, which lead to more school absences.
- Children who live near busy roads are at increased risk for asthma.
- Children with asthma who were exposed to high levels of air pollutants were more likely to develop bronchitis symptoms.
- Living in communities with higher air pollution levels can cause lung damage.



Indoor air quality in schools

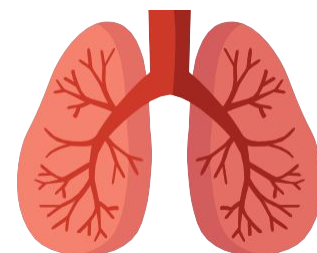
Indoor Air Quality (IAQ) refers to the air quality inside and outside buildings. Because many school buildings are older and have inadequate ventilation systems, **IAQ can be 2 to 5 times more polluted than the air outside**. IAQ can also impact building occupants' attendance, comfort, and performance. **Nearly 1 in 13 school-age children has asthma**, the leading cause of school absenteeism due to chronic illness. There is substantial evidence that indoor environmental exposure to allergens (such as dust mites, pests, and molds) plays a role in triggering asthma symptoms. These allergens are common in schools. Other typical indoor air pollutants include:

- Carbon dioxide (CO₂)
- Carbon monoxide (CO)
- Fine particulate matter (PM)
- Lead (Pb)
- Nitrogen oxides (NO, NO₂)
- Pesticides
- Radon (Rn)
- Volatile organic compounds (VOCs) (formaldehyde, solvents, cleaning agents)

Health effects from poor IAQ

Poor indoor air quality can cause similar health effects as exposure to outdoor pollution including:

- decreased lung size and function,
- acute respiratory illnesses (such as asthma and bronchitis),
- emphysema, and
- some types of cancer.



Short-Term Health Effects

- Eye, nose, throat and lung irritation
- Headaches, dizziness, and fatigue
- Trouble concentrating

Long-Term Health Effects

- Lung diseases
- Heart disease
- Worsens existing health conditions such as asthma and bronchitis

Improving IAQ in schools

The health and comfort of students and teachers contribute to learning and productivity in the classroom, which in turn affects performance and achievement. There are no appropriate health-based guidelines or IAQ standards for environments such as schools (not including asbestos, lead, and radon). While there are some industrial standards for permissible exposure limits for certain chemicals used in manufacturing and other workplace settings, these standards should not be used for children, sensitive populations such as pregnant women, the elderly, or people with certain illnesses. However, schools can act to protect the health of their students and staff by reviewing the Environmental Protection Agencies (EPA) "Healthy Schools" program which provides tools to assess and fix IAQ problems.

To help keep indoor air clean:

- Keep doors and windows closed to keep pollutants out on poor air days.
- When air quality is good, open windows and doors to increase airflow.
- Optimize heat, ventilation, and air conditioning (HVAC) systems. Use
- fragrance-free cleaning products that meet EPA's Safer Choice
- Standard.
- Use High Efficiency Particulate Air (HEPA) purifiers in the classroom.



Free CARB-certified air purifiers in Utah schools

Through a limited time program, all public, charter, and private K-12 schools can obtain CARB-certified air purifiers in classrooms and other areas where students and faculty spend time (break rooms, faculty lounges, gyms, etc). This program is federally funded until July 2023.

For more information

If you would like more information about the DHHS program to get free air purifiers in your school please contact your local health department or e-mail Brandi O'Brien at Brandi@uphe.org.

For more information about indoor air quality and health please email us at EEP@utah.gov.

Additional indoor air quality resources

EPA Indoor Air Quality in Schools:
epa.gov/iaq-schools



Eco-Healthy Child Care Indoor Air Quality:
cehn.org



Air Quality in Utah:
<https://epht.health.utah.gov>

