



Indoor Air Quality Tools for Schools

Indoor Air Quality (IAQ)

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NEWS AND EVENTS

- **Participate in the Virtual School Walkthrough 2.0 Webinar.** Listen to a [sneak peek](#) of what IAQ experts Richard Prill from Washington State University and David Blake from the Northwest Clean Air Agency will cover in this webinar regarding best practices and guidance on complaint response, diagnostic instrument use, and the pros and cons of air sampling. The webinar will be held **Thursday, Jan. 26, 2012, at 1 p.m. EST.** [Register today!](#)
- **Participate in the Clean, Green and Healthy Tribal Schools Webinar Series.** The goal of the webinar series is to provide information and tools for tribal school personnel to ensure that tribal schools are clean, green and healthy for staff, students and their communities. Webinars will be held **every Wednesday for six weeks** starting on Jan. 18, 2012. [Learn more today!](#)
- **Download the Operation Report Card (ORC) Mobile App.** The [mobile version](#) of the CHPS (Collaborative for High Performance Schools) [ORC program](#) allows students to assess their school's indoor environment using iOS devices and receive a report card that includes suggestions for improvements. These assessments address five categories: energy efficiency, thermal comfort, visual comfort, IAQ and acoustics.
- **Attend EPA's Healthy and Sustainable School Environments Session at the Green Schools National Conference.** EPA representatives will lead an educational session and staff an exhibit booth at the [2nd Annual Green Schools National Conference](#), being held **Feb. 27–29, 2012, in Denver, Colo.** The session will include effective strategies for managing school environmental health during

Did you know...

The [IAQ Tools for Schools website](#) has been revised to include interactive elements and the latest resources to help schools create healthy indoor environments?

Visit the website to access an [interactive IAQ Tools for Schools Action Kit](#). The Action Kit includes checklists that you can download and tailor for your school, as well as resources on radon, asthma management and much more!

Within the Action Kit, you will find an [interactive Problem Solving Tool](#), which provides an easy, step-by-step process to start identifying and resolving IAQ problems at your school.

Do you find the revised website useful? Spread the word by sending this Web address to your colleagues and peers: <http://epa.gov/iaq/schools/>.

Should we test our school buildings for radon? How do we keep mold from returning once it has been removed?

Find answers to these and other questions on the Schools IAQ Connector Email Discussion List. **Join today** by sending a blank email message to schools_iaq_connector-subscribe@lists.epa.gov. Check your email inbox for confirmation and membership details.

Access Past E-Newsletters Online

Can't find a past *IAQ Tools for Schools* Connector e-newsletter in your email inbox? No problem! Visit the [e-newsletter archive](#) on the *IAQ Tools for Schools* website to access printable versions (PDF) of all past editions.

new construction, renovation and retrofit, and ongoing operations. These strategies can help schools improve environmental quality, reduce energy use and support sustainable, green solutions.

- **Attend the “What’s Next for Sustainable Schools and Communities” Symposium.** This one-day event is co-sponsored by the Council of Educational Facility Planners International (CEFPI) and the Global Institute of Sustainability at Arizona State University, and will be held on Feb. 10, 2012, in Tempe, Ariz. To learn more about this event and to register, visit the [CEFPI website](#).

LINK YOUR IAQ AND ENERGY EFFICIENCY EFFORTS



One fifth of the U.S. population, or 55 million students and 7 million teachers, administrators and staff members, learn and work at more than 132,000 public and private K-12 schools. Priority areas for these schools may vary based on size, budget and other factors, but for many schools, they aim to improve student and staff health and wellness, reduce energy use, and ultimately, save money.

Studies demonstrate a connection between improvements in IAQ and [improved health and performance](#) of children and adults. Children are inherently more vulnerable to indoor air pollution because their bodies are still developing, and they breathe a greater volume of air relative to their body weight, compared to adults.

While improving the health of occupants is a concern for many school officials, energy costs are also a fundamental issue for schools. These efforts do not have to be made independently. With proactive planning and communication, school managers and officials can effectively [integrate IAQ and energy efficiency](#) activities during renovations and ongoing maintenance and operations. An integrated approach to IAQ and energy efficiency has the potential to lower energy costs, advance environmental sustainability goals and protect occupant health.

“At our school district, we have made the connection between the energy required to operate our classrooms, gyms and school facilities, with our IAQ efforts. We developed an IAQ management program that not only focuses on IAQ issues related to asthma management, but also energy efficiency, including promoting the three R’s – reduce, reuse and recycle. And when it comes to creating a healthy environment in our school district, education is key. We strive to educate everyone in the school community – from students, teachers and staff – on the importance of using less energy and reducing air pollution sources in order to make a difference.”

**— Victor Melton, Environmental and Energy Manager,
Carrollton-Farmers Branch Independent School District, Texas**

“As a career tech center, our concerns for IAQ went beyond increasing attendance and productivity. We had issues that arose in several repurposed rooms, for instance a horticulture lab that is now an employment skills lab. And our entire building was over-ventilated, creating enormous inefficiencies. After implementing a (HB264) Energy Conservation Project, our internal air quality improved drastically. We now have a highly efficient building that is more comfortable, hygienic and safer for our students and staff.”

— Mark Miciak, Facility Manager, Polaris Career Center, Ohio

PROTECT OCCUPANT HEALTH AND LOWER ENERGY COSTS AT YOUR SCHOOL

[Energy efficiency](#) initiatives at schools reduce energy use and save money, but can also impact — positively or negatively — indoor air quality and occupant comfort in school buildings. To achieve a positive impact, schools can institute practices to address risks and take advantage of opportunities presented by energy upgrades and retrofits.

One area where this impact often occurs is the interaction of the operation of the heating, ventilation and air conditioning ([HVAC system](#)) and the characteristics of the building envelope (walls, foundation and roof). Outdoor air ventilation performs the important function of diluting the indoor pollutants that are generated by the occupants (e.g., germs), products that occupants use (e.g., marking pens, copiers, lab materials, cleaning products), and the chemical emissions from building materials. While positive IAQ and energy efficiency effects can be attained through proper management, balancing and cleaning of the HVAC system, outdoor air that improperly enters the building through the HVAC system can negatively affect IAQ. Without proper ventilation, levels of indoor pollutants can rise, sometimes to the point that occupants get sick, negatively affecting academic performance.

The building envelope and the HVAC system also impact indoor humidity levels. Moisture control in buildings is a critical measure of IAQ, because excess moisture induces mold growth. [Dampness and mold](#) can cause or exacerbate asthma and other respiratory illnesses that are major contributors to student performance and absenteeism. A well-designed building envelope can reduce mold growth by preventing condensation inside the envelope or on its inner surface. It does this by reducing moisture flows through the envelope using proper vapor barriers, and by preventing the inner surfaces from getting too cold. Assess the list of resources below to get more ideas on how to tie your IAQ management efforts to energy efficiency initiatives:

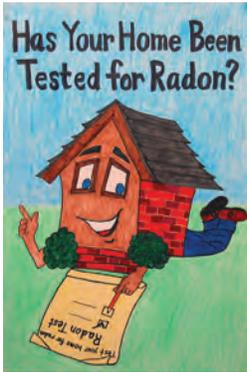
- [School Advanced Ventilation Engineering Software \(SAVES\)](#) is a free software package that architects, engineers, school officials and others can use to determine which type of ventilation equipment is best for their needs.
- [Integrated Building Evaluation and Assessment Model \(I-BEAM\)](#) contains text, animation and interactive components that can be used for conducting an IAQ building audit; diagnosing and resolving IAQ-related health problems; establishing an IAQ management and maintenance program to reduce IAQ risks; planning IAQ-compatible energy projects; protecting occupants from exposures to construction/renovation contaminants; and calculating the cost, revenue and productivity impacts of planned IAQ activities.
- [The Framework for Effective School IAQ Management: Technical Solutions](#) help school facilities and maintenance staff members address common issues to effectively manage IAQ risks. When addressed systematically and aggressively, an IAQ program that focuses on the Six Technical Solutions will deliver a healthier school environment.
- [EPA's ENERGY STAR Guidelines for Energy Management](#) are based on the successful practices of ENERGY STAR partners. These guidelines can assist school districts in improving their energy, environmental and financial performance.
- [Benchmarking with EPA's ENERGY STAR measurement and tracking tool, Portfolio Manager](#), is a key first step to understanding and improving building energy performance. With Portfolio Manager, building managers can assess their buildings' energy performance, water efficiency, and carbon emissions. To qualify for the ENERGY STAR, a building must earn a 75 or higher on EPA's 1-100 energy performance scale, indicating that the facility performs better than at least 75 percent of similar buildings nationwide.

2012 NATIONAL RADON POSTER CONTEST WINNERS

As part of an ongoing national effort to raise awareness about the risks of radon, each year students from schools around the country participate in the [National Radon Poster Contest](#). Entries consist of students' own original artwork designed to raise awareness about radon and encourage testing in every home.

Please join EPA in congratulating student winners of the [2012 National Radon Poster Contest](#). Click on the images to see an enlarged version.

Celebrating the National Radon Poster Contest Winners

First Place	Second Place	Third Place
		
Laura, Age 14 New York, NY	Hayden, Age 11 Athens, GA	Jorgia, Age 14 Weston, FL

To see the complete list of Radon Poster Contest national and state winners, [click here](#). Congratulations to the winners and thank you to all participants!

The National Radon Poster Contest is conducted by Kansas State University under a cooperative agreement with the U.S. Environmental Protection Agency.

GET ANSWERS TO YOUR QUESTIONS

Is there a topic you want to see covered in an *IAQ Tools for Schools Connector* e-newsletter? Do you have suggestions for a webinar or e-newsletter feature, or do you have a questions about a specific IAQ topic? If so, send us an email at IAQTfSConnector@cadmusgroup.com.

Share YOUR news and events! Send us information to share with the school IAQ community. It could be featured in the next Connector e-newsletter. Email your news to IAQTfSConnector@cadmusgroup.com.

The *IAQ Tools for Schools* guidance is a comprehensive resource designed to help schools maintain a healthy environment in school buildings by identifying, correcting and preventing IAQ problems. Learn more about the *IAQ Tools for Schools* guidance at www.epa.gov/iaq/schools.