Who are we?

Environmental and Conservation Services (ECS) is a non-instructional department within the Division of Support Operations. ECS is responsible for the District's compliance with all environmental regulations and for providing assistance to schools and departments related to environmental compliance programs and public health incidents. ECS acts as an internal regulator, educator, project manager, and consultant. The District's sustainability initiative led by ECS staff provides resources and support to schools and departments interested in waste reduction, recycling, energy and water conservation, and other green practices. ECS strives to reduce the District's environmental footprint while creating a productive workplace and healthy school environment.

- Asbestos
- Clean Air Act
- Clean Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Demolition
- Electronic Waste
- Environmental Site Assessments
- Green Schools
- Hazard Communication
- Hazardous and Industrial Waste
- Indoor Air Quality

Lead Based Paint

- Lead in Drinking Water
- Petroleum
- Protected Species
- Radon Gas
- Resource Conservation and Recovery Act (RCRA)
- Superfund Amendments and Reauthorization Act (SARA Title III)
- School Sustainability
- Spill Prevention, Control, and Countermeasure Plan
- Wellfield Protection
- Wetland Preserves

Contact Us

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Indoor Air Quality Tips for Teachers



ENVIRONMENTAL & CONSERVATION SERVICES

Indoor Air Quality Program

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Applicable District Policies, Initiatives & Standard Procedures:

- **Indoor Air Quality - SDPBC Policy #7.195**
- **Temperature & RH Standards - Energy and Water Conservation - SDPBC Policy #7.196**
- **Animals on District Property - SDPBC Policy #7.24**
- **Tobacco-Free Environment - SDPBC Policy #7.19**
- **School Bus and Heavy Vehicle Idling - SDPBC Policy #2.24**
- **Carpet Flooring Prohibition – 1993 Memorandum**
- **Chalkboard Removal - M&PO Program (replacement with dry-erase/ low VOC markers)**
- **Chemical Approval - Approved Science Chemical List and IAQ Policy**
- **Deodorizers & Scented Candles – Bulletin #P-11383- FO/EBRM and IAQ Policy**
- **"Green" Custodial Cleaning - M&PO Initiative and IAQ Policy**
- **Integrated Pest Management - M&PO Program and IAQ Policy**

Tennis Balls - 2002 SDPBC Memorandum and IAQ Policy

EPA Tools for Schools

Potential Pollutant Sources

- Insects: cockroaches and dust mites
- Carpet
- Aerosol sprays
- Building odors
- Hidden sources – pet dander
- Personal perfumes and fragrances
- Food odors / spices
- Indoor plants

Six Key Drivers

- Organize - Standard Operating Procedures
- Communicate - Make IAQ meaningful
- Assess - Inspections and interviews
- Plan - Strategize and prioritize
- Act - Educate about IAQ to change behavior
- Evaluate - Constant feedback request

Six Technical Solutions

- HVAC - Preventative Maintenance
- Moisture/Mold - Mold prevention and remediation plan
- Integrated Pest Management - Plan, inspect, notify, treat
- Cleaning and Maintenance - Custodial cleaning and facilities management
- Materials Selection - Low-emitting, least toxic, formaldehyde-free
- Source Control - Eliminate known hazards and mitigate potential concerns



The Key to Protection is Prevention

Although nothing can be done to totally eliminate exposure to common allergens, such as dust, dust mites, mold spores or pollen, certain actions can be taken to reduce this exposure.

Poor indoor air quality often results from the failure to follow practices that help create and maintain a healthy indoor environment. Common examples include failure to:

- Control moisture and clean up spills
- Control temperature and humidity
- Control pollution sources such as cleaning products, art supplies, and laboratory activities
- Minimize the use of pesticides
- Keep the classroom clean



Teachers play an important role in promoting and maintaining healthy indoor air quality!

What is Indoor Air Quality?

So what exactly is Indoor Air Quality, why is it so important, and what does the School District of Palm Beach County do about it?

Simply stated, air quality is quality of the air within the built environment, taking into consideration all factors that affect air quality. The School District strives to provide a healthy environment for students, teachers, staff and visitors whenever they enter our facilities.

Healthy Children for a Healthy Future

Children's lungs are very sensitive to air pollutants. Air pollution affects children more than adults because of their narrow airways, higher rate of respiration, and the fact that they inhale more pollutants per pound of body weight.

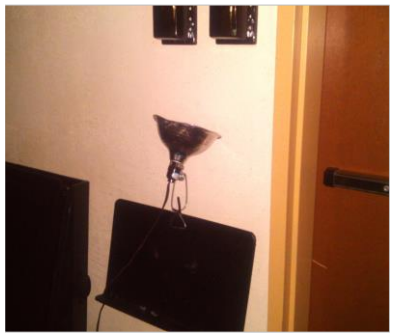


Children are more vulnerable to toxins due to their developing metabolic systems. Their ability to detoxify and excrete toxins differs from that of adults. Children are usually not able to excrete toxins as efficiently as adults, and thus are more vulnerable to them.

Poor indoor air quality can result in increased absences and poor academic performance. Poor indoor air quality is often a factor and trigger of asthma, respiratory infections, allergic reactions to biological contaminants, or irritant reactions to chemicals used in virtually every part of the school. Asthma is the number one cause of school age absenteeism.

Cockroach and dust mite allergens, molds and mildew, animal dander, pesticides, aerosol sprays, strong odors, fibers and dust are common indoor pollutants which irritate the tissues of the lungs and upper airways.

Thermal Comfort



Temperature and relative humidity (level of moisture present in the air) can affect comfort and indoor air quality. Changing thermostat settings or opening windows to try to control temporary fluctuations in temperature can worsen comfort problems and also have an adverse affect on indoor air quality.

Air-conditioning systems are designed to cool interior air, remove moisture, and maintain building temperature at a specific set-point. Turning the thermostat drastically lower will not cool the room more quickly. In fact, reducing the temperature too much will impact the dew-point, allowing moisture to condense on cold surfaces, thereby providing an opportunity for prolific surface mold growth.

- Keep thermostats set at 75 -78° F. Do not block air vents or open doors or windows while the A/C is running.
- Doors and windows should only be opened on cool, dry days.

Walk-off Mats and Area Rugs

Area rugs should be limited to one per primary classroom as per School Board guidance. Walk off mats should be utilized in classrooms with exterior access. Mats limit dirt that enters the building. Concerns related to mats include:



- Odors and stains
- Routine custodial cleaning
- Moisture damage below mats

IAQ and SDPBC

Did you know the School District has a comprehensive, national award-winning program for maintaining and improving Indoor Air Quality conditions in school centers and support facilities?

The US Environmental Protection Agency (US EPA) recognized the District with their Excellence Award in 2003 and subsequently presented the District with the 2007 Indoor Air Quality Tools for Schools National Model of Sustained Excellence Award. As noted on the U.S. EPA's website for this award: "Winners of the Model of Sustained Excellence Award demonstrate an enduring commitment to student and staff health and wellness by building, evaluating, sustaining, and institutionalizing robust and highly effective school IAQ management programs."

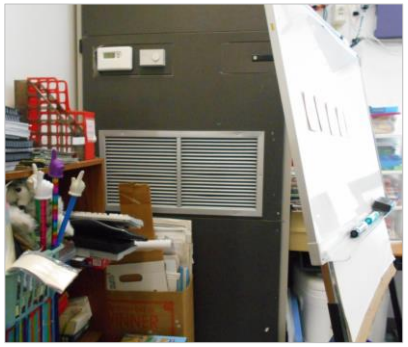
The School District recognizes that "a healthy indoor environment provides a positive learning environment for students and a positive working environment for employees."

In 2008, the School Board adopted Policy 7.195 Indoor Air Quality as a means of maintaining good air quality in all District facilities. It is the intent of the School District to minimize potential exposures to common indoor allergens and pollutants. Featured services include the following:

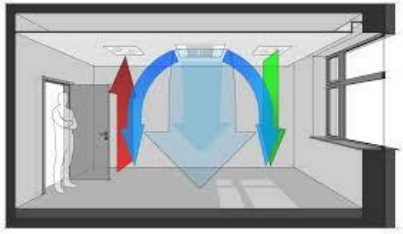
- Indoor Air Quality Investigations
- Infectious Disease Response Actions
- Integrated Pest Management Support
- Odor Assessments
- Severe Weather - Damage Response
- Suspect Mold Evaluations
- Thermal Comfort Parameters
- Water Damage Remediation



Classroom Air Distribution



Poor air circulation due to obstructed vents compromises air filtration rates, resulting in increased allergens and pollutants within the classroom.



Clutter and Storage

Clutter inside classrooms, cabinets, and closets reduces the positive benefits of routine custodial care by impeding access, provides harborage for pests (particularly cockroaches) and results in the build-up of excessive quantities dust and debris. Stuffed animals are often used in reading centers or general classroom spaces to comfort students; however, the fabric outer shell of stuffed animals collect large quantities of dust, dust mites, dirt, pin worms, head lice and other allergens, and can serve as vector for the transfer of illness between students.



Cleaning Products

Many cleaning products contain potentially harmful chemicals, including bleach or ammonia which are strong airway irritants. Solid air fresheners often contain formaldehyde and other chemicals. Some of these products release toxins into the air quickly (off-gas), others do so gradually over time. Particles from aerosol sprays are small enough to travel deep within the lungs and can carry many toxic chemicals with them. Adverse health effects from household products include dizziness, allergic reactions, and respiratory tract irritation.

Mold, Moisture, Mildew



Mold and mildew have the potential to release disease-causing toxins and allergens into the air. They can trigger sneezing, watery eyes, coughing and act as asthma triggers. Mold spores, are naturally occurring and almost always present in outdoor and indoor air.

Report spills to your custodian. Report leaks and signs of moisture (stained ceiling tiles and musty odors) immediately to the school office. Water damaged materials such as carpeting, ceiling tiles, books and furnishings must be completely dried out within 24 hours to prevent growth of mold and mildew.

Mold can grow on many surfaces including building materials, books, and furnishings. If moisture is present, mold will thrive and reproduce rapidly. Excess moisture in the air often results in condensation on cold surfaces, leaks, spilled liquid or excess relative humidity. Moisture control is essential for suppressing mold growth.





Pets in the Classroom

Do not house animals in the classroom. Almost all pets can cause allergies, including dogs, cats and small animals like birds, hamsters, and guinea pigs. Reptiles and amphibians can carry ticks and bacteria. Certain children, in particular those with asthma, are sensitive to animal fur, dander, body fluids, and feces and may experience reactions to these allergens. Children can become sensitized (made allergic) by repeated exposure to animal allergens. Please refer to the Animals on District Property Policy #7.24 for additional guidance.



Classroom Pet Concerns

- Dander allergen
- Birds
- Warm blooded animals
- Fecal matter
- Personal pets (dander on school clothing)

Furniture Protectors



Often attached to chair and table legs under the guise of noise reduction and floor protection, tennis balls provide a favorable habitat for dust mites, dirt, and other residue. Chairs are often stacked on top of desks which brings pollutants and floor residue directly into the breathing zone and touch surfaces of sensitized individuals. As per IAQ Policy #7.195, use only District-approved chair glides.

Pest Control

In Florida, it is not uncommon to find pests, including insects, indoors. Other pests, such as rodents, enter buildings seeking food and shelter. Pest eradication activities must be conducted by professional, licensed staff or approved pest control professionals that are specifically trained for proper identification and treatment of pests in educational facilities.

Pesticides are a serious health concern. Improperly applied pesticides can harm you and your students. Pesticides can remain actively airborne for days or weeks and can be absorbed by toys, furnishings, and other surfaces. Even toys brought into a classroom several days after the classroom has been treated have been shown to absorb pesticides.

The immediate health effects from inhaling some common household pesticides include breathing difficulties, nausea, coughing, dizziness, blurred vision and headaches. When more than one pesticide is used, the combination of chemicals can become even more potent. Long-term exposure from repeated use and lingering residues can damage the liver, kidneys, and central nervous system.



Do not bring pesticides or other chemicals from home to school.

Cockroach allergen is a major trigger for childhood and adult-onset asthma. Cockroach allergen is secreted by dead roaches and also found in roach droppings. Cockroaches and ants are always searching for food and shelter. Keep classrooms pest free by storing all food items in tightly sealed containers, cleaning up crumbs and disposing of food wrappers promptly.