
# Broward Schools
# Indoor Air Quality Resource Guide

On an annual basis, Broward County Public Schools serves more than a quarter of a million students and employs more than 31,000 personnel. Collectively, they spend an estimated 90% of their time indoors. No wonder the District has made indoor air quality (IAQ) a priority.

This Resource Guide highlights the major facets of our IAQ program so they are at your fingertips: key solutions to IAQ concerns, Our Tools for Schools process, a helpful first-step checklist, the truth about mold, and much more. We hope you will enjoy reading it and find the information useful.

# What is IAQ?

**indoor (in'dor')**
*adjective.* Situated, happening or used inside a building.

**air (âr)**
*noun.* A colorless, odorless, tasteless, mixture of nitrogen, oxygen and small amounts of other gases that surround the earth and form its atmosphere.

**quality (kwol'i te)**
*noun.* An inherent or distinguishing characteristic; a property.

Indoor air quality describes the characteristics of the interior climate of a building, with a special concern for the impact on occupant health and comfort. Pertaining to the School Board of Broward County's indoor air quality (IAQ) program: A collaborative effort encompassing a variety of processes and policies created to protect the interior environment of our schools and offices.

## We have your numbers…

In response to an IAQ concern, our assessment team will measure the temperature, humidity and carbon dioxide ($CO^2$) in your classroom. For maximum comfort, these are the ideals:

| | |
|---|---|
| Temperature | 72-78° F |
| Humidity | Under 60% |
| $CO^2$ | 1,000 or less* parts per million |

*Indoor $CO^2$ readings should be no more than 700 PPM over outdoor readings. If the outdoor reading is greater than 300, the threshold will be greater than 1,000.

## …and here's our number

**754-321-4200**

# Key Solutions

## Six Ways to Unlock The Best IAQ Practices

Good IAQ involves maintaining healthy indoor environments through preventative, proactive and responsive solutions. The District has adopted IAQ practices recommended by the Environmental Protection Agency (EPA), including these six key solutions.

### Heating, Ventilation & Air Conditioning

Properly operating air-conditioning systems with clean filters will ensure the thermal comfort of students and staff.

### Moisture & Mold Control

Mold is everywhere, but it can be controlled. The first step is to control moisture.

### Integrated Pest Management

Pesticides can pose a threat to indoor air quality. The District has adopted environmentally-friendly alternatives to dealing with pests.

### Cleaning & Maintenance

Facilities Servicepersons play a key role in ensuring clean and healthy classrooms and offices.

### Materials Selection

All chemicals are pre-approved, labeled, dispensed, stored and discarded following safety guidelines.

### Source Control

This involves eliminating the origins of indoor pollutants or reducing their emissions. Examples include our "no smoking" policy and school bus anti-idling program.

# MOLD: MYTHS & TRUTHS

When it comes to mold, you have to separate the good, the bad, and the ugly.

**MYTH:**
All mold is bad.

**TRUTH:**
Molds are part of our natural environment. Outdoor mold plays an important part in nature by breaking down dead organic material such as leaves, and dead trees into topsoil. Humans consume molds in cheese, wine, yogurt, mushrooms, and many other foods. Mold is also used in antibiotics to cure diseases. Penicillin, for example, is derived from mold.

**MYTH:**
You can totally eliminate mold.

**TRUTH:**
It is impossible to eliminate all mold in the indoor environment, but you can control it. The way to control mold growth is by controlling indoor moisture.

**MYTH:**
Air quality testing is required to detect mold growth.

**TRUTH:**
Air sampling is not a standard practice and is not recommended by the Environmental Protection Agency (EPA) or the Center for Disease Control (CDC) due to the subjectivity of the results (outdoor vs. indoor). Also, there are no established safe levels or regulatory standards for mold. Mold assessment is mainly done through visual inspection of areas where there have been moisture problems or water damage. Telltale signs include discoloration, dampness, peeling paint, or the presence of a fuzzy growth.

**MYTH:**
You must call the experts to remove mold.

**TRUTH:**
Small amounts of mold can be effectively cleaned by Facilities Service persons, If the mold growth involves more than 1 classroom, is on porous materials, or covers a surface area of more than 10 square feet, contact Environmental Health & Safety for further instructions. Environmental Health & Safety will assess the area and identify the cause of the mold growth, and initiate repairs to prevent the growth from spreading to other areas.

**MYTH:**
Some classrooms have bad air.

**TRUTH:**
There is no such thing as bad air. Pollutants (such as air deodorizers, pollen, allergens, etc.) and pollutant pathways (such as air supply vents) introduce contaminants into classrooms. Our IAQ Team is always available to address IAQ concerns. However, before calling, for an IAQ Assessment make certain your Facilities Serviceperson has cleaned and sanitized affected surfaces, replaced HVAC filters, removed live plants or animals, and replaced stained ceiling tiles, as outlined in our IAQ Response Protocol. These actions may solve the problem.

# MOLD: SIGNS & SYMPTOMS

**SIGNS:**
You are the District's eyes, our first line of defense to prevent mold growth at your facility. Please report any of the following building related issues to your Facilities Serviceperson.

**Broken / Missing Ceiling Tiles** (allow dust, debris, unfiltered air into occupied space)

**Water Stained Ceiling Tiles** (sign of water intrusion – moisture leads to mold growth)

**Water Stained or Damaged Wall Material** (sign of water intrusion – moisture leads to mold growth)

**Leaks / Spills**

**Dirty / Dusty surfaces** - Dirty HVAC Supply Grills, Dirty HVAC Return Grills, Heavy Dust Build-up on surfaces, Dirty Floors or Stained Carpets.

(dust is the number 1 cause of allergic reactions for building occupants)

## SYMPTOMS:

Exposure to mold may cause a variety of health effects or none at all, depending on an individual's sensitivity to mold. For those who are sensitive, conditions or symptoms that may be triggered include:

- Allergies
- Asthma
- Nasal stuffiness
- Throat irritation
- Watery eyes

Prolonged exposure may induce more severe reactions. Symptoms usually disappear once the mold is removed.

Remember, the symptoms listed above are common and may be triggered by many things beside mold. Please do not assume mold is the cause. Our IAQ Assessment Team takes the necessary steps to ensure allergens are reduced or eliminated from the indoor environment, to provide occupants with a clean and healthy learning environment.

## HOW CAN YOU MANAGE MOLD IN SCHOOLS?

Mold spores are part of our natural environment.

- Mold spores cannot be eliminated from indoor environments
- Mold spores can be reduced by surface cleaning and air filtration
- Mold grows in schools when airborne mold spores land on a damp "food source" and begin digesting it

The key to controlling indoor mold growth is to control Moisture.

- Report all water leaks and moisture problems
- Clean and dry wet materials within 48 hours
- Keep indoor humidity between 35% and 65%
- Clean mold from surfaces and dry completely

# Six Key Drivers

## Steering us to a successful IAQ experience

We are proud of our achievements, including three national awards from the Environmental Protection Agency (EPA). However, don't think of us as an overnight sensation. We are a work in progress. The framework for our success is built upon our driving forces…one classroom, one survey, and one walkthrough at a time.

***ORGANIZE***

They say it takes a village. In this case, it takes one core assessment team and a multitude of site-based groups at each location. We apply a systematic approach so our stakeholders(teachers, administrators, staff members, parents, students, and our community partners) are on the same page.

**COMMUNICATE**

An interactive website. Immediate telephone response. E-mail correspondence. Open communication at every turn. From the survey results to the corrective actions, we let our stakeholders know the process and the outcomes.

**ASSESS**

Assessment plays a vital role. Occupants indicate their concerns on the online assessment request form. The IAQ Assessment team conducts the site assessment to identify the source or cause of the IAQ complaint. Once completed, all corrective actions are assessed by site-based administration and all involved departments.

**PLAN**

Each assessment has a plan of action. The plan of action will identify what actions need to be taken to correct deficiencies identified during the assessment and who is responsible for completing those actions

**ACT**

Simple actions (for example calling in work orders to address water intrusion before it becomes mold growth, removing air fresheners and non-approved chemicals from the classrooms, cleaning dust and allergens from surfaces) can prevent IAQ problems in your school. If after following the IAQ Protocol you still have concerns contact the Environmental Health & Safety Department and the IAQ Assessment Team will respond immediately.

**EVALUATE**

What did we do effectively? What process could use some fine-tuning? We welcome your feedback and have provided a number of avenues, from our interactive website to our follow-up satisfaction surveys, so you can let us know how we are doing.

# YOUR IAQ SELF-HELP CHECKLIST

Many IAQ concerns can be easily resolved at your location. Prior to seeking involvement outside of your site, please complete the following actions.

| For Facilities Servicepersons | For Teachers & Room Occupants |
|---|---|
| ☐ Remove excess buildup of dust.<br>- *Dust contains mold spores and allergens*<br>- *Excess dust triggers allergies.* | ☐ Remove all chemicals, room deodorizers & air fresheners<br>- *These items produce pollutants that trigger allergies.* |
| ☐ Clean surfaces including flooring<br>- *Maintaining a clean environment prevents allergens and unwanted pests.* | ☐ Remove all live plants.<br>- *The soil may contain allergens and mold spores.*<br>- *Over-watering can create moisture problems.* |
| ☐ Clean and properly install HVAC filters.<br>- *Properly installed filters remove allergens from the air. Filters must be clean for systems to operate efficiently.* | ☐ Remove all animals.<br>- *Some occupants may be allergic to pet dander.* |
| ☐ Clean and sanitize HVAC supply and return grills.<br>- *This helps eliminate dust and microbial growth build-up on the grills.* | ☐ Reduce Clutter.<br>- *Excess boxes, paper & stuffed animals hold dust, moisture & odors, are food sources for mold, and prevent optimal cleaning of the room.* |
| ☐ Replace stained ceiling tiles.<br>- *Wet tiles become environments for mold growth.* | ☐ Keep exterior doors and windows closed.<br>- *This helps to eliminate the introduction of untreated, unfiltered, humid air into rooms.* |
| ☐ Initiate a work order to correct water intrusion.<br>- *Water intrusion leads to mold growth. Being proactive prevents more serious issues.* | ☐ Only qualified technicians shall adjust thermostats.<br>- *This helps to ensure HVAC systems operate properly.* |

## THE BEST THINGS IN LIFE ARE FREE

### CLUTTER-FREE

Did you know the District's Facilities Servicepersons collectively clean approximately 38 million square feet of classroom and office space each day? To maintain our high standard of cleanliness, here is what you can do to help:

- Discard items that are no longer being used.
- Keep your desk and other surfaces free of objects that would interfere with cleaning and dusting.
- Remove all non-approved items: air fresheners, live plants, animals, and chemicals.
- Put things in their proper place.
- Simplify: Pick your favorite pictures, mugs, nicknacks. Your collector's items are collecting dust and allergens and cannot be cleaned by staff.
- Make space. The less cluttered the room and surfaces are, the easier it will be for Facilities Servicepersons to keep your room clean, sanitary, and healthy.

### PEST-FREE

Roaches, ants, rats, and fleas are among the types of pests we do not want attending class with our students. They create allergens and may carry diseases.

Traditionally, pesticides containing toxic chemicals were used to solve our pest problems. However, with pesticides' risk to the environment, including indoor air, alternative strategies are utilized: sanitation, maintenance, inspection, and monitoring. This approach is known as Integrated Pest Management (IPM). Pesticides are still used, but only the least toxic and only when necessary.

The District employs its own Certified Pest Control Operators and Pest Control Applicators. For high level problems, including termite extermination, we contract with outside vendors. Here's how you can help:

- Keep all food stored in tightly sealed containers.
- Wipe up any spills of soft drinks, juices, etc.
- Never use your own pesticides (i.e. spray cans or baits)