EPA

The *Indoor Air Quality Tools for Schools* Approach: Providing a Framework for Success

EPA's *Indoor Air Quality* (IAQ) *Tools for Schools* guidance has been implemented successfully in tens of thousands of schools nationwide. The Framework for Effective School IAQ Management synthesizes the accumulated learning of more than 800 schools involved in a national survey of IAQ management practices; 200 applicants for *IAQ Tools for Schools* awards; and in-depth interviews, site visits and analysis of five faculty school districts. The Framework provides a common language to describe the drivers of IAQ program success; detailed guidance on the proven strategies, organizational approaches, and leadership styles that are fundamental to program effectiveness; and a clear vision of the pathway to school IAQ excellence. Its highly flexible and adaptable structure allows any school, regardless of location, size, budget or condition, to use the Framework to launch, reinvigorate and sustain an effective IAQ management program.

The Framework: Key Drivers

The Six Key Drivers are the essential elements of effective and enduring IAQ management programs. Applying a cycle of continuous assessment, planning, action and evaluation, the Six Key Drivers work synergistically to deliver effective school IAQ management programs. The Six Key Drivers are:

- **Organize** for success.
- **Communicate** with everyone, all the time.
- **Assess** your environments continuously.
- **Plan** your short- and long-term activities.
- **Act** to address structural, institutional and behavioral issues.
- **Evaluate** your results for continuous improvement.

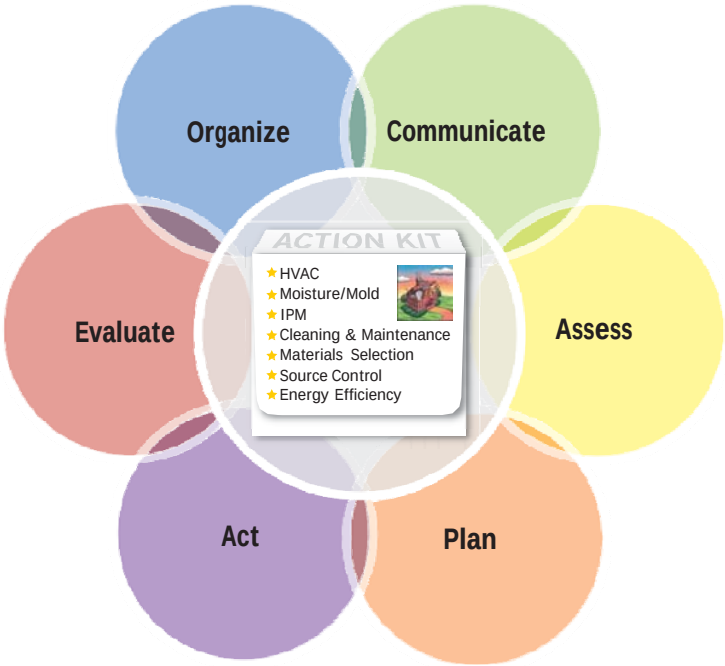
The Framework: Technical Solutions

The Seven Technical Solutions define the most common issues that schools need to address to effectively manage IAQ risks. When addressed systematically and aggressively, an IAQ program that focuses on the Seven Technical Solutions will deliver a healthier school environment. The Seven Technical Solutions are grounded in the *IAQ Tools for Schools* Action Kit, the Centers for Disease Control and Prevention School Health Policies and Practices Study and the management practices of leading school IAQ Programs. The Seven Technical Solutions are:

- Quality **HVAC**
- Control of **Moisture/Mold**
- Strong Integrated Pest Management (**IPM**)
- Effective **Cleaning and Maintenance**
- Smart **Materials Selection**
- Aggressive **Source Control**
- Integrated **Energy Management** Solutions

The Framework in Action

The *IAQ Tools for Schools* Framework: Six Key Drivers and Seven Technical Solutions is designed to promote the proven approaches and strategies for IAQ management that advance environmental health in schools. This Framework can help everyone involved in your IAQ program understand the overarching purpose of the work your team does every day and how those day-to-day tasks translate into significant environmental health achievements in your schools. The tools and materials provided in the Action Kit will help you put the Six Key Drivers and Seven Technical Solutions into action in your school district.



https://www.epa.gov/iaq-schools

The Framework for Effective School IAQ Management: **Six Key Drivers**

ORGANIZE
- Develop Systematic Approach
- Identify Existing Assets
- Design Standard Operating Procedures
- Empower an IAQ Leader
- Build an Effective Team
- Create Champions
- Secure Senior Buy-In

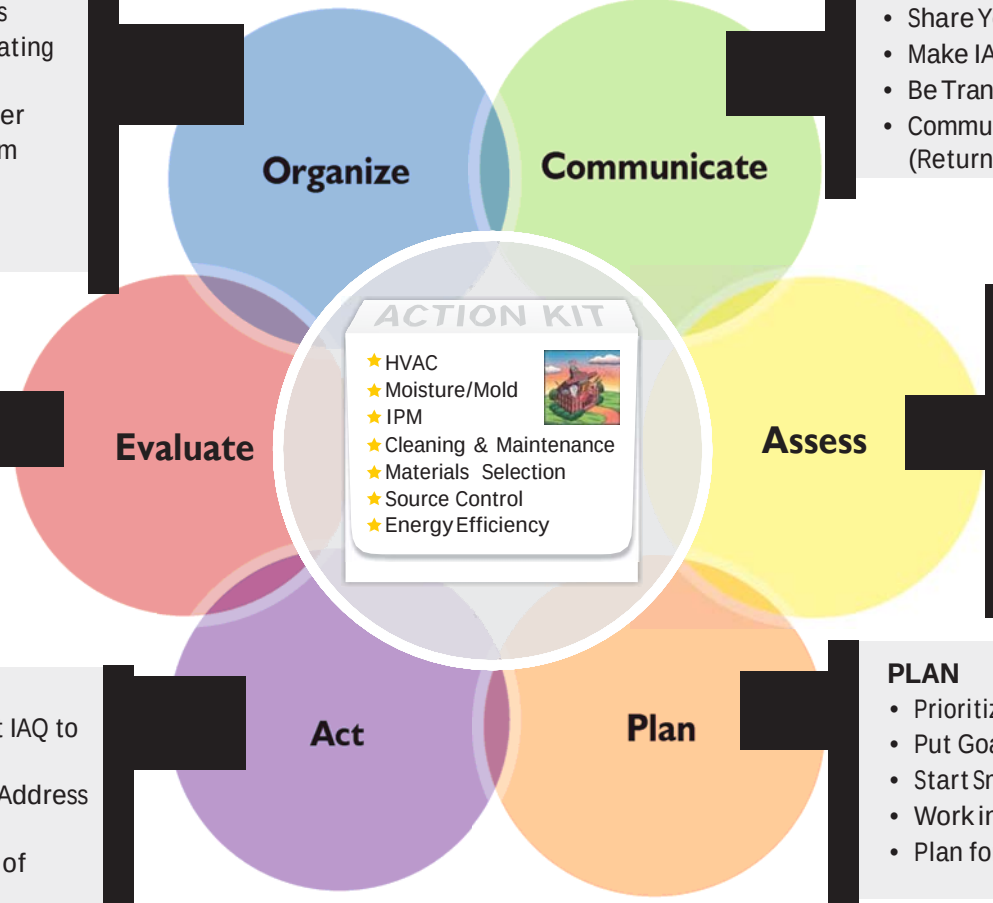
COMMUNICATE
- Share Your Goals
- Make IAQ Meaningful
- Be Transparent and Inclusive
- Communicate Results (Return on Investment)

EVALUATE
- Solicit Feedback
- Capture Return on Investment
- Measure, Assess and Track Program Implementation
- Document Accomplishments
- Determine the Most Effective Strategies for Continuous Improvement

ASSESS
- Walk the Grounds
- Listen to Occupants
- Use Technology
- Determine a Baseline
- Keep Customers Satisfied
- Identify and Prevent Risks

ACT
- Educate Staff About IAQ to Change Behavior
- Train Occupants to Address IAQ Risks
- Address the Source of Problems

PLAN
- Prioritize Actions
- Put Goals in Writing
- Start Small
- Work in Stages
- Plan for the Future



The Framework for Effective School IAQ Management: **Seven Technical Solutions**

Quality HVAC
- Inspect HVAC systems regularly
- Establish a maintenance plan
- Change filters regularly and ensure condensate pans are draining
- Provide outdoor air ventilation according to ASHRAE Standards or local code
- Clean air supply diffusers, return registers and outside air intakes
- Keep unit ventilators clear of books, papers and other items

Control of Moisture/Mold
- Conduct routine moisture inspections
- Establish mold prevention and remediation plan
- Maintain indoor humidity levels between 30% and 60%
- Address moisture problems promptly
- Dry wet areas within 24–48 hours

Strong Integrated Pest Management (IPM)
- Inspect and monitor for pests
- Establish an IPM plan
- Use spot treatments and baits
- Communicate with occupants prior to pesticide use
- Mark indoor and outdoor areas treated with pesticides

Effective Cleaning and Maintenance
- Conduct routine inspections of school environment
- Develop a preventative maintenance plan
- Train cleaning/maintenance staff on protocols
- Ensure material safety data sheets (MSDS) are available to staff
- Clean and remove dust with damp cloth
- Vacuum using high-efficiency filters

Smart Materials Selection
- Maintain products inventory
- Develop low-emitting products purchasing and use policies
- Use only formaldehyde-free materials
- Use only low-toxicity and low-emitting paint
- Select products based on product rating systems
- Use least toxic cleaners possible (only those approved by the district)

Aggressive Source Control
- Conduct regular building walkthrough inspections
- Test for radon; mitigate if necessary
- Implement a hazardous materials plan (use, label, storage and disposal)
- Establish a school chemical management and inventory plan
- Implement smoke-free policies
- Establish an anti-idling school bus policy
- Use walk-off mats at building entrances
- Conduct pollutant-releasing activities when school is unoccupied

Integrated Energy Management Solutions
- Protect IAQ during energy efficiency upgrades and building renovations
- Conduct regular HVAC maintenance and tune-ups
- Install programmable thermostats
- Consider performing post-construction commissioning for HVAC systems
- Control moisture in building assemblies, mechanical systems and occupied spaces

ACTION KIT

- HVAC
- Moisture/Mold
- IPM
- Cleaning & Maintenance
- Materials Selection
- Source Control
- Energy Efficiency