CT School Indoor Environment Resource Team

“Buy-In” Presentation

EPA’s Indoor Air Quality Tools for Schools
CT School Indoor Environment Resource Team

- AFT – Connecticut
- American Institute of Architecture
- American Lung Assn of CT
- CT Assn of Boards of Education
- CT Assn of Local Health Drs.
- CT Assn of Public Sch Superintendents
- CT Assn of School Business Officials
- CT Assn of School Administrators
- CT Council for Occup. Hlth & Safety
- CT Dept of Envir. Protection
- CT Dept of Education
- CT Dept of Public Health
- CT Department of Construction Services
- CT Education Association
- CT Foundation for Env. Safe Schools
- CT Interlocal Risk Management Assn
- CT OSHA
- CT PTA
- CT School Nurses Association
- CT School Building & Grounds Assn
- Southeast CT Indoor Air Coalition
- UCONN Health Center
- U.S. EPA Region I
- Yale Occup/Envir. Medicine Program
Why is This Important?

- Asthma Epidemic, Absenteeism, & Student Performance
- Staff Health Issues
- EPA’S TfS Program Works!
- Communication is Key
- State Law: All CT Schools Have IAQ Program
Why School IAQ?

- Large number of IAQ Phone Inquiries
- Serious School IAQ Incidences
- CT CASE Report
- EPA’s Tools For Schools - Useful, Practical Intervention
Consequences of Poor IAQ

♦ Health Problems
♦ Reduced Learning and Productivity
♦ Higher Costs to Fix Problems than to Prevent
♦ Poor Public Relations
♦ Liability Issues
Public Health Implications

- **Asthma:**
  - 14 Million Missed School Days Per Year
  - Average Classroom: 2 asthmatic Kids
  - In Urban schools – up to 25% asthma
  - Leading Health-Related Cause of School Absences
  - NIOSH: Leading Health Hazard for Teachers

- **Allergies:**
  - Cause Additional 2 Million Lost School Days
IAQ & Academic Performance

Adequate Outdoor Air Ventilation:

Benefits:

• Improved student and teacher performance;

• Increased test scores; and

• Reduced airborne transmission of infection.

In 1 study, students in classrooms with higher outdoor air ventilation rates scored 14 to 15 percent higher on standardized test scores than children in classrooms with lower outdoor air ventilation rates.1

Addressing the problem

- Problems Multifactoral - No Silver Bullet

- Avoid Relying on Air Testing

- Best Strategy: Ongoing Assessment, Improvements, Communication
What About “Testing the Air”? 

Usually Not the First Move:

- You Have to Know What You Are Looking for
- There Are No Appropriate Standards for IAQ
- There Are No Standards for Indoor Molds Levels
- Results May Be Hard to Interpret
- Can Lead to Confusion, Mistrust

A Comprehensive Building Evaluation Is 1st Step

Note: Useful Tests:

- Temperature
- Water Vapor
- CO₂
Tools for Schools Program

- Helps People Easily Diagnose IAQ Problems in Schools
- Simplifies the Process for Maintaining Good IAQ
- Prevents Loss of Dollars and Trust
TfS Building Team Members

Teacher

Parent

School Nurse

Administrative Staff

Custodian
TfS Building Team Members

Middle & High Schools:

– Utilize Students

Seize “The Educable Moment”
Tools for Schools Process

1. Teams Trained
2. Buildings Assessed
3. Findings Prioritized
4. Report Developed
5. Improvements, Education
How Students Can Play a Role in the Tools for Schools Program to Create a Healthy School Environment

A healthy school indoor environment should be everyone’s responsibility, including students. Tools for Schools (TfS) can offer students a chance to be involved as team members and as STEM learning opportunities. Students can also bring home ideas on how to make their homes healthy. Here are some suggestions.

High School
- As a TfS team member
- Liaison to student government
- Write articles for the school newspaper/newsletter
- Present program to school community – assembly, PTA
- Involvement in environmental club, environmental science classes
- Develop and maintain TfS webpage for school/district
- Develop a database to compile TfS data and track corrective actions through clubs such as math or computer
- Participate in presentation to the Board of Education
- Collect data at home using the Healthy Homes checklist; compile results, make list of top problems
- Develop science experiments related to IEQ; science fair exhibit
- Go on school walkthrough; make suggestions for improvements students can make.
- Calculate energy savings from replacing incandescent bulbs with CFLs

Middle School
- TfS team member
- Liaison to student government
- Write articles for the school newspaper/newsletter
- Present program to school community – assembly, PTA
- Involvement in environmental club, environmental science classes
- Develop and maintain TfS webpage for school/district
- Develop a database to compile TfS data and track corrective actions through clubs such as math or computer
- Participate in presentation to the Board of Education
- Collect data at home using the Healthy Homes checklist; compile results, make list of top problems
- Develop science experiments related to IEQ; science fair exhibit
- Go on school walkthrough; make suggestions for improvements students can make.
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Students will learn:

Science
- Ecology
- indoor environment
- pollution
- Microbiology
- mold

Technology
- Building science
- Ventilation systems
- Building structure

Engineering
- Developing
Tools for Schools

• Non-regulatory approach
• Public health preventive model
• Collaborative team approach
• Not tied to availability of funds
TfS Building Team Members

Statewide School Budget Crisis >

Cuts in Maintenance Budget:

• Need Team Effort

• Focus on No, Low-cost Fixes
Results of CO$_2$ Test
This is what happens when books are stacked on the unit ventilator

Credit:
Bill Thompson, Director of Facilities Management
Lockport Township High School District 205, IL
Results of CO2 Test
Removed Books Off Unit Ventilator

Room 220

Credit:
Bill Thompson, Director of Facilities Management
Lockport Township High School District 205, IL
Tools for Schools

- Relatively Easy to Implement
- Addresses CT Law (Implement an IAQ Program)
- Planning Mechanism
  - Communication Component
Healthy IAQ & Energy Conservation

- Energy Cost-saving Measures Should Not Include Reducing Fresh Air!
- Less Energy Costs → More Funding for IEQ Improvements, Maintenance
- TfS Teams Should Encourage Energy Conservation
Training Program

2 Part Training:

1st Module:
• IAQ Health issues
• Basics of School IAQ issues
• Review of TFS Action Packets/Program
• Importance of Effective Communication

2nd Module:
• Walkthrough Training
• 2 Hr. Workshop With Exercise in A School
Implementation Guide Summary

1. Initial School Team training
2. Present TfS to Faculty/Staff
3. Assemble/Distribute Action Packets
4. Summarize checklists/
   View Ventilation Basics Video
5. Training on conducting a walkthrough investigation
6. Walkthrough Investigation
7. Prioritize Results of Investigation
8. Taking Action
Connecticut School Districts That Have Implemented * EPA's Tools For Schools Indoor Air Quality Program as of September 17, 2014
CT Success Stories

- **Waterford**
  IAQ Health Complaints Decrease of 66% or Greater in 9 Out of 13 Elementary Classrooms After TfS Implemented

- **North Haven**
  Decrease of 48% (256) of Reported Cases of Respiratory-related Illnesses After TfS

- **Chester**
  # Yearly Asthma-related Office Visits Decreased 463 Before TfS to 82 (Over 4 Yrs) After TfS

- **Hartford**
  # Of Asthma Incidents Declined 21% After TfS, Companion Nurse Training

- **EPA National Excellence Award Winners:**
  - Hamden
  - Waterford
  - Ridgefield
  - Norwich
  - North Haven
  - Technical High School System
  - Hartford
  - Amity Region 5
  - Westport
Chester Elementary TfS Experience

• School Nurse Reporting
• Approx. 335 Students
• Large # Asthma Visits, Other Complaints

• TfS Interventions:
  • Carpet Removal
  • Repair Roof Leaks
  • Ventilation Improvements
  • Pest Management Program

<table>
<thead>
<tr>
<th>School Year</th>
<th># Asthma Related Office Visits</th>
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<tbody>
<tr>
<td>2001-2002</td>
<td>463</td>
</tr>
<tr>
<td>(before TfS)</td>
<td></td>
</tr>
<tr>
<td>2002 - 2003</td>
<td>256</td>
</tr>
<tr>
<td>(After TfS)</td>
<td></td>
</tr>
<tr>
<td>2003-2004</td>
<td>114</td>
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Absenteeism < by 860 - 1yr
Getting TfS Going

- Presentation to School Executive Staff
- School System Recruits Teams
- 1st Training Scheduled, Conducted
- 2nd Training Conducted After Initial Assessment Period
- Follow-up by LHDs
- Yearly Kick-off Meetings
Other CSIERT Resources

✓ Refresher Workshop

✓ Custodian/Facilities “Advanced TfS” Workshop
  ✓ IAQ
  ✓ Green Cleaning
  ✓ Flu Outbreaks/Infection Control

✓ CSIERT Web Site

✓ IAQ Curriculum for Teachers
Provide Effective Environmental and Sustainability Education

Improve the Health and Wellness of Students and Staff (Including Healthy Building Environments)

Reduce Environmental Impact and Cost