

# Indoor Air Quality TOOLS FOR SCHOOLS ACTION KIT for Canadian Schools

## IAQ Management in Schools





# TOOLS for SCHOOLS: Key Features

- ✓ Low Cost/No Cost
- ✓ Versatile - Adaptable to Individual School Needs
  - Useful for both Old and New Schools
- ✓ No Specialized Training Needed
- ✓ Voluntary
- ✓ Practical, Common Sense Approach

# TODAY'S OBJECTIVES

- ❑ Learn Basics of Tools for Schools Kit.

“How can the Kit benefit a new school?”

- ❑ Review Basics of Indoor Air Quality (IAQ)
- ❑ Understand how to develop an **IAQ management plan** for your school

# “If it’s not broken don’t fix it?”



Schools tend to **react** to IAQ issues instead of **preventing** them.

The Tools for Schools approach promotes **prevention.**

And avoids loss of dollars, health and trust.

# Need for the Tools for Schools Kit:

- ☐ Indoor air can be more polluted than outdoor air
- ☐ People spend about 90% of their days indoors. Children and teachers about 1/3 of their days in school.
- ☐ Poor IAQ can create many symptoms including asthma attacks, other respiratory symptoms, rashes, migraines, cognitive difficulties, eye irritation, allergic reactions, and sometimes life-altering illness.

# ...Need for the Tools for Schools Kit

- ❑ Indoor Air Quality can affect the health, well-being, and performance of even normally healthy people, but some are more vulnerable.
  - Some have pre-existing conditions
  - Children are generally more vulnerable
  - Teachers may spend years in one area of a building. If that area is unhealthy, they likely will be too.



□ “Pollutants can include:

particulate, mould, combustion products, sewer gases, fuel leaks, radon, viruses, bacteria,

chemicals from many sources including new building materials and class materials, scented products, cleaning and maintenance products, pollutants brought from home...

# Compounded by:

- ☐ Inadequate or malfunctioning ventilation systems
- ☐ Occupant Density: Schools house approximately four times as many occupants per square foot as do office buildings.
- ☐ Schools serve a cross section of society containing individuals with various health and learning challenges.
- ☐ Tight budgets

**"THESE ISSUES MAKE SCHOOLS PARTICULARLY SUSCEPTIBLE TO IAQ PROBLEMS."** (The Cutter Corporation)

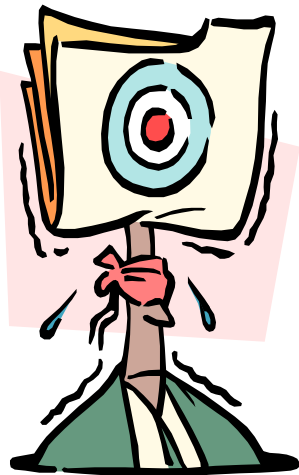
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- A light green L-shaped graphic is in the top-left corner. A dark blue horizontal bar with rounded ends spans across the middle of the slide.
- ❑ New schools can have variations of these same conditions, plus other challenges.

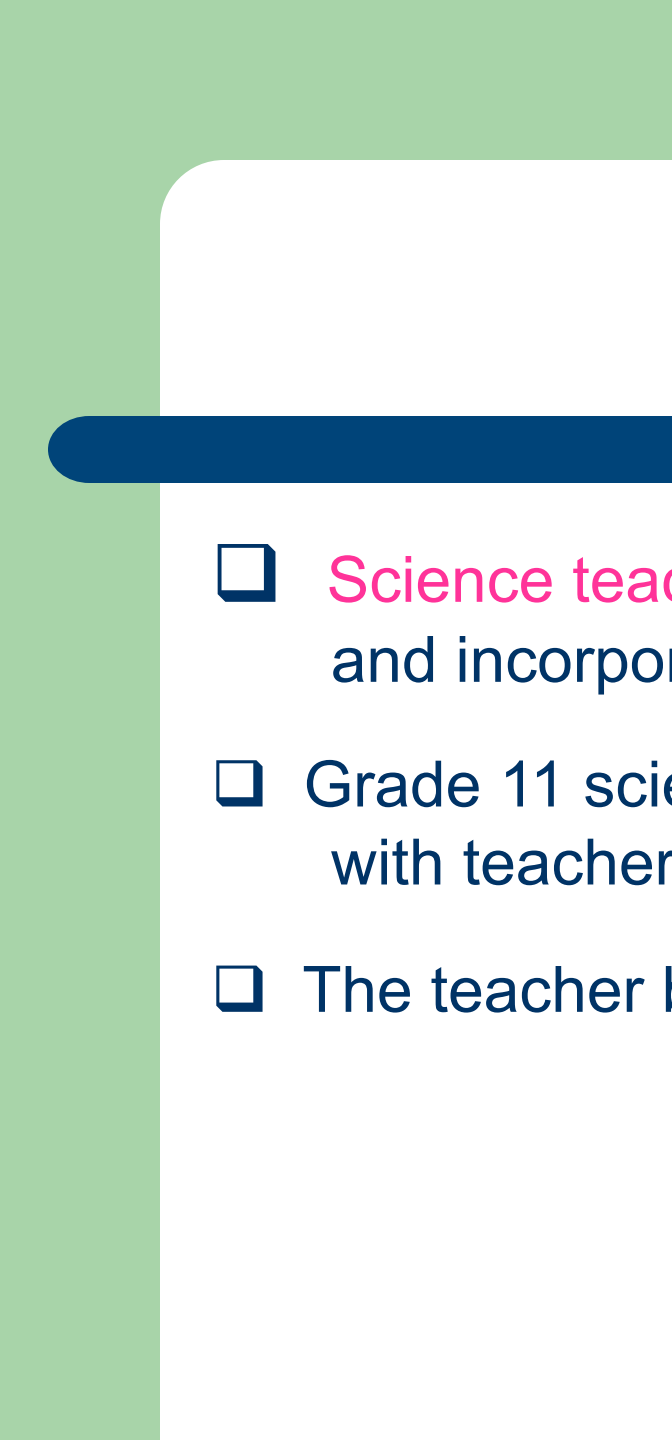


# CAN IT REALLY WORK?

## EXAMPLE of SUCCESS:

- High school / student population ~1,000.
- School approximately 12 years old.
- Fourth largest urban area in the province.
- The school received 1000 calls / year regarding IAQ concerns.



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- ❑ Science teacher took initiative to use Tools for Schools and incorporated it into the science curriculum.
  - ❑ Grade 11 science students monitored IAQ in the school with teacher's guidance.
  - ❑ The teacher became the school's IAQ coordinator.

# SUCCESSFUL OUTCOMES:

- ❑ The school now receives ~ 10 calls / year regarding IAQ concerns.
- ❑ IAQ is now seen as an important issue for the school's stakeholders.
- ❑ School solved most of their initial IAQ concerns.
- ❑ Successful program running over 5 years.

# Some of the KEYS TO SUCCESS:



- ☐ Support from the school principal
- ☐ School board support of personnel, resources and finances
- ☐ Active involvement of school members
- ☐ Open and consistent communication
- ☐ Striving for immediate successes

# **BENEFITS from using the Tools for Schools Kit:**

- ☐ Increased comfort, health and safety
- ☐ Quicker and more cost-effective response to problems
- ☐ Greater peace of mind for staff, students, and parents
- ☐ Increased efficiency, durability of the building
- ☐ Less crisis intervention
- ☐ Reduction or avoidance of expensive costs
- ☐ Assists school in its core mission - EDUCATING STUDENTS



# IAQ Tools for Schools

## Action Kit Contents:

### **BASICS:**

Chapter 1 - Note to school Officials

Chapter 2 - Introduction to IAQ Action Kit

Chapter 3 - IAQ Backgrounder

Chapter 4 - How to Get Started

- **Sample Memos, letters**
- **Coordinator's forms**
- **Checklists**

# The KIT'S CHECKLISTS

There are IAQ Checklists for:



**Teachers**



**Building Maintenance**



**Administrative Staff**



**Food Service**



**Health Officers**



**Waste Management**



**Ventilation**



**Renovation and Repairs**

## Sample Checklist

Excerpted from Tools for Schools Action Kit, Health Canada.

Date: \_\_\_\_\_ Room: \_\_\_\_\_ School: \_\_\_\_\_  
Name: \_\_\_\_\_ Signature: \_\_\_\_\_

To be completed by:  
Teaching staff  
Custodial staff

**\*\*Read Health Canada's Tools for schools Action Kit's Introduction, Backgrounder and pages 8-3 to 8-15.**

### 1. General Cleanliness

Y N N/A

- |     |     |     |   |
|-----|-----|-----|---|
| ___ | ___ | ___ | Classroom is dusted and vacuumed thoroughly and regularly.                            |
| ___ | ___ | ___ | Only Board-approved, low-hazard, cleaning materials are used.                         |
| ___ | ___ | ___ | Blackboards/whiteboards are cleaned without stirring up dust.                         |
| ___ | ___ | ___ | Garbage is removed daily.   |
| ___ | ___ | ___ | Food is not kept in the classroom overnight.  |
| ___ | ___ | ___ | There is no sign of pests.  |
| ___ | ___ | ___ | Desks and lockers are cleaned regularly. (Inspections every three months recommended) |
| ___ | ___ | ___ | Need help with cleaning or pest control.  |

## **2. Excess Moisture**

**Y N N/A**

— — — There are signs of leaks on ceiling tiles. Location \_\_\_\_\_  
— — — There are signs of leaks around windows, doors \_\_\_\_\_  
— — — There are plumbing leaks. Location \_\_\_\_\_  
— — — Other \_\_\_\_\_

## **3. Ventilation**

## **4. Thermal Comfort**

## **5. Odours**

## **6. Laboratories**

## **7. Locker Rooms...**

## **Other Kit Contents:**

- Portable Classroom Checklist
- Design/Build/Lease-back Facilities Checklist
- Resources
- Further Reading



# The IAQ Coordinator...

- ☐ Is the focal point who provides leadership and organization
- ☐ Disseminates information and checklists
- ☐ Compiles information from checklists
- ☐ Coordinates activities and follow-up

# The IAQ Team...

Assists the IAQ Coordinator, and is made up of representatives of several groups:

- ☐ Teachers and Administrative Staff
- ☐ Custodians and Facility Operators
- ☐ Health officer/nurse
- ☐ School Board Representative
- ☐ Students and Parents
- ☐ Contract providers



# Complementary Environmental Health Initiatives:

- Healthy Schools Design and Construction
- “Scent-Smart” Programs
- Reduced vehicle idling
- Recycling, Greening of Grounds, Energy efficiency
- Hazardous materials control
- Active and safe routes to school
- Identification, replacement and storage of hazardous materials
- Healthy Homes



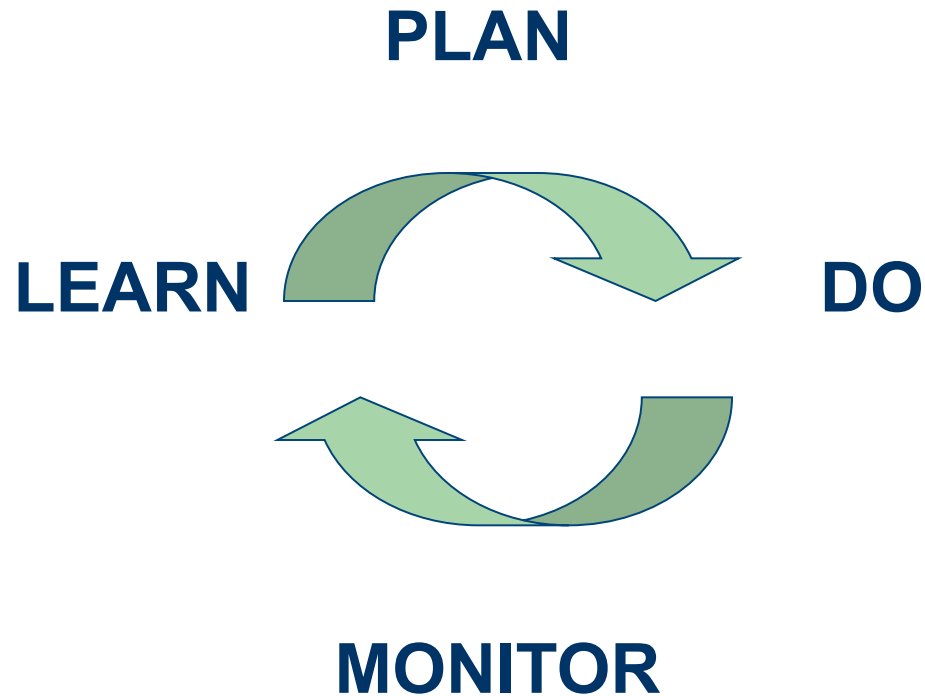
# New Schools can Benefit Greatly

- The Deficiencies (warranty) Period for new schools is a one-year period where malfunctioning equipment or systems are replaced or repaired at the builder's cost.
- The Tools for Schools Kit can help uncover problems quickly and
- determine if improvements have worked.



- A “building-wise” staff and students can assist in making sure their new building is functioning well by the end of the deficiencies period.
- And, by continuing to use the Kit, **help keep the building a healthy one for many years to come.**

# CONTINUAL IMPROVEMENT



# A Quick Virtual Walk-Through...



# Unvented Photocopier



# Water damaged ceiling tiles indicate a leak



# Copy room door left open



# Plugged roof drain

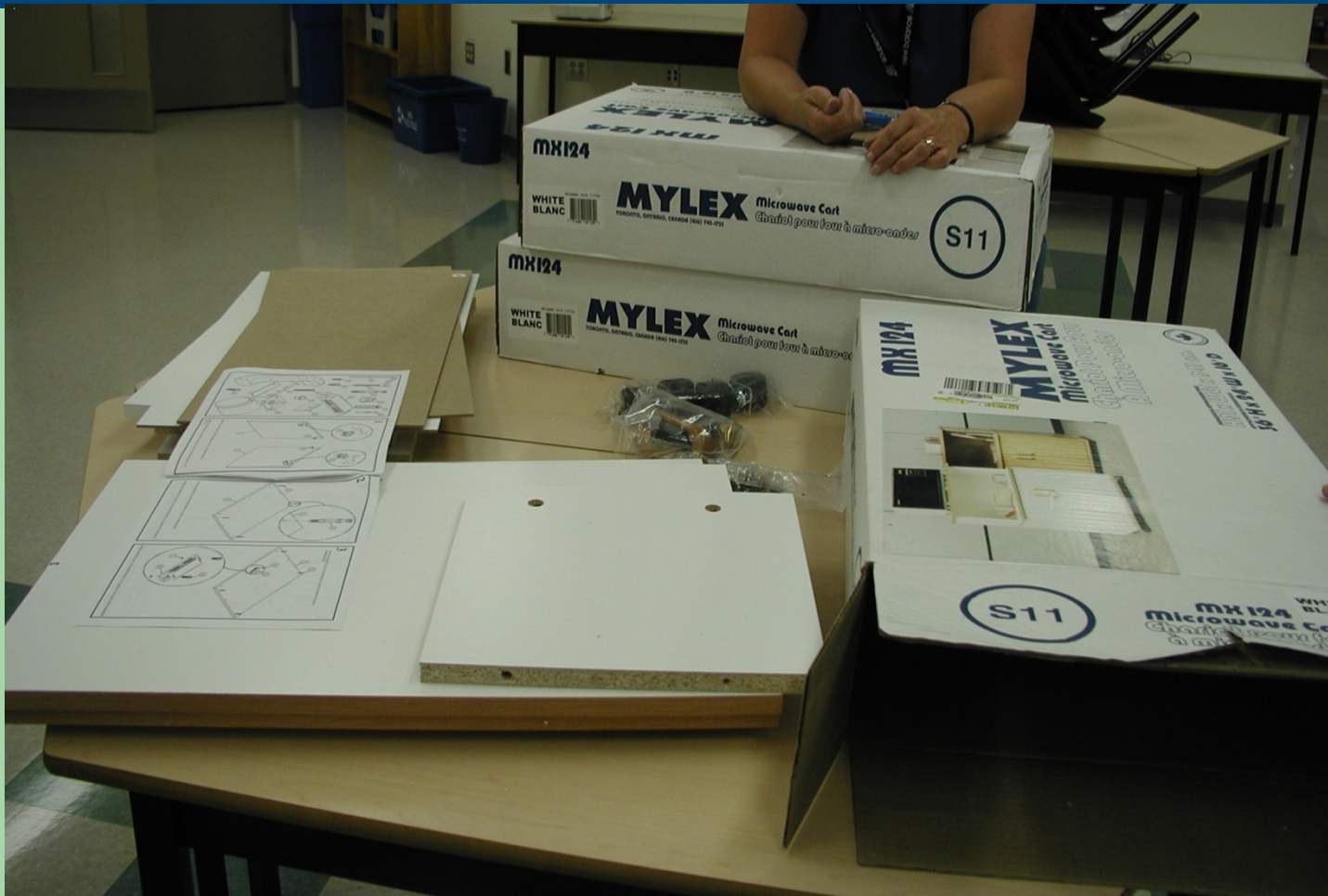
(builders forgot to install a grille)



# Make sure vents connect to outdoors



# Teacher's solutions...caution



# Hidden leaks... temporary becomes permanent?



# More about School IAQ Walk-Throughs

[www.nb.lung.ca](http://www.nb.lung.ca)

Click on [Healthy Schools](#), [getting started](#), and find [“a walk-through video”](#).

And <http://www.epa.gov/iaq/schools/multimedia.html>

The school walkthrough video is particularly valuable. It is designed to help administrators and facility managers in particular and will help administrators function as partners and leaders for good air quality in their schools.

# ACKNOWLEDGEMENTS

- Atlantic Health Promotion Research Centre's 3-year national research project, *IAQ in Canadian Schools*
- New Brunswick Lung Association's one year national Tools for Schools research project
- Sandra LeBlanc, Coordinator, a Nova Scotia high school's Tools for Schools program
- Health Canada's Tools for Schools Action Kit
- US EPA's Tools for Schools Action Kit

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