Environment and Health: Focus on Schools

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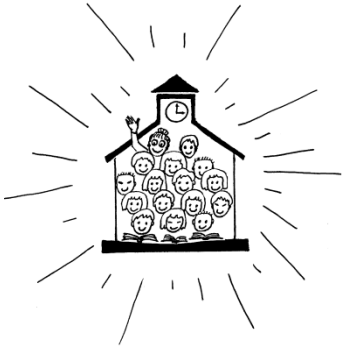
CASLE



Canadians for A Safe Learning Environment

- A registered charity in Nova Scotia, working for schools for nearly two decades

- Partners with government and school boards and others… to improve the **Condition** of schools and the **Products** and **Practices** used in schools

Today's Talk

An overview of the impact of indoor school environments on health and productivity

- Building environments and health
- Pollution/Our Toxic Nation Report
- Environmental Sensitivities

Solutions

Health Canada's Indoor Air Quality Tools for Schools Action Kit.

We are learning more about how buildings affect occupants' health and ability to function

- Did you know that within 26 seconds of using a cleaning material, the chemicals in the cleaning material can be found in every organ of the body?
- That water leaks in buildings need to be dried up quickly because harmful moulds can grow within 24 hours?

This 6 minute video on line is a good introduction for your class:
http://www.ted.com/talks/jessica_green_are_we_filtering_the_wrong_microbes.html

A Quick Virtual Walk-Through…

Make sure vents connect to outdoors

an unvented photocopier…

a copy room door left open…

a plugged roof drain…
(builders forgot to install a grille)

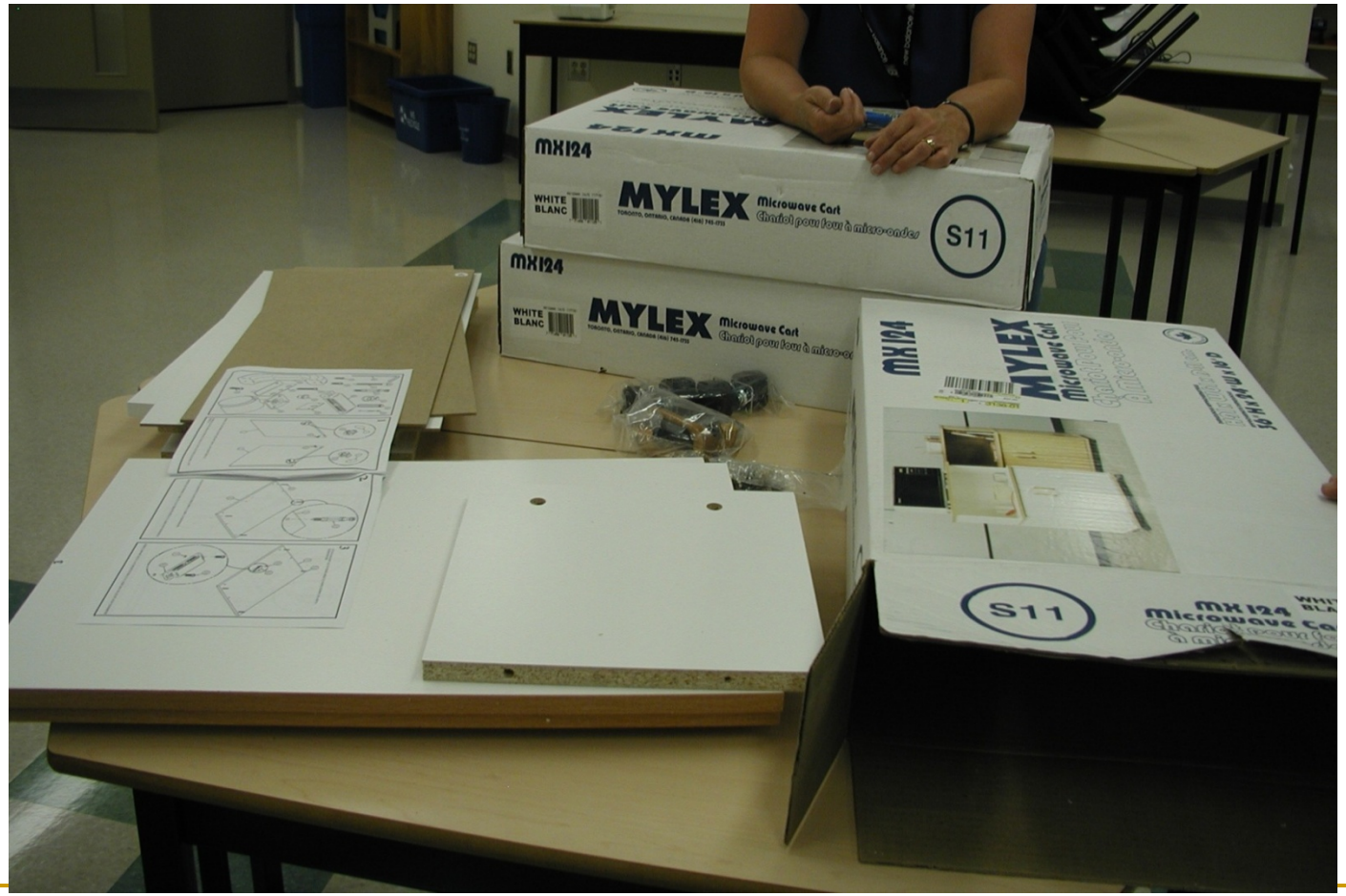
water damaged ceiling tiles indicate a leak…

hidden leaks – a temporary solution becomes permanent?

unapproved cleaning materials containing toxic ingredients…

cleaning materials containing toxic chemicals…

a solution to one problem creating another?



An office printer that needs ventilation

…but note the less toxic/unscented classroom materials

Indoor air is more polluted than outdoor air

A Health Canada study found that 3 out of 4 Canadians still believe that outdoor air is more polluted than indoor air.

(www.hc-sc,gcca/hecs-es/air_quality/pdf/environics_air_pollution_survey_Epdf)

Health Canada, the NRC, and most agencies recognize that indoor air is **2 to 5 times and often 10 to 100 times more polluted than outdoor air.**

Where does indoor air pollution come from?

Outdoor Air:

pollen, dust,

mould/fungal spores,

combustion emissions (busses, loading docks, exhausts near air intakes, furnace stack emissions),

industrial emissions,

pesticides,

roofing tar,

sewer gas…

Indoor Air:

dust, mould/fungal spores, pesticides, combustion emissions, fuel leaks, chemical emissions…

and from occupants:

- CO2
- Personal products
- Skin particles
- Pet dander
- Mould
- Fabric softener
- Viruses
- Bacteria
- Food
- Classroom materials/plastic

Examples of Naturally Occurring Harmful Materials

Ozone

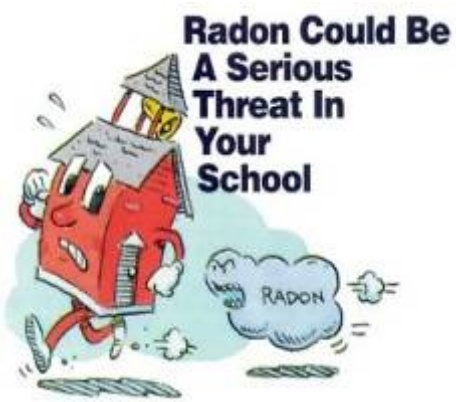
Radon

Lead

Asbestos

Mercury

…



Carbon Dioxide (CO2)…

- 5,000ppm - some health effects such as drowsiness
- 40,000ppm - Immediately Dangerous to Life and Health Level.

(p51.2 Samet & Spengler)

Recommendations:

- under 1000ppm is very good
- between 1000ppm and 2500 the IAQ is acceptable (this is usually the design rate)
- over 2500ppm the IAQ is not acceptable

(Tedd Nathanson, Public Works Canada: January 2007)

…Carbon Dioxide

CO2 as a measurement is often misunderstood:

Because it is easy to measure it has been used as an indicator of possible build-up of other more harmful pollutants. If ventilation is poor, then C02 and others will not be removed fast enough.

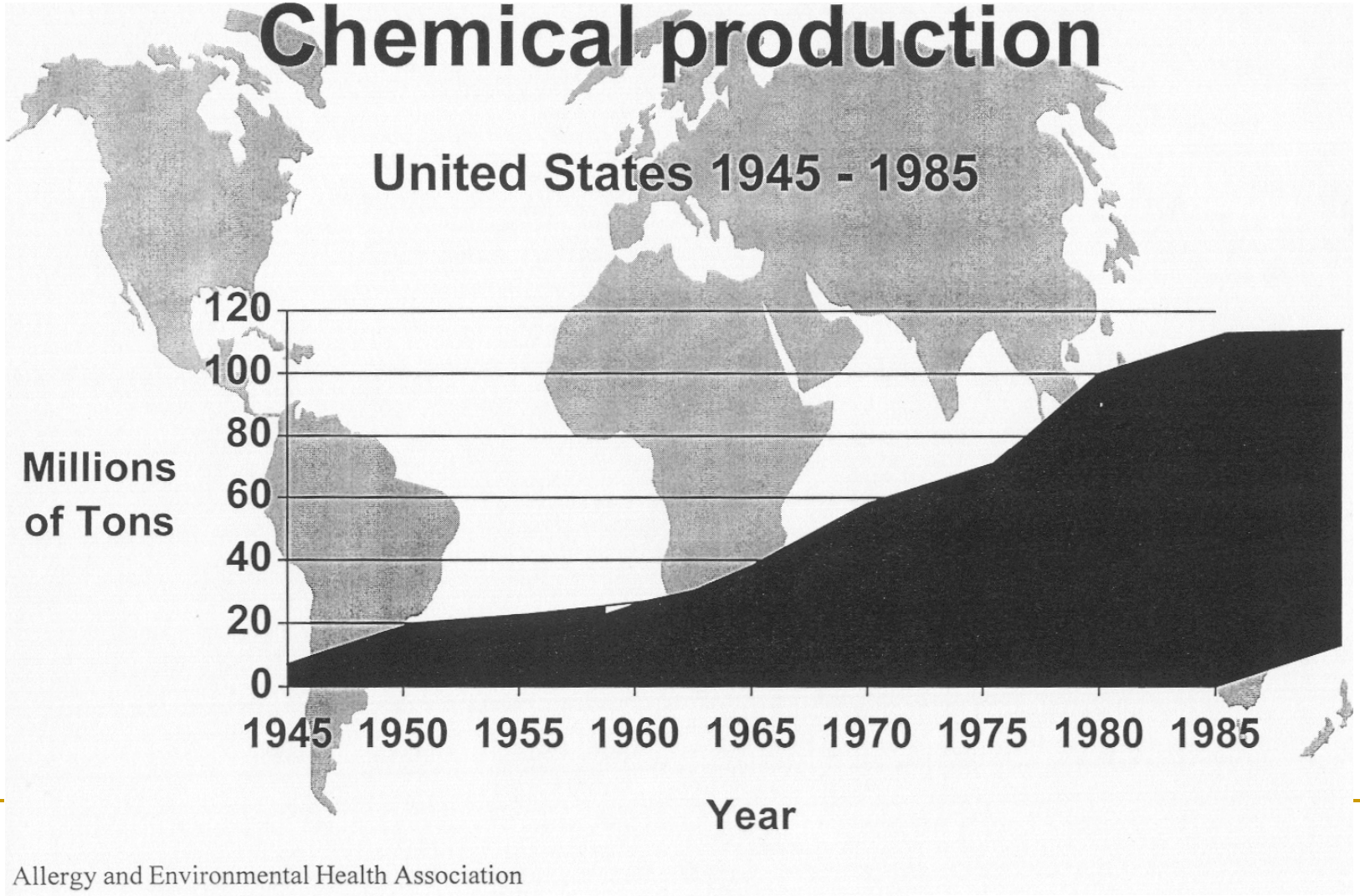
****It is losing favour as a marker however as the kinds and amounts of other contaminants can be very high or very low, depending on the sources in the area.**

(p51.2 Samet & Spengler)

Other indoor environmental health factors

- **Ventilation issues** (poor maintenance, malfunctions, turning off after hours)
- Lighting
- Thermal comfort
- Humidity
- Acoustics: noise pollution
- Electromagnetic fields
- Ergonomics
- Infrequent or inadequate cleaning…

Since the Second World War, we have been exposed to a rapidly expanding number of new synthetic chemicals



Harmful chemicals …including carcinogens and endocrine disruptors are found in:

Building materials: **Insulation, caulking, paints, varnishes, vinyl tile, glues…**

Classroom supplies: **felt markers, whiteout, inks, laminates, photocopiers, printers, fire retardants, PVC plastics**

Personal products: **perfumes, deodorants…**

Cleaning agents: **waxes and floor strippers, air fresheners**

Combustion gases: **furnaces, vehicle exhaust…**

Over 23,000 of chemicals currently in use are not assessed for health effects.

- *Medical Perspectives on Environmental Sensitivities. M.E. Sears, 2007*

Recent research links 216 common chemical compounds to breast cancer.

www.silentspring.org/sciencereview

Video: Toxic Trespass. *National Film Board of Canada*

Examples

Formaldehyde:

CMHC has found that new homes now have higher urea formaldehyde levels than the action levels in the 1970's UFI homes crisis.

- Abelshon, WHO,Children's Environmental Health Workshop, IWK Hosp., April, 2007

Benzene:

is always present in today's indoor air. Acceptable outdoor standard for benzene is 0.12 ug/m3 and the average found indoors is 16.78 ug/m3.

Benzene is an A-1 carcinogen, connected to childhood leukemia.

Soheil Rastan,PhD. April 2007, Healthy Indoors Partnership Webinar

"For every 10 unit increase in the concentration of benzene the risk of childhood asthma increases by three folds."

- Rumchev, K., Association of domestic exposure to VOCs with asthma in young children. Thorax, 2004; 59;746-751.

Pollution is not just in the air:
We are what we eat, drink, breathe, and touch

Phthalates and Bisphenol-A:

- Escape from plastics and are found in human tissue and throughout the natural environment. Nov 2011 Harvard U study tested blood levels of BPA were may times higher in subject who ate canned goods vs controls who did not. (both groups alternated eating canned goods).

- Low doses are suspected in early puberty onset and low sperm counts in humans.

Important New Development

- **"The old toxicology: The dose makes the problem**
- **The new approach: Very small doses can alter function of the body."**
- **Everyone is affected to some degree.**

- Dr Alan Abelsohn, WHO, Children's Environmental Health Workshop, IWK Hospital, April, 2007.

Our Toxic Nation Report, 2007

Key findings:

- "On average, **44 chemicals were detected in each volunteer, including 41 carcinogens, 27 hormone disruptors, 21 respiratory toxins, and 53 reproductive/developmental toxins…**
- **Sources of toxic exposure are varied and numerous, and**
- **Small changes in lifestyle and purchasing behaviour can make a difference in the level of pollutants each person carries."**

Health, learning and behaviour can be affected

Normal subjects exposed to low levels of VOC's from common paints, varnishes, glues, dyes and cleaning agents, suffered significant impairment on tests for learning, memory, visual spatial tasks, attention, mental flexibility, and psychomotor speed.

- *University of Pittsburgh School of Medicine*

This study also found a connection between VOC exposures and clinically significant depression, anxiety, somatic concerns (e.g. headache) and disturbances in thinking.

-*Bell, Healthy School Handbook 1992, p.78*

How would this affect learning in schools?

Asthma Facts

- Asthma is the leading cause of absenteeism from school and the third leading cause of work loss
- Prevalence rates, world-wide, are increasing by 50% every decade
- World-wide, the economic loss associated with asthma exceed those of TB and AIDS combined
- **Asthma can be triggered by many inhalants – from dust and moulds to chemicals.**

  Asthma Society of Canada, 2005

Asthma and Fragrances

Fragrances are well-known asthma "triggers," listed by the Journal of the American Medical Association, the American and Canadian Lung Association, the Mayo Clinic, Johns Hopkins University and the American Academy of Allergy, Asthma and Immunology, among others.

- Bradshaw, Women's College Hospital Environmental Health Clinic, Sept, 2009

Chemical components of fragrances

- Up to 4,000 ingredients in perfume – organic and non-organic chemicals, known respiratory irritants
- 95% are petroleum-based
- Fixatives often used to cause the scent to persist
- Some ingredients have been linked with cancer, birth defects and neurotoxic effects at higher exposure levels
- 72% of asthmatics have respiratory symptoms from fragrance chemicals. *(FDA)*

- Bradshaw, Women's College Hospital Environmental Health Clinic, Sept, 2009

Ingredients linked with cancer and birth defects

Methylene chloride
Toluene
Ethanol
Methyl ethyl ketone
Tert Butyl
Sec Butyl
Benzyl chloride

**Compiled by comparing 120 fragrance chemicals from the EPA and California's Prop 65 List of Chemicals - Bradshaw, Women's College Hospital Environmental Health Clinic, Sept, 2009*

Neurotoxic Fragrance Ingredients

Hexachlorophene
Cetyl-ethyl-tetramethly-tetralin
1 Butanol
Isobutanol
Toluene

** Compiled from TOXLINE database of fragrance industry and medical journals*
- Bradshaw, Women's College Hospital Environmental Health Clinic, Sept, 2009

Common symptoms linked with perfume exposure

- Rash
- Headaches
- Dizziness
- Watery eyes
- Sinusitis
- Fatigue
- Difficulty concentrating, groggy or “spacey” feeling
- Asthma/asthma-like symptoms – cough, wheezing, shortness of breath

- Bradshaw, Women’s College Hospital Environmental Health Clinic, Sept, 2009

Common sources of Fragrance in Schools

- Students, staff and visitors who are wearing perfume, cologne, body sprays or aftershave; scented hand, face and body lotions; scented hair products (e.g. mousse, gels, sprays); scented laundry products
- Scented cleaning products, disinfectants, floor wax, and paints
- Fragrance-emitting devices and sprays
- Markers, glues, art supplies and solvents

- Bradshaw, Women's College Hospital Environmental Health Clinic, Sept, 2009

A Scent Free Management Plan…

- **Encourage a culture where scent-free is the norm. Ongoing communication is essential to this.**
- **Scent free signs**
- **Reminders to parents on school supplies list**
- **Inservice staff**
- **Newsletter to parents**
- **“This is a smoke-free, scent-free school" at the top of all school newsletters.**
- **Providing alternative product information is very important to program success.**

Go to:

EHANS Guide to Less Toxic Products online:

www.lesstoxicguide.ca

New Brunswick Lung Association Scent Video:

www.nb.lung.ca/schools/index.htm

Indoor air contaminants are responsible for half of all school illnesses.

Healthy School Handbook, US National Education Association

Pollution and Health Summary

Acute Effects

- Irritation of the mucous membranes (eyes, nose, throat)
- Cough, wheeze, chest tightness
- Increased airway responsiveness to allergens
- Increased incidence of acute respiratory illness, cold, pneumonia, otitis media
- Tracheobronchitis
- Exacerbation of asthma

Chronic Effects

- Long-term exposure decreases lung growth
- Impairment of pulmonary function
- Increased susceptibility to chronic obstructive lung diseases, including asthma
- Consequences can be life long or can cause premature death

(Dr Jennifer Armstrong, WHO, Children's Environmental Health Workshop, IWK Hospital, April, 2007)

The Need for Action...

- People spend about 90% of their days indoors. Children and teachers about 1/3 of their days in school.
- Teachers may spend years, sometimes their entire careers, in one area of a building. If that area is unhealthy, they likely will be too.

...compounded by special school factors

- 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)

Children are More Vulnerable

1. **Dynamic developmental physiology**
   - Children's bodies are growing and using available foods, chemicals, minerals…to do so.
   - Full biological growth occurs around age 18.
   - Final brain development is around age 20.
2. **Unique exposures**
3. **Politically powerless**
4. **Long term health consequences in adulthood**

Children are not little adults…

Carolina

Research using SPECT brain scans

This shows a cause and effect relationship between toxin exposures and brain function. The light areas indicate brain functions. The scan on the left is that of a 12-year-old child with metal toxicity from tooth braces. The one on the right is the same child after removal of the braces and detoxification treatment.

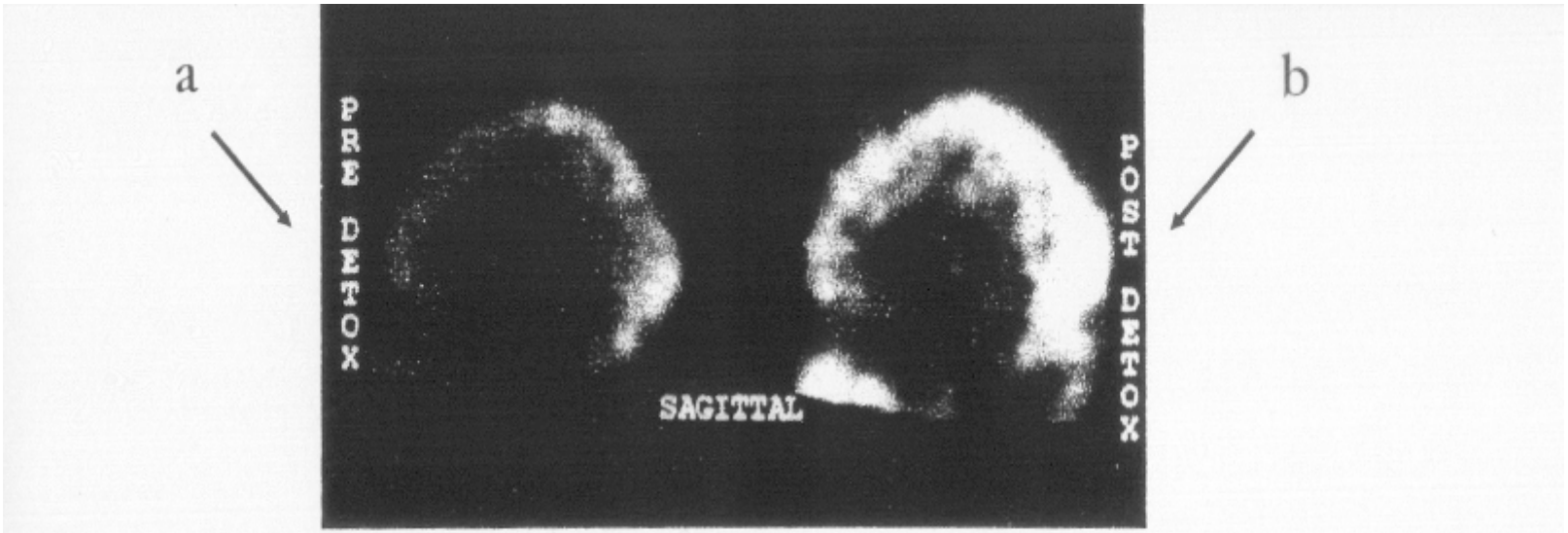
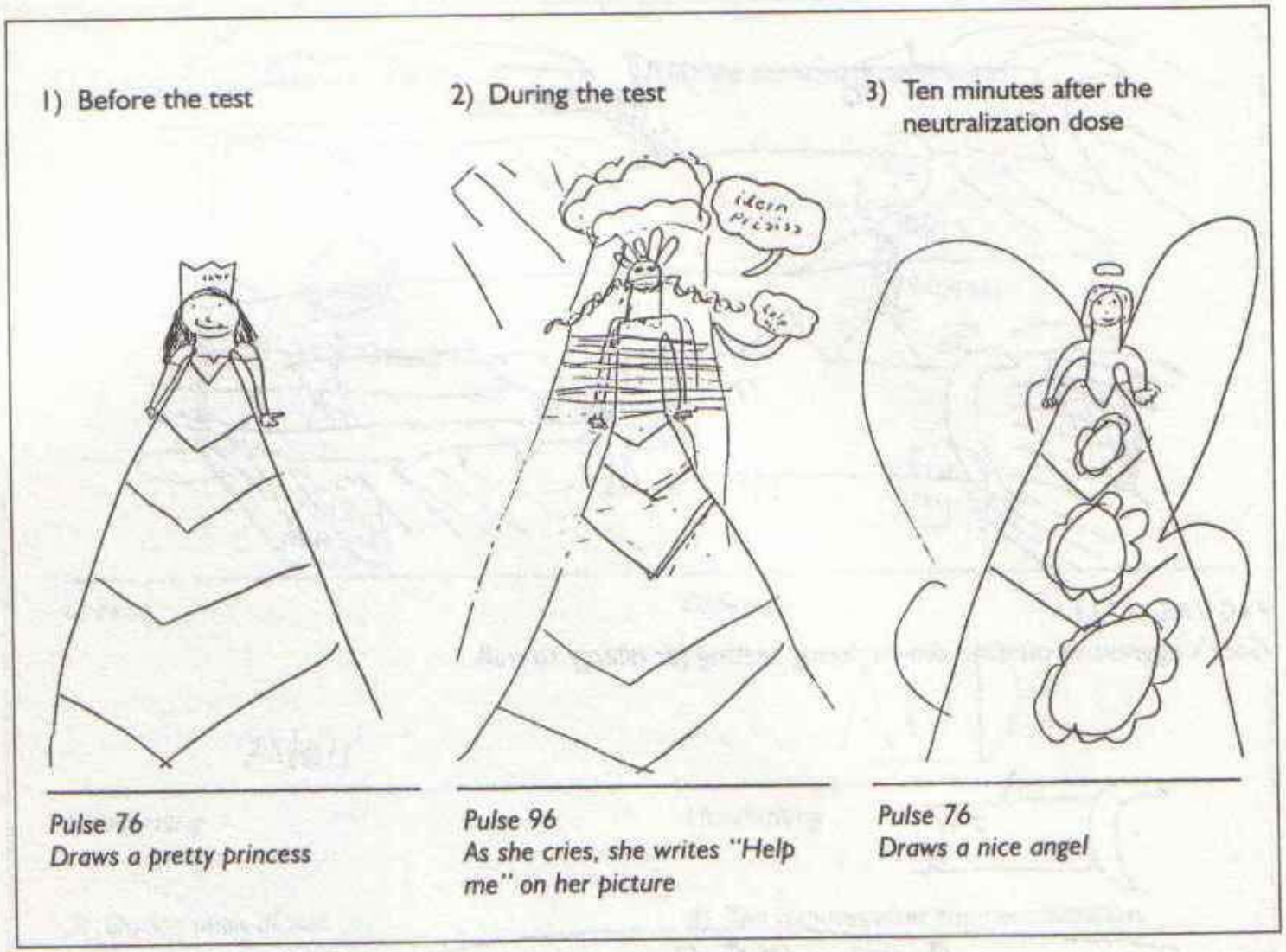


Figure 2-4.

a: Brain scan of 12-year-old with braces before treatment.

b: Brain scan of 12-year-old after treatment. Light areas denote improved brain functions.



FIGURES 5.39A TO C
Changes in Cindy's drawing during testing for allergy to mold.

Is this Your Child's World? Dr. Doris Rapp, 1996

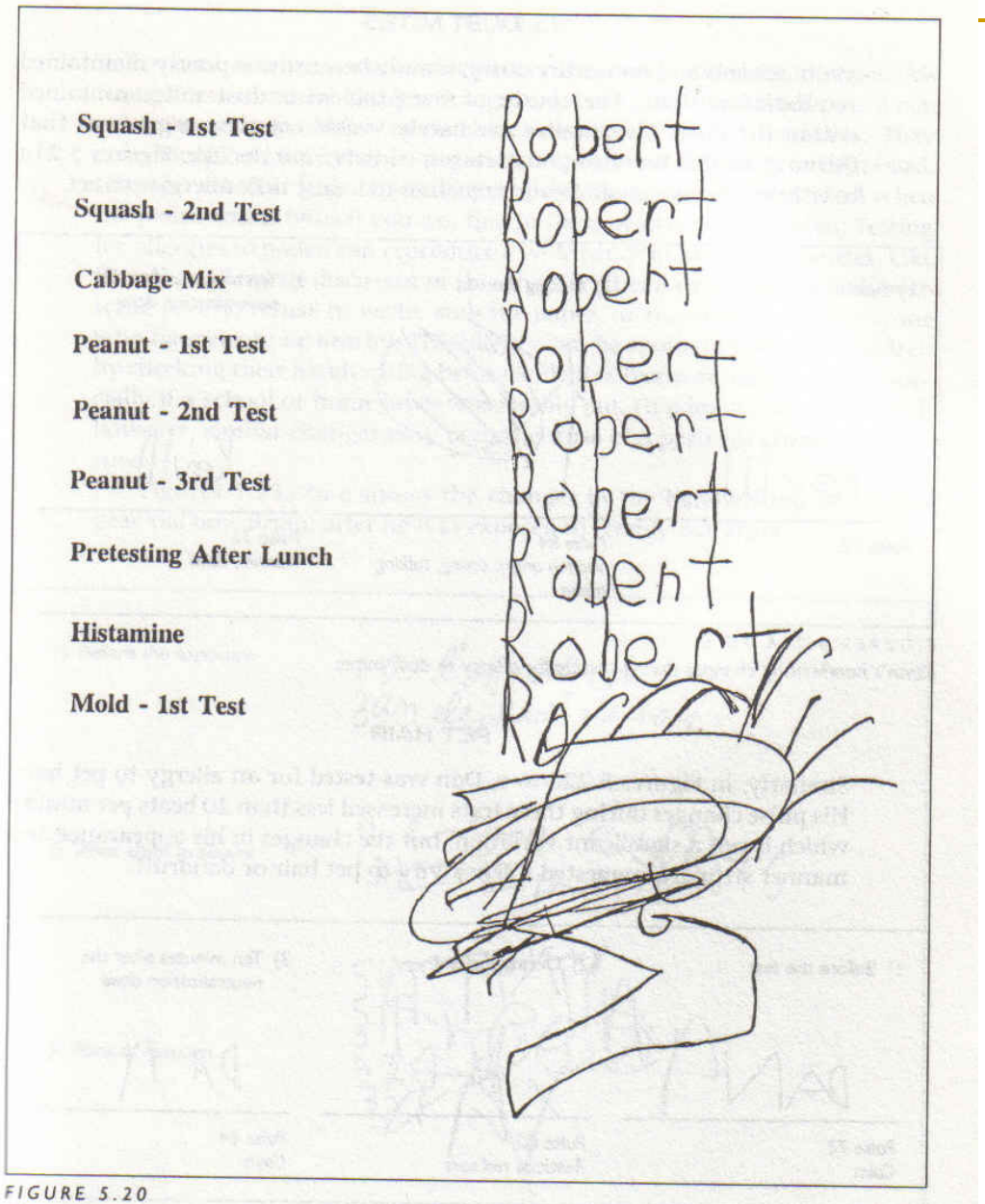
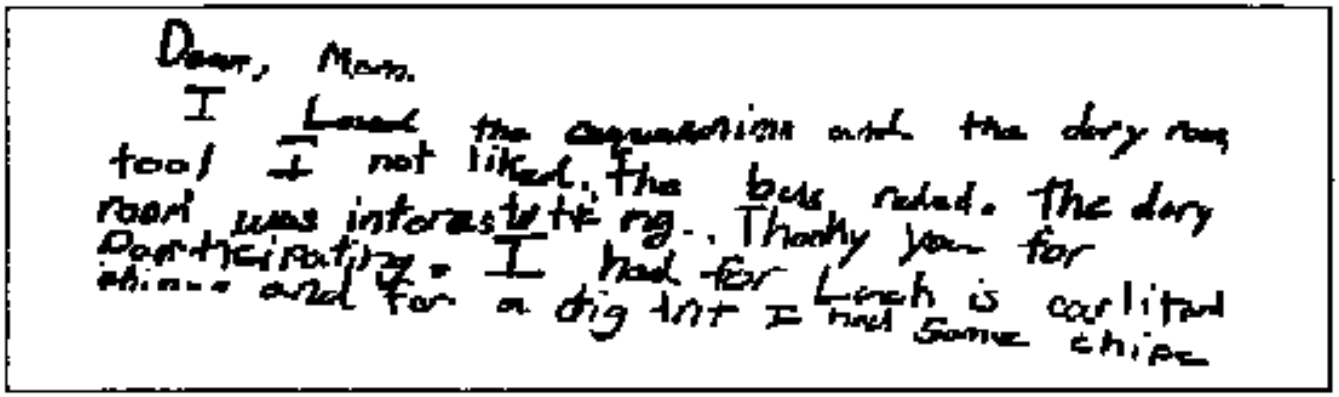


FIGURE 5.20
Changes in Robert's handwriting during testing for mold allergy.

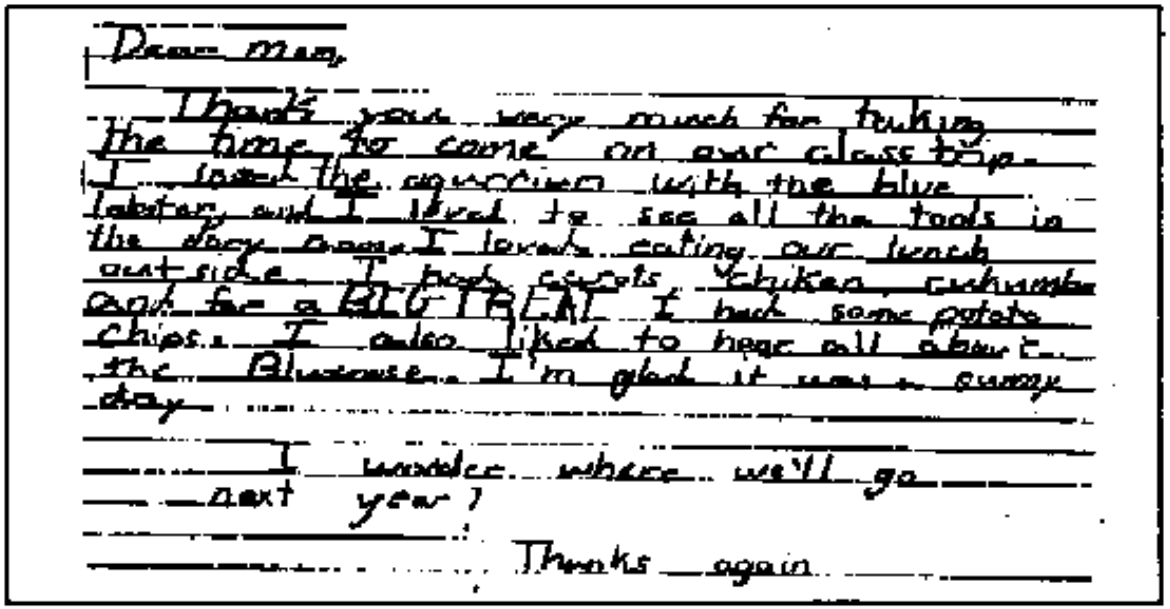
Is this Your Child's World? Dr. Doris Rapp, 1996

These are excerpts from letters by a local 9 year old with sensitivities to perfumes, cleaning materials and construction materials.



Dear, Mom.
I Loved the aquarium and the dory road tool I not liked. the bus ruled. the dory road was interesting. Thanky you for Participating. I had for Lunch is cauliflower and for a dig int I had some chips

The first, above, was written IN SCHOOL. She was trying her best but her teacher had perfume on and the janitor had just finished cleaning the classroom. The second letter, below, was written THE SAME DAY after a 45 minute walk outside. She had no additional help.



Dear mom,
Thank you very much for having the time to come on our class trip. I loved the aquarium with the blue lobster and I liked to see all the tools in the dory room. I loved eating our lunch outside. I had carrots, chicken, cucumber and for a DESSERT I had some potato chips. I also liked to hear all about the Bluenose. I'm glad it was a sunny day.
I wonder where we'll go next year!
Thanks again

Implication for schools

- **Children exposed to incitants or pollution may not perform well.**
- **Some feel ill.**
- **Some may have behavioural problems that can affect the whole class.**

The Big Five can help.

The Big Five: method for determining environmental impacts on learning and health

The BIG FIVE are: appearance, actions, pulse, breathing, and writing.

After being exposed to a condition, food, location, medication, or anything else that might be a possible "incitant", check yourself or your child in the following way:

a) **Has pulse inexplicably changed (up or down) 20 pulses from normal?**

b) **Note breathing changes. Use a Peak Flow meter to check air flow. Is there a drop of 15% or more?**

c) **Observe and record how your child looks. (wiggly legs? red ears? dark, red, runny, sore eyes or nose?)**

d) **Note changes in behaviour or how s/he feels. (tired, pains, hyperactive, angry, sad...?)**

e) **Can your child write or draw as well as usual?**

Controlling Hazardous Products Works

- **PBDE, a common flame retardant in fabrics and furniture is an endocrine disruptor. It is not "bound"; comes out easily. Studies found it in human breast milk around the world. Since Europe banned its use, the levels have dropped.**

- **PCBs were banned in 1977. Levels found in young people are now very low.**

- **BPA (Bisphenol-A used in plastics) declared a toxic substance in 2010. Action to stop exposure has begun.**

Government Action

- The National research Council of Canada's Institute for Research in Construction has a **"90 Target VOC's Strategy"** due to the scarcity of health-relevant emissions information on ***wood and particle board products used in construction.***

- 2006, the European Union legislated requirements for **less toxic substitutions for building materials, furnishings, paints & finishes and equipment.**
- Health Canada is now working toward detailed **labeling of consumer products.**
- ***NS department of Education is leading the way in Canada. Upgrading & coordinating school board operations departments, building healthy new schools, developing safe renovation guidelines and much more.***

Consumer Action

Use: ***HIP's Buyers Guide***

www.lesstoxicguide.ca

The Seven Sins of Green

"Green" and "Healthy" are not always the same.
Make sure…become informed…get both!

Choosing Cleaning Materials

- Less Toxic and Fragrance Free

  No preservatives, dyes, phosphates, perfumes, caustics, chlorines, carcinogens, endocrine disruptors, mutagens, teratogens.
- Caution: -"greenwashing" by companies

  "Natural" or "green" is not always better.

  Avoid:

  - Limonene/citrus cleaners
  - Tea tree oil
  - Pinene/terpenes
  - eucalyptus, lavender…
- Avoid or use with care:

  - Chlorine bleach
  - Disinfectants
  - Deodorizers

Consider getting professional help using an environmental health perspective.

…Cleaning Methods

- Caution:
  - Staff or PTA bringing products from home?
  - Cafeterias need to use approved products
  - as do family studies and other school programs

- In general:
  - Squirt into cloth, don't spray
  - Sweeping stirs up dust (a major allergen & contains pollutants, particles)
    - Use HEPA vacuum
    - Damp mop/wipe
    - Attractant dry mop

  Micro fibre equipment/cloths are revolutionizing cleaning.

"Why are some children and staff more affected by environmental quality than others?"

During the Sick Building incident at the US EPA's Washington offices in the 1990's, carpet glues made over 100 workers ill.

And no two had exactly the same symptoms.

How could this be?

Our bodies have differences.

"A study of two women in a workplace tested blood chemical levels at the end of their workday. Levels were the same. Repeat tests the next morning found one at 0 and the other's levels were unchanged. Why?

Some are missing glutathione, detox genes, minerals..."

-Dr Jennifer Armstrong, WHO, Children's Environmental Health Workshop, IWK Hospital, April, 2007

Did you know that…

Asthma was once believed to be caused by stress?
And stomach ulcers were too?

Tuberculosis, Epilepsy, Syphilis, Lyme disease,
and more, were believed to be of psychological origin.

Understanding Environmental Sensitivities (ES)

DEFINITION of Environmental Sensitivities:

"a variety of reactions to chemicals, electromagnetic radiation and other environmental factors at exposure levels commonly tolerated by many people."

Medical Perspectives on Environmental Sensitivities. M.E. Sears, 2007

We are learning…

that environmental exposures can make people sick:

- Indoor mould can make people sick
- So can many commonly used chemicals

We are what we eat, drink, breathe and touch

- **We ingest** additives and pesticide residues in our food and drink**.**
- **We absorb** chemicals through the skin from such products as hair dyes, skin products and cleaning materials.
- **We inhale** pollutants from many sources.

- **"Sometimes people who experience intense or ongoing exposure to one or more of these chemicals or irritants become sensitive to them."** *(NSEHC Risk Assessment)*

  This is called Environmental Sensitivity (ES) or Multiple Chemical Sensitivity (MCS) or Environmental Illness (EI).

The Canadian Human Rights Commission published a Policy on Environmental Sensitivities Summer 2007.

http://www.chrc-ccdp.ca/legislation_policies/policy_environ_politique-en.asp?lang_update=1

This site includes a review of current medical information on this illness.

- **The Diagnostic Criteria are accepted internationally**
- **Canadian Workers Compensation Boards are providing compensation for workers disabled by ES.**

- *Medical Perspectives on Environmental Sensitivities. M.E. Sears, 2007*

Diagnostic Criteria for ES

- Symptoms are reproducible with repeat exposure
- The condition is chronic
- Low levels of exposure result in symptoms
- Symptoms improve or resolve when the incitants are removed
- Responses occur to multiple chemically related substances
- Symptoms involve multiple organ systems
- Neurological symptoms may be involved

- *Medical Perspectives on Environmental Sensitivities. M.E. Sears, 2007*

More about ES…

- Approximately 3% of Canadians have been diagnosed with environmental sensitivities.
- All ages and both sexes (Babies can be born with it)
- ES may develop gradually after chronic exposure to relatively low levels of chemicals as seen in sick buildings,
- or suddenly after a major exposure…
- Reactions occur at levels previously tolerated by the individual.
- Sufferers have their own combination of sensitivities and their own reactions to them.
- Impacts range from mild (sub-optimal, but still “normal”) to debilitating.
- Reactions may not occur immediately.
- Children respond particularly well to treatment.

Treatment

- Avoidance of incitants
- Reduce the body's toxic load:
  Clean air….clean food….clean water
- Medical treatment from specialist in ES

An Environmentally Sensitive Person May Need…

- An air filter in the classroom (caution)
- Purified water
- List of food ingredients in cafeteria
- Outdoor clothing kept in lockers
- No pets, plants, mouldy books or compost in the classroom
- Special cleaning products or teaching products to accommodate specific sensitivities
- Seating near a window
- At-home schooling sometimes
- Compassion, understanding, cooperation

Work together for solutions

Consequences of not taking action

Some are more vulnerable than others, but…

Improving school indoor environments to accommodate the environmentally sensitive can benefit everyone.

Nova Scotia: a Healthy Schools leader for over a decade

At conferences I hear this,

“**We discuss and develop theories, but in Nova Scotia you are putting them into practice.”**

- A&WMA Conference attendee

Years of Progress in Nova Scotia

Then…

- Air intakes and building exhaust vent interaction
- Leaks, mustiness, mould
- Stagnant air - by mid day the air is very “close”
- Non-ventilated photocopiers
- Teaching and cleaning materials contained toxic chemicals
- Painting and renovating done during class time
- Asbestos, silica and other hazardous materials improperly handled.
- Many more factors contributed to headaches, asthma and other respiratory issues, brain sluggishness, allergies, possible cancers, learning problems and more...

and Now…

- Schools are being repaired, upgraded and replaced
- Safer maintenance practices, with children in mind
- Healthier cleaning
  - ✓ no chlorine bleach cleaners
  - ✓ no citrus cleaners
  - ✓ no mop-oil sprayed on dust mops
  - ✓ no endocrine disrupters in cleaning materials
  - ✓ No chemical deodorizers…
- Pesticide-free pest control
- Hard-surface flooring throughout
- “Scent Smart” programs
- Vehicle-idling reduction programs
- Less toxic teaching products
- Classroom, chemistry, art and science materials are carefully selected, used and stored

When leaks are found, they are usually now fixed - fast - because **mould** can grow in less than 48 hours.

- 60 species of moulds have spores that are allergenic. Some are toxic to humans.

- 30% of patients with respiratory allergies are particularly sensitive to moulds

- Odds of death from asthma is twice as high on days with outdoor mould spore counts ≥1000 spores/m3

Examples of proactive actions for new schools:

- "Benchmark" Healthy New School, Halifax West High School (2003)
- Healthy Building Guidelines added to the province's Design Requirements Manual for all new public buildings since.
- All new schools exceed ASHRAE 62 for indoor air quality.
- Building green schools with healthy school components.

New schools are designed to be easy to clean…

Success Parameters

- ✓ **Healthy students and staff at our Benchmark Healthy School:**
  - The indoor air was clean on opening day. No illness.
  - Teachers who became ill at the old Halifax West returned to work at the new school.
  - Teachers report feeling as energetic at day's end as they are when they enter the school.
  - "Unwell" teachers are transferring into the Healthy Schools.

- ✓ **Increased student performance:**
  - Researchers have found a 5 to 10 point grade difference between children in good quality buildings verses those in poor buildings.

    - *Honeywell, Canadian Schoolhouse in the Red. A 15 thousand school study*

Effectiveness of Healthy Indoor Environments

"The performance of an office worker increases by ~2% for every 2-fold **increase in the ventilation rate**, at constant pollution load."

Also, "The performance of an office worker increases by ~2% for every 2-fold **decrease of the pollution load** at constant ventilation rate."

- Wargocki, P., Productivity is Affected by the Air Quality in Offices. Proceedings of Healthy Buildings 2000. vol.1:635

Challenges to Success

- **Old ways of doing things resurface all too easily**
- **New skills needed** (e.g., for low emission product choices)
- **Confusion with "green" school items** ("natural" vs. "healthy")
- **Priorities** (e.g. shortened flush-out period)
- **Public, government and school administrators need ongoing education**

We Need:

- **Short term: IAQ regulations to keep what we have gained**
- **Long term: Reduce pollution to save Mother Earth**

How can teachers help?

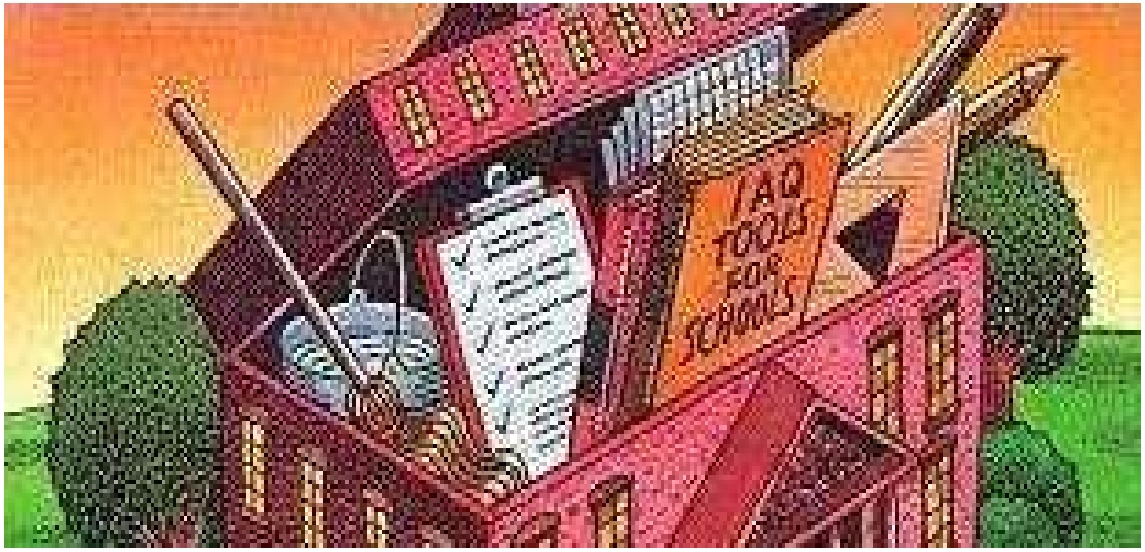
- **Select non-toxic, water-based glues, markers, art and classroom supplies…**
- **Avoid**
  - **Liquid white out**
  - **Fragrances, smelly stickers/markers**
  - **Hot lamination**
  - **Mouldy books**
  - **Plants**
  - **Pets**
- **Use only board-approved cleaning supplies and art supplies.**
- **Air photocopies before distribution**
- **Open windows to improve air quality**
- **Air dry-cleaned clothing well before wearing**
- **Use washable “sit-upons” in elementary classooms**
- **Remove classroom clutter**
- **Dust regularly with damp cloth or HEPA vacuum, don’t sweep**
- **Adjust or eliminate food rewards**
- **Assist your JOHS Committee**

How can School Boards Help?

- **Use least toxic cleaning, maintenance and building materials**
- **Service and balance HVAC systems**
- **Fix leaks fast - mould can grow in less than 48 hours**
  (Do not use antimicrobial chemical treatments)
- **Photocopiers, laminators, printers…in isolated areas with exhaust**
- **Clean/dust daily using healthy methods (HEPA vacuum, damp mop)**
- **Scent-free program (including laundry soaps & fabric softeners)**
- **Pesticide-free pest control**
- **Reduced vehicle idling**
- **Remove carpeting**
- **Isolate or schedule renovations**
- **Use Tools for Schools Action Kit**

Indoor Air Quality
TOOLS FOR SCHOOLS ACTION KIT
for Canadian Schools

IAQ Management in Schools



TOOLS for SCHOOLS: Key Features

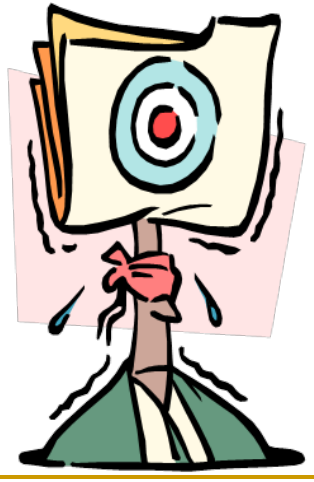
- ✓ Low Cost/No Cost
- ✓ Versatile - Adaptable to Individual School Needs
  - Useful for both Old and New Schools
- ✓ No Specialized Training Needed
- ✓ Practical, Common Sense Approach

Source:IAQ TfS Training Module 1(CD-ROM)

CAN IT REALLY WORK?

EXAMPLE of SUCCESS:

- High school received 1000 calls / year regarding IAQ concerns
- Science teacher used Kit in curriculum
- The school now receives ~ 10 calls / year regarding IAQ concerns.



Sample Checklist (Revised Version)

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. GeneralCleanliness

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.

Complementary Environmental Health Initiatives:

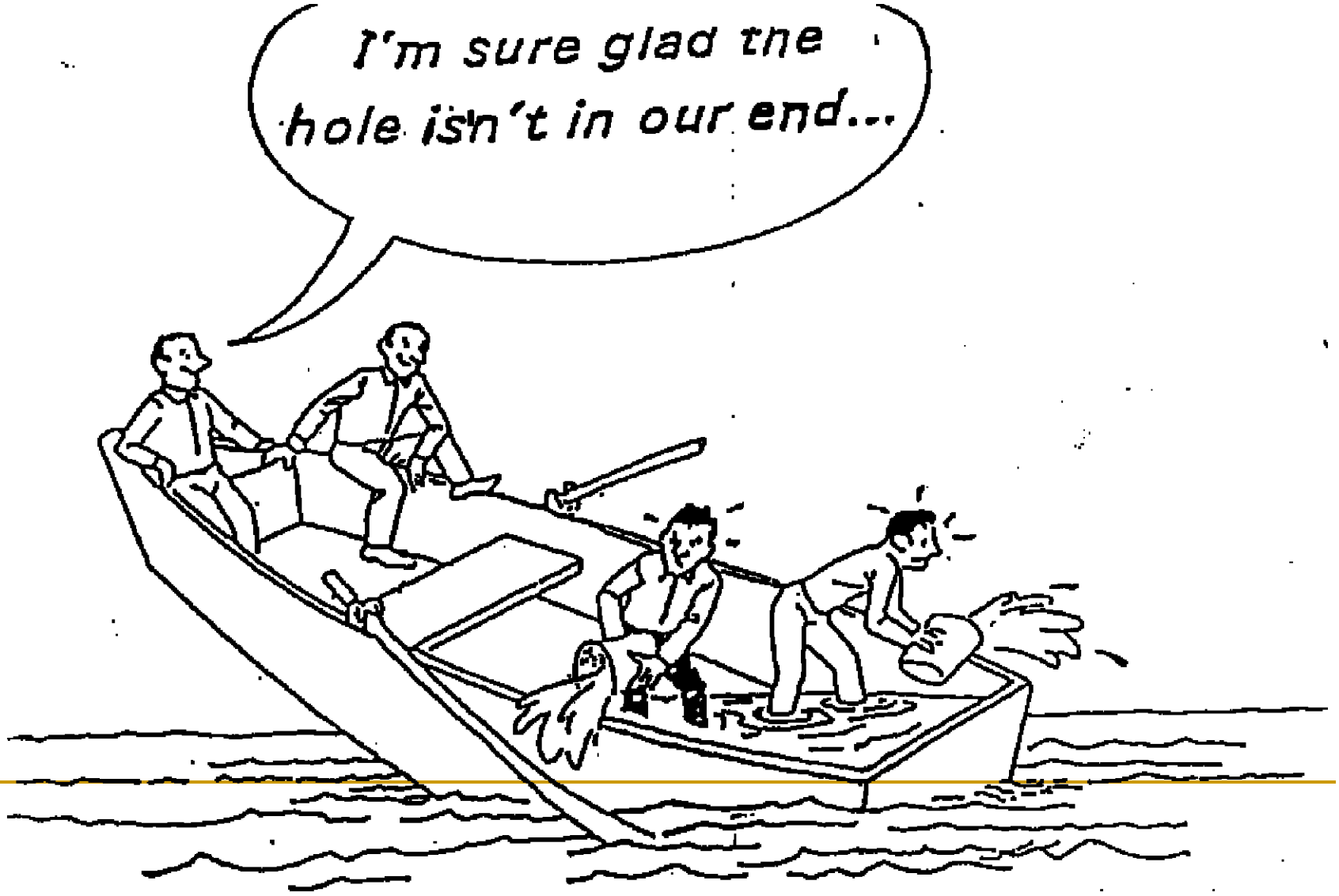
- Healthy Schools Design and Construction
- “Scent-Smart” Programs
- Reduced vehicle idling
- Recycling, Greening of Grounds, Energy efficiency
- Active and safe routes to school
- Identification, replacement, and safe storage of hazardous materials
- Healthy Homes

JOHS Committees in schools

- Joint Occupational Health and Safety Committees in schools can help solve building environmental health problems.
- Parent representatives allowed on these primarily staff committees
- Is at arms length: Overseen by Department of Labour
- See CASLE's website for more information. www.casle.ca

www.casle.ca/HealthySchoolsDay

Work Together for Healthy School Environments



Need help with School IAQ Walk-Throughs?

- www.nb.lung.ca

  Click on Healthy Schools, getting started, and find “a walk-through video”.

And

- www.nwcleanair.org has a free video of a walk-through.

For more information and links

www.casle.ca

Canadians for A Safe Learning Environment

www.lesstoxicguide.ca

www.casle.ca/HealthySchoolsDay