Cleaning for Healthy Schools

What Everyone Wants to Know

Natl Collaborative Work Group on Green Cleaning
cleaningforhealthyschools.org

Overview: *schools aren't just little offices*

- 55 million people in 130,000 facilities daily
- Vulnerable population in heavily used, densely occupied spaces
- Half of schools have indoor environmental quality problems
- Children required to attend, regardless of conditions

Overview: *children aren't just little adults*

- They have greater exposures:
  - Eat more food, breathe more air, drink more water
  - Play closer to the ground, hand-to-mouth activity
- They cannot detoxify or process toxins as adults do
- Their rapidly developing systems are more sensitive
- Exposures and injuries can affect learning potential and lifetime health

Cleaning for Healthy Schools

CfHS: *Cleaning that protects public health, without harming the health of staff, building occupants, and the environment.*

Health first!

CfHS Principles

- Prevent dirt
- Use less-toxic, third-party certified green cleaning products, paper products, and hand soaps
- Cleaning with an all-purpose product removes most germs
- Disinfect only in target areas
- Update and maintain equipment
- ***Breathe easier – clean doesn't have an odor!***

CfHS Program

- **Step One** – Prevent dirt; use up to date cleaning equipment and methods
- **Step Two** – Choose certified green (environmentally preferable) cleaning and other products
  - Safer, less-hazardous; certified by independent third-party (such as UL-EcoLogo or Green Seal)
  - Recycled-content, chlorine-free paper products
- **Step Three** – Replace worn-out equipment with state-of-the-art versions

Best Practices

Step One - Tips

Information on cleaning practices

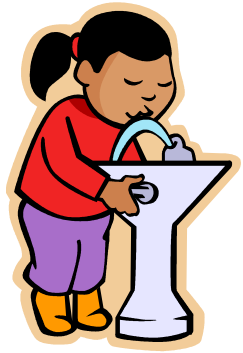
- Adopt GS-42, Green Seal Standard for Cleaning Services: *http://www.greenseal.org/Portals/0/Documents/Standards/GS-42/GS-42_Ed2-1_Commercial_and_Institutional_Cleaning_Services.pdf*
- Good vendors can be allies
  - Ask them to help your school to find certified green products
  - Ask for free product samples and Safety Data Sheets
  - Ask for free onsite demonstrations/trainings

Best Practices

- Keep the dirt out
  - Use walk-off mats at all entries
  - Ban pets, plants, and food in classrooms
  - Keep walkways clean
  - Keep recycling & dumpster areas clean
- Do heavy cleaning from the top down, not bottom up
- Replace old carpets and PVC (vinyl tiles) with environmentally preferable alternatives: chose durable easy to maintain flooring
- Clean up spills right away; keep buildings dry
- Vacuum instead of dry mopping

Best Practices

- Separate routine general cleaning from spot disinfecting
- Use disinfectants when required, or selectively in high risk areas
- Follow label directions: clean, then apply disinfectant, then let dry
- Determine high-risk areas to clean daily
- Check health department guidance during flu season



Safer Cleaning Chemicals

Step Two: Use safer cleaning products

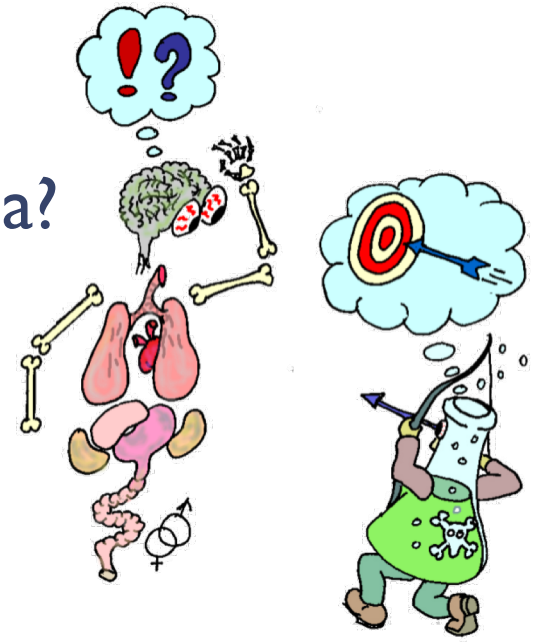
- Third-party certified green products are widely available at comparable costs
- Using safer products can help indoor environmental quality by reducing sources of air pollution and hazardous chemical residues
- Low-odor products recommended by US EPA's *IAQ Tools for Schools* program
- Increasingly popular and necessary
  - Required promoted by state laws in eleven states and the District of Columbia, starting with New York State in 2005

Choosing a Product

- Less-toxic, effective cleaning products are widely available through most manufacturers and distributors
- Avoid "green washing", aka, false or misleading environmental marketing claims
- Independent third-party certification of commercial/institutional cleaning product attributes is critical: an assurance that the product meets comprehensive standards and works
- Common third-party programs are:
  - Green Seal™ (GS) – US
  - UL-EcoLogo™

Independent, Third-party Certifications: *Criteria, Evaluations*

- Health effects (examples)
  - Does it cause cancer or asthma?
  - Is it a reproductive toxin?
  - Does it harm specific organs (eyes, skin, liver)?
- Environment
  - Is it recyclable?
  - Is it an aquatic toxin?
- Effectiveness: does it work?



"Greenwashing"

- Vendors and manufacturers can advertise that their products are "green"
  - *Labels not well regulated; Safety Data Sheets prepared by manufacturers do not list all ingredients, only those with certain worker health hazards or certain handling needs*
- Federal Trade Commission regulates environmental marketing claims: *all claims must be documented*
- Schools can rely on third-party certifiers to screen and document products that meet publically available "green" and "healthy" criteria

Selecting Safer Products

What to look for on Safety Data Sheets (SDS)

- VOC content of 1% or lower
  - No aerosols
- pH of between 5 – 9.7 is neutral
- Products not labeled corrosive, causing eye or mucous membrane damage, that burn the skin, or are sensitizers
- No ingredients listed as carcinogens, mutagens, teratogens

Safer Alternatives

Environmentally preferable product ingredients

Use these:	**Instead of these:**
Alcohol ethoxylates and/or polyglucosides	Nonylphenol ethoxylates or alkylphenol ethoxylates
Hydrogen peroxide	Harsh acids/alkalis
Corn-based esters	Petroleum distillates
Vegetable-derived surfactants	Petroleum-derived surfactants
Fruit-derived solvents and acids	Petroleum solvents or harsh acids

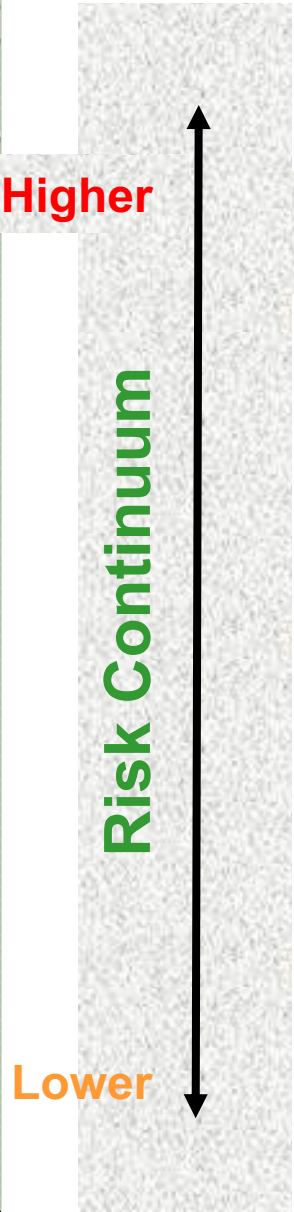
Disinfection? The Germ Control Hierarchy!

1. **All-purpose cleaners** can remove most germs, good for most situations
2. **Sanitizing** is often sufficient for higher risk areas

   Sanitizers – "A product designed to kill most vegetative bacteria and some fungi and inactivate some viruses" *(99.9%)
3. **Disinfecting** should be used only where required by regulation or in the highest risk areas

   Disinfectants – "A product designed to eliminate nearly all recognized pathogenic microoganisms on inanimate objects" *(99.99%)
4. Choose **environmentally preferable disinfectants**

Disinfectants & Sanitizers



Chlorine / Sodium Hypochlorite
- Very effective antimicrobial
- Corrosive to eyes and skin
- Damages floor finishes, carpets, clothing, etc.
- Respiratory irritant
- Environmental concerns from production, contaminants, byproducts
- Mixing can create poisonous gas

Phenols
- Effective against TB – HBV assumed
- Corrosive to eyes and skin
- Damage floor finishes and other surfaces
- Strong pungent odor – respiratory irritant
- Environmental concerns. Possible estrogen mimic.

'Quats'
- Typically not proven effective against spores
- Less toxic than Phenols – eye, skin and surface corrosivity
- Toxic to aquatic life

Peroxide
- EPA Sanitizer
- Superior health & environmental profile compared to phenols and quats

Source: CDCNY-Apic-Albany-2006– Lynn Sehulster

Antibacterial Soaps, Wipes, and Washes

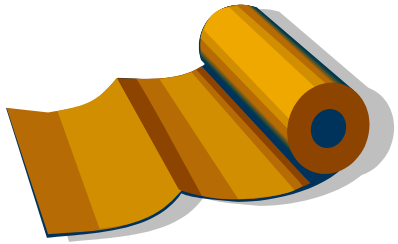
- CDC: washing hands with soap and water is effective*
- Scientists concerned that using antibacterial products can create "super bugs" resistant to antibiotics**
- Antibacterials can harm algae and fish, may break down into harmful environmental contaminants
- Products with *triclosan* should be avoided – absorbed through the skin and bio-accumulate: they are also linked with liver damage as well as antibiotic-resistant bacteria**

* CDC, http://www.cdc.gov/handwashing/when-how-handwashing.html

** http://wwwnc.cdc.gov/eid/article/7/7/01-7705_article

*** http://www.epa.gov/oppsrrd1/REDs/factsheets/triclosan_fs.htm

Cleaning for Health:
More Green Products



- Hand soaps
- Paper products
  - Chlorine free, post-consumer waste recycled content for facial tissue, toilet paper and dispenser roll or multifold towels
  - tissue and towels on large rolls
- Interior paints and finishes
  - Low VOC paints
  - Water-based adhesives

Equipment

Step Three

- Reduce particulates in the air and the volume of cleaning products needed
  - Install dirt-grabbing, walk-off mats at all major entrances: recommended width of entry and 15' – 20'; vacuum daily
    - Up to 80% of soil in buildings is tracked by feet
  - Use microfiber cloths and mops to pick up dust/dirt; may also reduce germs
  - Use HEPA-filtered vacuums for carpets

Equipment

- High-filtration vacuum cleaners
  - Carpet and Rug Institute – www.**carpet-rug**.org
- Autoscrubbers with stripping pads
  - Eliminate the need for toxic chemical strippers
- Vacuum attachments for buffers/burnishers

VIP: custodial closet

Very Important Place:

A+ closet

D- closet

Cost saving tips:

- Prevent dirt
- Keep closets near messes
- Product portion control
- Reduce products/space needed

Elements for Success

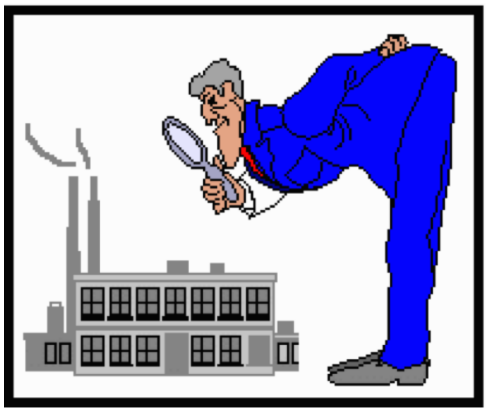
- **Evaluate** cleaning needs, products, practices
- **Educate** building occupants and the broader community
- **Work** with existing Environment/Health & Safety Committee/Sustainability Committee (or create new)
- **Develop** a pilot project to test 1-2 products
- **Train** staff with new products/methods
- **Phase in** more certified "green" cleaning products, such as those certified by UL-EcoLogo or Green Seal
- **Track** success (school nurse visits, attendance)
- **Reward** staff for participating
- **Adopt** a local district policy

Where Will You Start?

Choose and use “Green” Products	Educate building occupants and community
Train staff Pilot green products	Evaluate current cleaning needs, products & practices

Evaluate Needs, Products, Practices

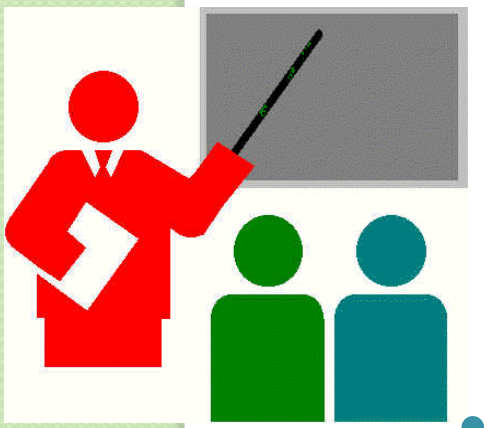
- Use existing or set up a workgroup
- Review needs products, practices and equipment
- Review SDSs
- Review current purchasing practices
- Invite reliable vendor



Choose and Use "Green" Products

- Review the Cleaning Products and Practices Evaluation (inventory of chemical products/equipment)
- Identify most hazardous/high volume products to replace initially
- Pilot using safer products that are third-party certified
- Train
- Develop a vendor contract
- Phase in more green products and advanced equipment
- Track success. **Celebrate!**

Educate Building Occupants, Custodial Staff and the Community



- Find opportunities to educate school staff and the community
  - Cleaning for Healthy Schools
  - Safer pest control (IPM)
  - IAQ Management Plan –Tools for Schools (*IAQ TfS*)
  - Reduce asthma triggers
  - Eliminate outdated chemicals
- Train/involve custodial staff
- Communicate new methods & set up feedback system to resolve problems

Implementation Challenges

- Cleaning products from home
- Inappropriate demand for 'disinfection'; aerosol disinfectants; room deodorizers; poor ventilation
- Daily food spills: halls, classrooms
- Classrooms not ready to be cleaned; storage problems; desk/chair arrangements; clutter
- Outdated beliefs: *cost, effectiveness*

What are your school's challenges?

Conclusion

- CfH protects custodial workers, other staff and children
- You can take steps now
  - Evaluate your current program
    - Cleaning needs, chemical and equipment inventory
  - Ask vendors for help in replacing toxic products with safer substitutes
  - Use the CfH Program Tip Sheets and Checklists to identify next steps
  - Phase in your program

Resources

Third-party certified products:

Green Seal – www.greenseal.org

UL-EcoLogo– www.ecologo.org

More information:

US EPA school resources – www.epa.gov/schools, for an array of voluntary best practices- IAQ, IPM, Energy, PCBs, Renovation…

New York State Office of General Services
Green Cleaning and Green Procurement programs:
https://greencleaning.ny.gov/entry.asp

Industry: ISSA, International Sanitary Supply Association
http://www.issa.com/?id=grres_green_cleaning1&lg=

Cleaning for Healthy Schools: resources

Free Poster, Tip Sheets, Checklists

CfHS Color Poster for your workplace, school, or classroom

Building Evaluation: Green Cleaning Checklist

School Inventory Checklist

Three Things You Can Do

Tips for Parents

Tips for School Staff

Tips for Success - Vendors

Simple Steps

Suggested Research

Celebrate, Educate

National Healthy Schools Day

Annually in April

www.NationalHealthySchoolsDay.org