CLEANING FOR HEALTH IN THE CLASSROOM

Rachel Koller, Environmental Health Consultant

in partnership with:

The Collaborative on Health and the Environment - Washington
NW Children's Environmental Health Working Group

The Collaborative on Health and the Environment - Washington (CHE-WA)

NW Children's Environmental Health Working Group

Working collaboratively with diverse groups to eliminate children's harmful environmental exposures in our region.

Members include:

- Puget Sound Clean Air Agency
- EPA Region 10
- American Lung Association
- Public Health – Seattle & King County
- NW Pediatric Environmental Health Specialty Unit (PEHSU)
- Environmental Coalition of South Seattle
- Washington Toxics Coalition
- Northwest Center for Alternatives to Pesticides
- King County Local Hazardous Waste Management Program
- Washington State Dept of Health
- Department of Ecology
- Univ. of Washington Center for Ecogenetics and Environmental Health
- Pacific Northwest Pollution Prevention Research Center
- Institute of Neurotoxicology & Neurological Disorders

Cleaning for Health in the Classroom Overview

- ✓Pilot program at Adams Elementary
- ✓Key messages for teachers and school nurses
- ✓Ways to promote Cleaning for Health at your school

What can we do to address asthma and indoor air quality in school?

...Look at Classroom Cleaning Routines

Common Cleaning Chemicals Pose Health Risks

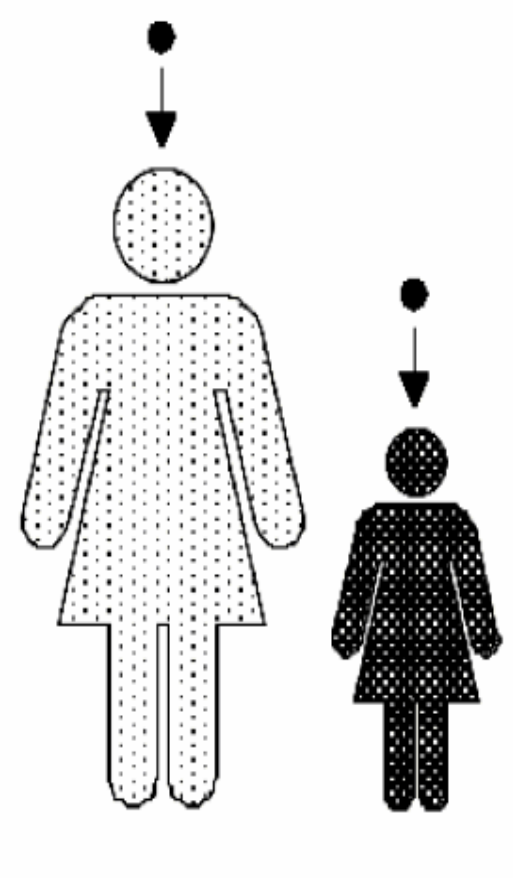
- "Quats" or quaternary ammonium compounds:
  - Known asthmagen. Examples: alkyl dimethyl benzyl ammonium chloride, benzalkonium chloride.
- Fragrance chemicals:
  - Trigger asthma, cause allergic re actions, linked with hormone disruption.
- Aerosols:
  - Exacerbate asthma, increase chemicals suspended in the air, small particles can go deeper into the lungs.

Children are More Vulnerable to Toxic Exposures

Factors for Increased Risk

- Children's Smaller Size
- More Time Playing on the Ground
- Developing Organs
- Higher Breathing Rate – 4 to 6 times more air than adults
- Higher Rate of Food & Water Consumption
- Skin Surface Area (relative to body weight)

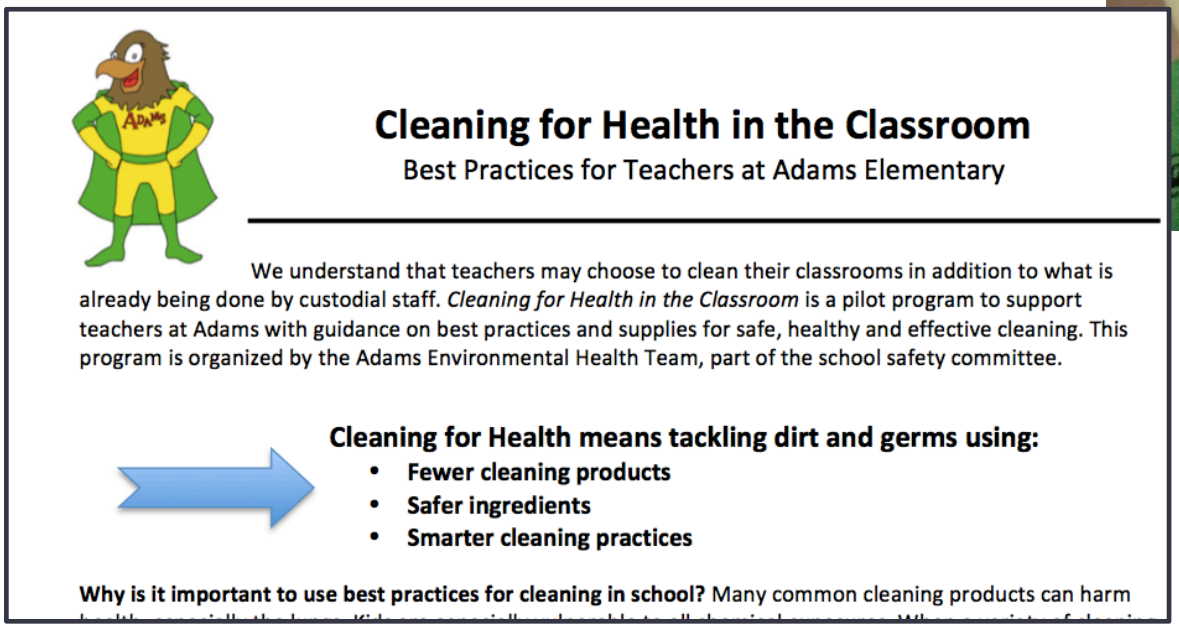
Exposure More Concentrated in Smaller Bodies of Children



Pilot Program at Adams Elementary

Goal: Support teachers who choose to clean beyond custodial routines, with guidance and supplies for safe and effective cleaning.

- Partnered with district staff for input
- Developed guide, and cleaning kit
- Kick-off presentation at staff meeting



Cleaning for Health in the Classroom

Best Practices for Teachers at Adams Elementary

We understand that teachers may choose to clean their classrooms in addition to what is already being done by custodial staff. *Cleaning for Health in the Classroom* is a pilot program to support teachers at Adams with guidance on best practices and supplies for safe, healthy and effective cleaning. This program is organized by the Adams Environmental Health Team, part of the school safety committee.

Cleaning for Health means tackling dirt and germs using:

- **Fewer cleaning products**
- **Safer ingredients**
- **Smarter cleaning practices**

Why is it important to use best practices for cleaning in school? Many common cleaning products can harm

Understanding Cleaning for Health in the Classroom: Key Messages

Cleaning vs. Sanitizing vs. Disinfecting

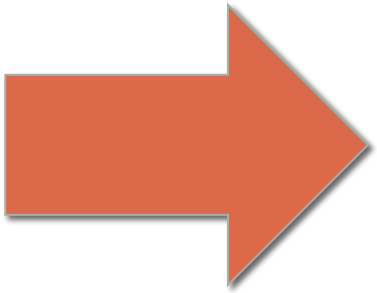
Do you know the difference?

How Cleaning Really Works!

Cleaning: removes dirt and most germs.

- Use soap and water or a third-party certified all-purpose cleaner. Add elbow grease, wipe.
- Removes dirt and organic matter that contains and protects germs.
- Removes asthma triggers like mold and dust.

Clean classroom surfaces as needed, especially high-touch points like sink and door handles, water fountains.



Teachers can rely on **basic cleaning** for infection control and mess control in the classroom.

Sanitizing and Disinfecting

- Use chemicals to kill germs on a surface.
- Also called antimicrobial pesticides.
- Use only where and when necessary.

Overuse of sanitizers and disinfectants:

- Provides no added benefit
- Increases our exposure to harmful chemicals
- Increases environmental pollution

In school, regularly used only in high-risk areas:

- Nurse's office, bathrooms, cafeteria kitchens, athletic facilities. Body fluid spills.

Cleaning is the Focus in the Classroom

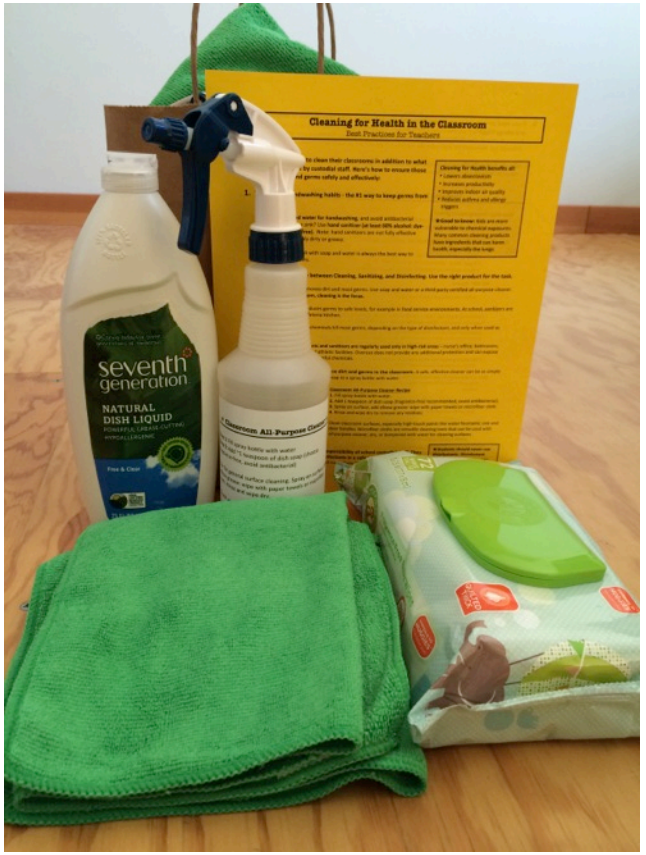
- Disinfectants should not be part of classroom routines.
- Children should never use disinfectants.

Parent: "It's flu season - I'd like to help disinfect and wipe down the classroom."

Teacher: "Help with basic cleaning would be welcome to reduce the germs! We don't need harsh disinfecting chemicals. I've got a classroom all-purpose cleaner you can use."

Classroom Cleaning Kits

- Classroom All-Purpose Cleaner
  - Dish liquid (fragrance-free, avoid antibacterial) and water in spray bottle. *Students can use safely.*
- Microfiber Cloths
- Fragrance-Free Baby Wipes
- Guide



Ready-made product alternative:

"Stride" All-Purpose Cleaner available through SPS custodial staff. *Not safe for students to use.*

Tip #1 in the Guide…

- Use plain soap.
- Avoid antibacterial soaps.

Hand Sanitizer: No Substitute for Handwashing

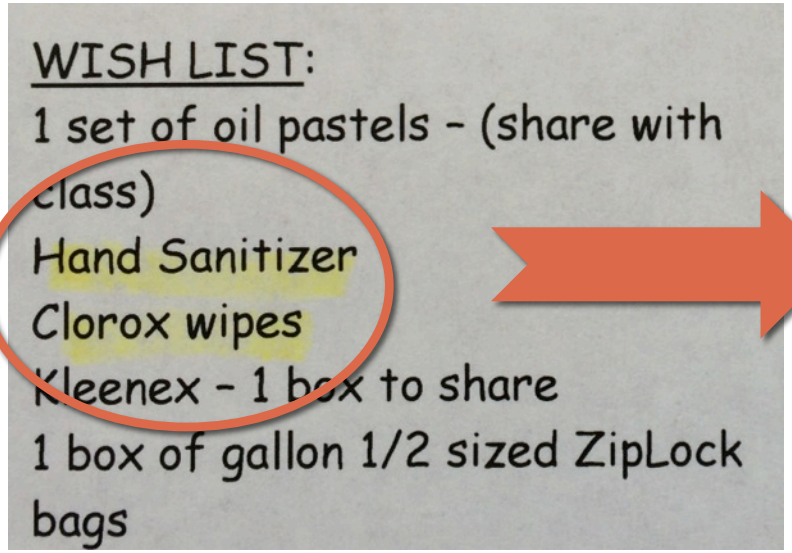
- Not effective on dirty or greasy hands
- Not considered effective on non-enveloped viruses or spores, eg. norovirus

What to look for in hand sanitizer:

- ➢ At least 60% alcohol
- ➢ Choose fragrance-free, dye free
- ➢ Avoid: Benzalkonium Chloride "quat" based, or non-alcohol based

- CDC: Show Me the Science: http://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html

Teachers: Shift Classroom Supply Lists



Be specific on your list!

- Fragrance-Free Baby Wipes
- Alcohol-Based Hand Sanitizer (Fragrance-free, Dye-free)
- Paper Towels (Recycled content preferred)

Model for Students

Cleaning for Health Lessons:

- Teach how basic cleaning really works to remove dirt and most germs.
- Why fragrance-free matters - cleaning products can impact the air we breathe, and clean doesn't have a "lemon fresh" smell.
- Importance of handwashing with plain soap and water.

What does "Cleaning for Health" mean for school nurses?

Use Asthma-Safe Disinfectants

Asthma-Safe Ingredients	Ingredients to Avoid
• Hydrogen Peroxide • Lactic Acid • Citric Acid • Alcohol-ethyl alcohol, isopropyl alcohol	• Quaternary ammonium compounds include alkyl dimethyl benzyl ammonium chloride, benzalkonium chloride, lauryl dimethyl benzyl ammonium chloride, didecyl dimethyl ammonium chloride • Bleach (sodium hypochlorite) • Acetic acid (found in vinegar) • Thymol (skin sensitizer, suspected asthmagen) • Glutaraldehyde • Peracetic acid (peroxyacetic acid)

Table from *Healthy Cleaning & Asthma-Safer Schools*, California Department of Public Health

Oxivir

- Available by request to SPS custodial staff
- Active ingredient: Hydrogen Peroxide
- One-step disinfectant cleaner
- Disinfects hard non-porous surfaces in 5 minutes.
- Effective against a broad spectrum of pathogenic organisms including bacteria, antibiotic-resistant bacteria, viruses and fungi.

Oxivir® Five 16 Concentrate

Format	Pack Size	SKU
Gallon	4 x 1 gal./3.78	4963314
Command Center™/MC	2 x 1.5 gal.	5271361
SmartDose™/MC	2 x 1.4 L	5019296
RTD®	2 x 1.5 L	4963357
J-Fill®	2 x 84.5 oz./2.5 L	4963331

- Bloodborne Pathogens *5 minutes*
- Gram Positive Bacteria *5 minutes*
- Gram Negative Bacteria *5 minutes*
- Enveloped Virus *5 minutes*
- Non-enveloped Virus *5 minutes*
- Fungicidal *10 minutes*
- Non-Food Contact Sanitizer *30 seconds at 1:16, 3 minutes at 1:128*

For more information, contact your local Diversey representative or call 800.626.5015

		Organism	Contact Time
Virus	Non-Enveloped	Adenovirus, Type 8	5 minutes
		Canine Parvovirus	5 minutes
		Norovirus	5 minutes
		Poliovirus Type 1	5 minutes
		Rhinovirus Type 37, Strain 151-1	5 minutes
		Rotavirus	5 minutes
	Enveloped	Avian Influenza A, (H3N2)	5 minutes
		Hepatitis B Virus (HBV)	5 minutes
		Hepatitis C Virus (HCV)	5 minutes
		Herpes Simplex Virus Type 2	5 minutes
		HIV-1 (AIDS Virus)	1 minute
		Human Coronavirus	5 minutes
		Influenza Virus Type A2, Hong Kong Strain	5 minutes
		Pandemic 2009 H1N1 Influenza A virus	5 minutes
		Parainfluenza Virus Type 3	5 minutes
		Respiratory Syncytial Virus	5 minutes
		Vaccinia Virus, (smallpox vaccine virus)	5 minutes
Bacteria	Gram Negative	Acinetobacter baumanii	5 minutes
		Escherichia coli O157:H7*	5 minutes
		Escherichia coli O157:H7, Extended Spectrum Beta-lactamase resistant (ESBL)*	5 minutes
		Klebsiella pneumoniae*	5 minutes
		Klebsiella pneumoniae, Carbapenem Resistant (KPC)	5 minutes
		Pseudomonas aeruginosa*	5 minutes
		Salmonella enterica (choleraesuis)*	5 minutes
		Shigella dysenteriae	5 minutes
	Gram Positive	Listeria monocytogenes*	5 minutes
		Staphylococcus aureus*	5 minutes
		Staphylococcus aureus, CA-MRSA	5 minutes
		Staphylococcus aureus, Methicillin Resistant (MRSA)	5 minutes
		Staphylococcus epidermidis, Methicillin Resistant (MRSE)	5 minutes
		Streptococcus pneumoniae, Pennicillin Resistant (PRSP)	5 minutes
		Streptococcus pyogenes	5 minutes
		Vancomycin Resistant Enterococcus faecium (VRE)*	5 minutes
	Fungicidal	Trichophyton mentagrophytes	5 minutes
		Aspergillus niger	10 minutes
		EPA Number	70627-58
		Shelf Life	3 years
		Use Solution Stability	90 days

Safer Practices for Disinfecting

Always follow label instructions.

- What is the active ingredient?
- What microbes does it kill?
- How long is the dwell time, for sanitizing, for disinfecting?
- Do I need to clean first?
- Do I need to wear gloves, or PPE?
- Ventilation?
- Spray into cloth or paper towel, use larger droplets (not mist)
- Avoid aerosol products and antimicrobial air fresheners.

Promote Cleaning for Health in the Classroom

Cleaning for Health Pilot – Results

- Reduction in use of disinfecting wipes as routine cleaning supplies.
- Raised awareness of the difference between disinfecting and cleaning.
- Affordable: Disinfecting wipes $.06-.08/ea. Baby wipes $.02-.04/ea.

"I stopped using those wipes when you said they had harsh chemicals."

"I used the kit as a lesson. Students helped clean desks with the all-purpose soap cleaner."

"I stopped using disinfecting wipes at home as well."

Keys to success:

- Nurse partnership
- Make it a school-wide effort

Nurses → Promote Cleaning for Health

School nurses are a powerful messenger for safe and effective cleaning and infection control.

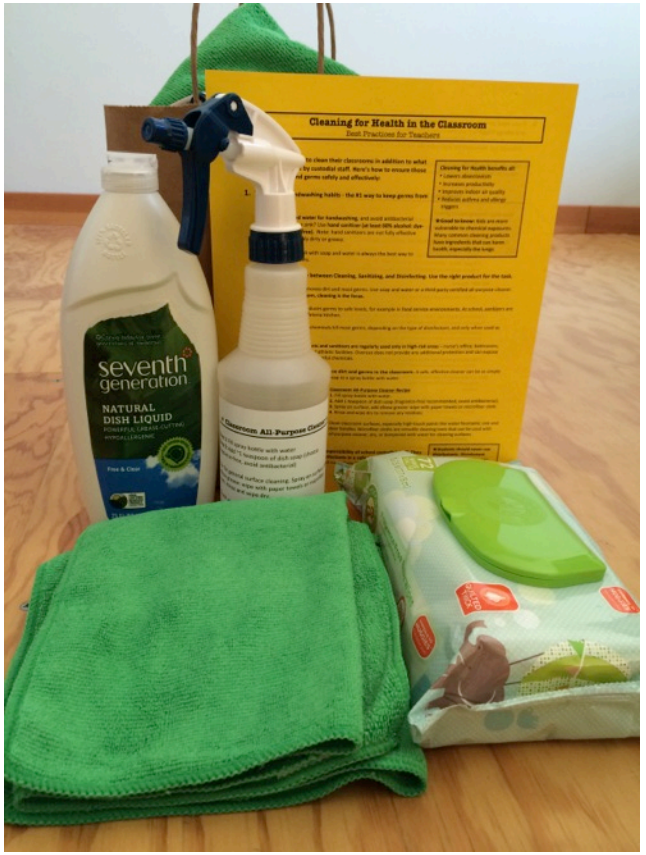
- Take 5-10 minutes at your school's next staff meeting.
- Send an email to staff with the guide.
- Talk to your PTA, would they fund cleaning kits for your teachers?

Free Cleaning Supplies and Outreach for Your Elementary School

CHE-WA is promoting Cleaning for Health in the Classroom at SPS Elementary Schools:

- Interested in free cleaning kits for every teacher at your elementary school?
- Outreach includes a 10 minute presentation at a staff meeting

Contact Rachel Koller to schedule:
rachel.s.koller@gmail.com,862.324.6255



Resources

- *Healthy Cleaning and Asthma-Safer Schools: A How-To Guide* - California Dept of Public Health
- *Safer Products and Practices for Disinfecting and Sanitizing Surfaces* – San Francisco Dept of the Environment
- *Green Cleaning, Sanitizing and Disinfecting: A Curriculum for Early Care and* Education – Univ. of California San Francisco
- Nancy Bernard, School Environmental Health and Indoor Air Quality, Washington State Dept of Health

Questions?

Rachel Koller, Environmental Health Consultant, rachel.s.koller@gmail.com, 862.324.6255