



SCHOOL REOPENING IN THE AGE OF COVID-19

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Washington State Department of Health School Environmental Health & Safety Program

Our Mission

To protect and improve the
Environmental Health and Safety
condition of schools in Washington state.



COVID-19 Situation Today

It's constantly changing –check the website for current guidance:

DOH: [2019 Novel Coronavirus Outbreak \(COVID-19\)](#)

- **Resources and Recommendations**

- [Child Care, Youth Development, and Summer Day Camps During the Covid-19 Outbreak \(PDF\)](#)
- [Summer Guidance, K-12 \(PDF\)](#)
- [Fall Guidance, K-12 \(PDF\)](#)
- **Business and Workers**
 - [Guidance for *Legionella* and Building Water System Closures \(PDF\)](#)
 - [Food Workers and Food Establishments](#)
 - [Water Recreation Facilities](#)
- **You and Your Family**
 - [Cloth Face Coverings \(PDF\)](#)

Prevention – Everyone's Job!

- Wash your hands with plain soap and water – often!
- Cover your cough or sneeze.
- Avoid touching your eyes, nose, or mouth.
- Stay out of spit zones.
- Get vaccinations.
- Good ventilation.
- Stay home when ill.
- Support Public Health.

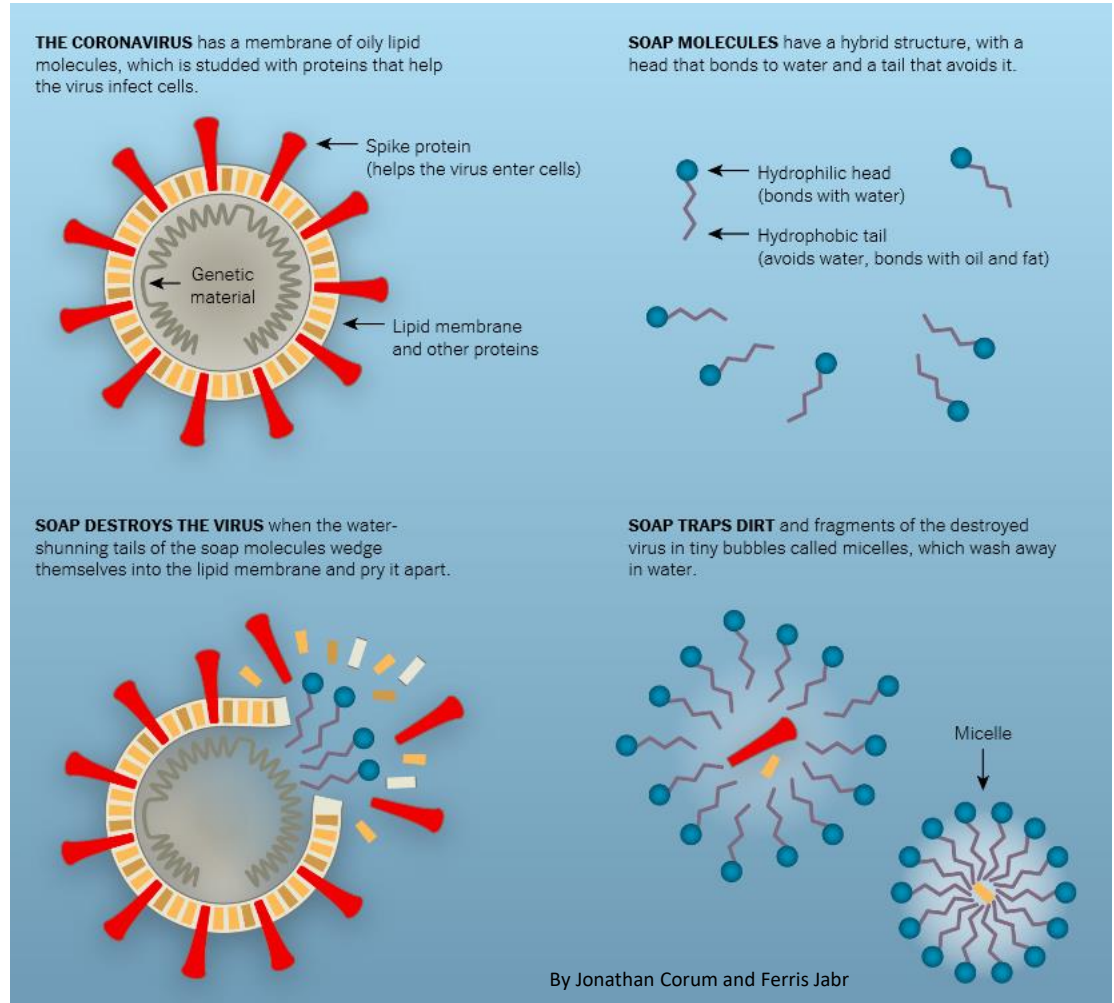


Basics for COVID Prevention

1. Stay home when sick
2. Self-isolate for 14 days if you've been around someone with COVID-19 for more than 15 minutes, closer than 6'
3. Wash hands frequently especially before and after touching face with plain soap and water
4. Maximize outside air, reduce air recirculation, increase filtration to a MERV 13, stay outside as much as possible
5. Keep 6' between people
6. Wear a cloth face covering
7. Clean and disinfect frequently touched surfaces

Soap

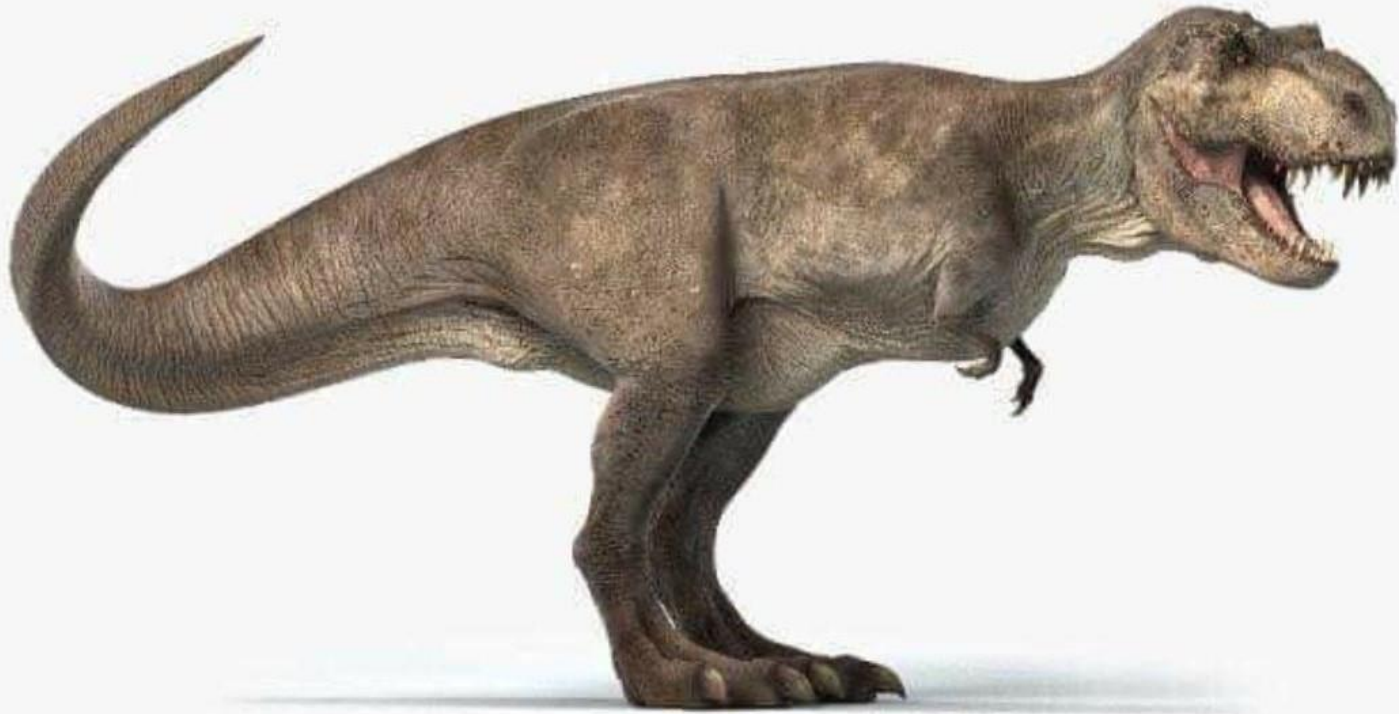
- Fragrance Free
- Dye Free
- Scrub for 20 seconds
- NO antibacterial soaps



Sinks, Sinks, and more Sinks



COULDN'T WASH HANDS



IS NOW EXTINCT

Hand Sanitizer

- Not a substitute for hand washing
- Not effective on dirty hands
- At least 60% alcohol
- Hands should stay wet for 20+ seconds
- Not considered effective on non-enveloped viruses or spores
- Flammable / poison
- Fragrance free
- Not recommended:
 - Benzalkonium chloride, “quat” based / non-alcohol / “natural”



CDC: Show Me the Science:

<http://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html>

Electric Hand Dryers

“Modern hand dryers are much worse than paper towels when it comes to spreading germs, according to new research. Airborne germ counts were 27 times higher around jet air dryers in comparison with the air around paper towel dispensers.”

“jet-air” and warm air dryers studied

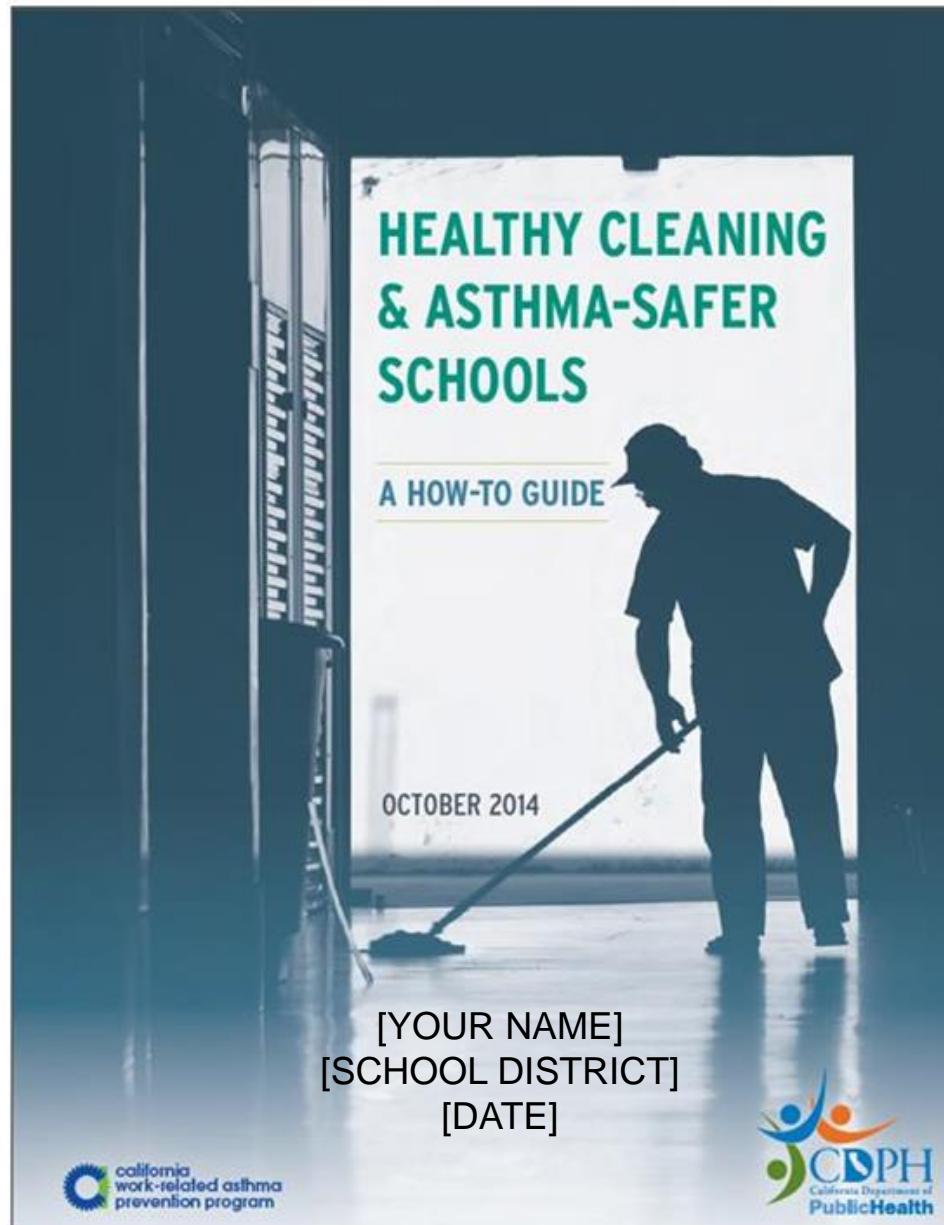


E.L. Best, P. Parnell, M.H. Wilcox. **Microbiological comparison of hand-drying methods: the potential for contamination of the environment, user, and bystander.** *Journal of Hospital Infection*, 2014.

Schools Need An Infection Control Plan

- Clear Protocol
- Independent third party certified cleaning products
 - Ingredients not known to contribute to asthma, cancer, respiratory irritation, liver and kidney disease
- EPA registered sanitizers-disinfectants
- Best practices & procedures
- Cleaning equipment designed to reduce the amount of chemicals required
 - Walk-off mats, HEPA filters, microfiber, etc.
- Training programs

Staff and students deserve to work and learn in a safe and healthy school environment, and they can, since safer cleaning products and methods exist.



No Spraying/Fogging Chemicals Into the Air



Ventilation and School Performance

Increases in classroom ventilation rates up to approximately **20 cfm per student** are associated with improvements in student performance of a few to several percent, with the magnitude of improvement depending on the initial ventilation rate.

Increases of ventilation rates up to approximately **15 cfm per student** are associated with a higher proportion of students passing standardized reading and math tests.

Lawrence Berkeley National Labs Indoor Air Quality Scientific Finding Resource Bank
<https://www.iaqscience.lbl.gov/performance-summary>

Filtration

- ASHRAE Filter Rating of MERV 8-**13**
 - prefilter
- Deepest pleat possible – less resistance
- Tight fit
- Change as needed (3 months)
- Not just to protect the unit – **Filter the outside air!**
- Reduce classroom clutter/furnishings
- Entry mats – cleaned regularly
- Vacuums with HEPA filters

White Paper Proposed Ventilation & Energy Efficiency
Verification/Repair Program for School Reopening.
NEMI/UCDavis Energy & Efficiency Institute 6.4.2020

Resources - Safer Disinfectants



Proper cleaning and disinfecting are important for reducing the spread of COVID-19. This fact sheet provides best practices for cleaning, sanitizing and disinfecting surfaces to prevent the spread of disease while minimizing harmful chemical exposures. These practices focus on the workplace, however they can be applied in any setting. Consult the U.S. Centers for Disease Control and Prevention and the U.S. National Institute for Occupational Health and Safety for the most current information.

Remember, when possible for handwashing and cleaning surfaces, soap and water is always the best option.

Why are we talking about safer practices?



Hazardous chemicals are common in cleaning, sanitizing and disinfecting products.

People using these products, and people in the spaces where they are used, can get sick or develop illnesses, including asthma. Others harm reproductive health or may cause cancer if too much exposure occurs. Some damage skin or other body systems. For example, custodians using cleaning products and disinfectants are most likely to get work-related asthma. Four out of five workers with job-related asthma in the U.S. were in areas during, or right after, cleaning was done.¹



Safer options are available

Look for Safer Choice, Green Seal®, Ecologo® and Design for the Environment (DfE) labels on products.



These labels are on environmentally preferable cleaning products and disinfectants that have a lesser or reduced effect on human health and the environment. These labels have strict requirements and can help you avoid chemicals that have negative impacts.

Key Terms

Cleaner

Removes germs, dirt, and impurities from surfaces or objects. Works by using soap/detergent, water and friction to physically remove dirt and germs from surfaces. Cleaning before disinfecting reduces spreading infection more than disinfecting alone.

Sanitizer

Reduces germs on surfaces to levels considered safe for public health (usually 99.99%). Products must be EPA registered.

Disinfectant

Destroys almost all infectious germs, when used as the label directs on a surface. No effect on dirt, soil, or dust. Should be used where required by law, in high-risk and high-touch areas, or in case of infectious disease. Products must be EPA registered.

SAFER DISINFECTANTS ON EPA'S LIST OF RECOMMENDED ANTIMICROBIAL PRODUCTS FOR USE AGAINST NOVEL HUMAN CORONA VIRUS

Responsible Purchasing Network

March 2020

Because there is an urgent need for clear and consistent information about cleaning, disinfecting and sanitizing practices that are most likely to remove and kill COVID-19, it is critically important for all of us to follow the guidance issued by the US Environmental Protection Agency (EPA) and CDC.

The US Environmental Protection Agency (EPA) has published – and [List N: EPA's Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19](#). List N includes over 350 EPA-registered disinfecting products that, according to EPA "have qualified under [its] [emerging viral pathogen program](#) for use against SARS-CoV-2, a coronavirus that causes COVID-19. Coronaviruses are enveloped viruses, meaning they are one of the easiest types of viruses to kill with the appropriate disinfectant product."

The Responsible Purchasing Network has identified and is promoting products on EPA's List N that are the safest from the perspective of protecting human health and the environment from toxic risks because they contain only antimicrobial ingredients (such as hydrogen peroxide, ethanol, or citric acid) that are not known to cause occupational asthma or cancer. These surface disinfectants can often replace chlorine bleach or quaternary ammonium chloride compounds, which have been linked to these adverse human health effects.



EPA's List N includes several of the safer hydrogen peroxide-based "safer" surface disinfectants that are recommended in San Francisco's [Safer Products and Practices for Disinfecting and Sanitizing Surfaces](#) report, which RPN helped to develop. These include, but are not limited to:

- [Clorox Commercial Solutions® Hydrogen Peroxide Disinfecting Cleaner](#) and [Clorox Healthcare Hydrogen Peroxide Cleaner Disinfectant \(EPA Registration No. 67619-24\)](#) a ready-to-use liquid with efficacy against a wide array of bacteria and viruses (including Human Coronavirus) with a 1-minute contact time.
- [Clorox Commercial Solutions® Hydrogen Peroxide Cleaner Disinfectant Wipes](#) and [Clorox Healthcare Hydrogen Peroxide Cleaner Disinfectant Wipes \(EPA Registration No. 67619-25\)](#), which have efficacy against a wide array of bacteria and viruses (including Human Coronavirus) with a 1-minute contact time.





Healthy Air for Healthy Schools

Use Only:

- Approved chemicals, cleaners, or disinfectants provided by the school or district. Never bring in products from home.
- Fragrance-free soap and water or fragrance-free baby wipes to clean surfaces. Disinfection is for trained custodians with approved effective products.
- Pens, markers, and board cleaners that are water-based, unscented, crayon, or low-odor.
- Spray paints and spray glues where there is mechanical exhaust ventilation.

Avoid Products That Reduce Air Quality — Do Not Use:

- Room deodorizing sprays, plug-ins, scented candle warmers, scented reeds, candles, incense, essential oils, or potpourris.
- Air-cleaning devices that generate ozone or are called "ionizers" – ozone is a respiratory irritant.
- Perfumes, colognes, body sprays and other strongly scented personal care products.
- Permanent, solvent-based, or scented pens, markers, and board cleaners.
- Disinfectant wipes.
- Urinal cakes.
- Rubber cement or spray adhesives with hexane or toluene.



Using classroom products that are free of airborne irritants means healthy indoor air quality!

- > Eliminate unnecessary chemicals.
- > Reduce asthma and headaches.
- > Increase attendance and performance!

Learn more at www.doh.wa.gov/schoolenvironment



DOH 333-243 August 2019

For people with disabilities, this document is available on request in other formats. Call 1-800-525-0127 (TDD/TTY call 711).

Healthy Air Quality in Schools - Tips for Administrators, Custodians, and Teachers

Healthy Air Quality in Schools



Achieving healthy air quality in schools takes administrators, custodians, and teachers working together. Good ventilation and source control of pollutants means healthy indoor air quality.

General Tips

- Teachers and staff need to know who to contact for indoor air quality concerns in the school.
- There should be a written school or district indoor environmental quality plan that includes indoor air quality and integrated pest management.
- Notify school or district indoor air quality contact or maintenance staff if you detect odors or dust from locations such as shops, copy rooms, science labs, laminators, locker rooms, graphic arts, custodial supply rooms, storage areas, combustion equipment, kitchens, or bus exhaust. Document your concerns.
- Immediately report any water leaks, water stains, damp materials, or unusual odors (such as musty or moldy smells) to maintenance staff.
- Maintenance staff should respond to water leaks and moisture problems within 24 hours.
- Relative humidity levels between 30 and 50 percent are better for health. Low relative humidity leads to dry eyes and respiratory irritation. High relative humidity allows dust mites to grow and promotes condensation.
- Dispose of food wastes promptly in covered containers.

Ventilation

- Operate the ventilation system continually when the school is in use, including during custodial work. Supply at least 15 cubic feet per minute per person of fresh outside air whenever the school is in use. See [WSU Energy Program's Good Ventilation is Essential for a Healthy and Efficient Building \(PDF\)](http://www.energy.wsu.edu/Portals/0/Documents/Good_Ventilation_is_Essential.pdf). (www.energy.wsu.edu/Portals/0/Documents/Good_Ventilation_is_Essential.pdf).
- An occupied room is considered to be receiving the minimum amount of fresh air when indoor carbon dioxide (CO₂) levels are approximately 700 parts per million (ppm) over outside ambient CO₂ levels. See [WSU Energy Program's Measuring Carbon Dioxide Inside Buildings \(PDF\)](http://www.energy.wsu.edu/Portals/0/Documents/Measuring_CO2_Inside_Buildings-Jan2013.pdf). (www.energy.wsu.edu/Portals/0/Documents/Measuring_CO2_Inside_Buildings-Jan2013.pdf).
- Maintain three feet of clearance around unit ventilators and do not put items on top of them to block airflow.
- Change ventilation filters regularly. Use the highest rated, deepest pleat filters the system can accommodate.
- Check to make sure that supply air diffusers, exhaust, and return grills are not blocked. They should be clean and dry.
- Don't turn off unit ventilators – ask maintenance staff to repair noisy units, control temperatures, and control drafts.
- Monitor windows – they should not show condensation except on the very coldest of days.
- Don't allow vehicle idling on school property.
- Maintenance staff should follow integrated pest management strategies. Don't use pesticides in the building.

Control Asthma Triggers

Reduce Animal Allergens, including Dust Mites

- Animals shouldn't be classroom residents and should only come to school for educational purposes.
- Use integrated pest management practices to prevent cockroach and rodent infestations.
- Store food in tightly sealed containers.
- Seal all cracks and crevices.
- Grate all foundation and roof ventilation.
- Use barriers to discourage birds roosting.
- Wash stuffed animals and blankets in hot water every two weeks, or remove them.

Control Dust

- All outside doors should have large entry mat barriers (walk-off mats) outside and just inside the door. The mats should provide at least four to seven footfalls.
- Maintain cleanable surfaces and avoid clutter. Put loose items into plastic boxes with lids that can be wet-wiped.
- Damp-wipe surfaces weekly with a micro-fiber cloth.
- Don't hang items from the ceiling T-bars without special clips to prevent fraying fiberglass. Remove or clean items when dusty.
- Discourage clutter by removing as many unnecessary dust-collecting items as possible.
- Use pre-mixed and pre-wetted clay art supplies whenever possible to reduce dusts.
- Replace fabric upholstered furniture with furniture easily dusted.
- Remove area rugs that cannot be regularly cleaned and that trap dirt and moisture.

Reduce Chemicals

- Don't use permanent, solvent-based or scented pens, markers, and board cleaners. Use water-based, unscented, crayon-based, or low-odor items.
- Don't use room deodorizing sprays, plug-ins, scented candle warmers, scented reeds, candles, incense, therapeutic oils, or potpourris.
- Don't use urinal cakes in bathrooms.
- Avoid spray adhesives, contact cement, and volatile paints. If spray adhesives are necessary, use hexane and toluene-free products. Wear solvent-resistant gloves. Spray in an area with local exhaust ventilation and away from children. See [King County's Selecting Safer Art Adhesives](http://www.hazwastehelp.org/publications/publications_detail.aspx?DocID=z%2F7o%2f2BLUUM%3d) (www.hazwastehelp.org/publications/publications_detail.aspx?DocID=z%2F7o%2f2BLUUM%3d).
- Don't bring chemicals, cleaners, or disinfectants from home. Use only those provided by the school or district.
- Never use air-cleaning devices that generate ozone. Ozone is a respiratory irritant.
- Discourage the use of perfumes, colognes, body sprays and other strongly scented personal care products.
- Hazardous chemicals in laboratories, chemical storages, shops, art rooms, and any other areas need to be properly stored and managed to prevent air contamination.

Carpet Care

- Whenever possible, don't allow food or beverages in classrooms. If possible, vacuum daily (when children are not present). Use a vacuum with a HEPA (high efficiency particulate air) filter – or use HEPA vacuum bags. Having both is even better.
- Avoid use of area rugs. They can trap moisture and dirt under them. Clean carpets thoroughly with truck-mounted hot water and steam extraction once or twice per year.
 - Spot treat carpet as needed first.
 - Use the minimum amount necessary of low-odor and low-sudsing carpet shampoo.
 - All shampoo and cleaner needs to be thoroughly extracted until the water runs clean.
 - Carpet should dry thoroughly within 24 to 48 hours after cleaning.

Resources

- [School Environmental Health and Safety, Department of Health](http://www.doh.wa.gov/schoolenvironment) (www.doh.wa.gov/schoolenvironment)
- [School Indoor Air Quality Best Management Practices Manual, 2003 \(PDF\)](http://www.doh.wa.gov/Documents/Pubs/333-044.pdf) (www.doh.wa.gov/Documents/Pubs/333-044.pdf)
- [Integrated Pest Management for Schools, WSU](http://schoolipm.wsu.edu/) (<http://schoolipm.wsu.edu/>)
- [Creating Healthy Indoor Environments in Schools, EPA](http://www.epa.gov/iaq/schools/index.html) (www.epa.gov/iaq/schools/index.html)
- [Taking Asthma Care To School, Washington Asthma Initiative \(PDF\)](http://www.waasthma.org/wp-content/uploads/2014/05/AMES2014Final.pdf) (<http://www.waasthma.org/wp-content/uploads/2014/05/AMES2014Final.pdf>)
- [Art Hazards, King County Local Hazardous Waste Management Program](http://www.hazwastehelp.org/ChemToxPesticides/artchemicals.aspx) (<http://www.hazwastehelp.org/ChemToxPesticides/artchemicals.aspx>)

Guidelines for Cleaning, Disinfecting, and Handling Body Fluids in School – Appendix 8

OSPI Infectious Disease Control Guide for School Staff 2014

- A. Standard Precautions
- B. General Precautions
- C. Hand Washing Procedures
- D. Use of Gloves
- E. Contaminated Needles, Broken Glass, or Other Sharp Items
- F. Cardiopulmonary Resuscitation
- G. General Housekeeping Practices
- H. Disinfectants
- I. Procedures for Cleaning and Disinfection of Hard Surfaces
- J. Blood or Body Fluid Spills
- K. Cleaning up vomit
- L. Athletics
- M. Procedures for Cleaning and Disinfection of Carpets/Rugs
- N. Disposal of Blood-Containing Materials
- O. Procedures for Cleaning and Disinfection of Cleaning Equipment
- P. Procedures for Cleaning and Disinfection of Clothing and Linens soiled with Body Fluids
- Q. Signs and Labels
- R. Cleaning and Disinfecting Musical Mouth Instruments

Resources

- Why Soap Works
<https://www.nytimes.com/2020/03/13/health/soap-coronavirus-handwashing-germs.html>
- Safer Cleaning, Sanitizing and Disinfecting Strategies to Reduce and Prevent COVID-19 Transmission, UWDEOHS
https://osha.washington.edu/sites/default/files/documents/FactSheet_Cleaning_Final_UWDEOHS_0.pdf
- Safer Disinfectants on EPA's List of Recommended Antimicrobial Products for use against Novel Human Corona Virus, Responsible Purchasing Network
https://osha.washington.edu/sites/default/files/documents/Updated%20Safer%20Disinfectants%20List_March%2026%2C%202020.pdf
- Cleaning for Asthma-Safe Schools (CLASS), CDPH
<https://www.cdph.ca.gov/Programs/CCDCPHP/DEODC/OHB/WRAPP/Pages/CLASS.aspx>
- *Cleaning for Healthier Schools – Infection Control Handbook 2010*
https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental_health/eoha/pdf/CleaningforHealthierSchoolsFINAL2411.pdf.pdf?la=en
- Informed Green Solutions
<http://www.informedgreensolutions.org/>
- Characteristics of Selected Disinfectants
<http://www.cfsph.iastate.edu/Disinfection/Assets/CharacteristicsSelectedDisinfectants.pdf>
- *Safer Products and Practices for Disinfecting*, 2014, SFDE, RPN
http://www.sfenvironment.org/sites/default/files/fliers/files/sfe_th_safer_products_and_practices_for_disinfecting.pdf



THANK YOU!

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Resources available:

www.doh.wa.gov/schoolenvironment

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