

King County Green Schools Program

Healthy Schools

Best Practices Guide for Schools



Use this guide to

- assess how well your school supports the health and wellness of students and staff
- expand your healthy school practices

Assistance: The Hazardous Waste Management Program in King County offers information and assistance with many strategies in this guide.

Public schools will need assistance from their districts to complete many actions in this guide.

King County Green Schools Program provides assistance to participating schools. Ask the Green Schools Program for guidance. The program can help to connect you with a Hazardous Waste specialist and with your district.

Recognition: If your school is working on achieving the Sustaining Green School level, see [Sustaining Green School](#) for the steps to recognition. One requirement for Sustainable Green School recognition is to complete an additional action or educational strategy each year. To fulfill that requirement, your school may select any action from this guide.

Best practices are divided into

- Chemicals: Science labs, and art, shop, and maintenance areas
- Gardens / Pesticides
- Green cleaning
- Health and wellness
- Indoor air quality
- Lead and mercury

A. Chemicals: Science labs, and art, shop, and maintenance areas

Note: For actions in this section, ask for help from the Hazardous Waste Management Program in King County at haz.waste@kingcounty.gov or 206-263-8899.

1. Remove and properly dispose of chemicals listed in the LHWMP banned candidate chemicals list. Ask the LHWMP for this list.
 - Properly label all chemicals.
 - Prohibit purchase and use of
 - glass etching compound with hydrofluoric acid or ammonium bifluoride
 - hexane-based adhesive aerosols
 - formaldehyde-containing specimens
 - mercury-containing compounds.
 - Safely store all science lab chemicals
 - On shelves or in cabinets, as recommended by an LHWMP specialist, to comply with Fire Code requirements and Prudent Practices in the Laboratory guidelines. See [Washington State Health and Safety Guide for K-12 Schools](#).
 - Away from incompatible compounds, drains, vents and food
 - In a properly ventilated area. *Note:* When ventilation is poor, toxic vapors from leaking containers, corrosive fumes, or mold can be inhaled by teachers and students.
2. Annually complete an inventory of all chemicals, including chemicals in science labs, and art, shop, and maintenance areas. Keep updated inventory list in each area. Keep Safety Data Sheets (SDS) updated and available for all school chemicals.
3. Establish a school chemical management program that includes purchasing, inventory, storage, staff training, spill response, and hazards communication.
4. Adopt micro- or small-scale chemistry practices (an in-lab teaching method using very small amounts of diluted chemicals to teach laboratory exercises) to reduce the amount and concentration of chemicals stored and used in science classes.
5. Prohibit purchase and use of powdered paints, glazes, and clays. Although more expensive in non-powder, pre-mixed form, the powdered products contain hazardous and unsafe chemicals. If your school uses powdered paints, glazes, and clays, mix them in school locations with well-maintained, appropriate local exhaust ventilation equipment and away from student areas.
6. Purchase and use only art supplies that conform to ASTM D-4236 and either have the Art & Creative Materials Institute (ACMI) Approved Product (AP) logo or the word non-toxic on their labels. Avoid purchasing or using any product with a DANGER or WARNING caution label. Prohibit purchase and use of solder and art glazes that contain lead, mercury, cadmium, uranium, arsenic, and chromium (or chromate). Use low or no VOC products and water-based products whenever possible. Properly dispose as hazardous waste any glazes labeled as containing lead, cadmium or chromium or that have the Health Caution label or CL Seal.

B. Gardens / Pesticides

Students and classrooms

You can help your school to create or maintain a garden. See the first three actions below.

1. Establish a food garden either on-site or in close proximity to the school building. Use the produce in the school cafeteria or in culinary classes, or donate it to a local food bank.
2. Establish a pesticide-free school garden using native plants and non-toxic alternatives to pesticides and herbicides.
3. Maintain a wood-chip mulch depth of 2-4 inches in all landscape planting beds to reduce the need for herbicides. The mulch also will reduce the need for irrigation.
4. Use your school garden as a teaching tool to promote your student's health and wellness.
5. Develop and enforce an Integrated Pest Management (IPM) policy that uses non-toxic methods and products to control pests on school grounds. Visit Washington State University [School IPM](#) for information, resources, and model policies.
6. Comply with [Washington State law](#) regarding spraying of pesticides, including the following.
 - Provide annual notification to parents of the school's pest control policies and methods.
 - Establish and follow a system to notify interested parents, guardians, and school employees of planned pesticide use at least 48 hours prior to pesticide application.
 - Post signs in prominent locations before and during application and for 24 hours after application of pesticides.
 - Properly train staff before they apply pesticides.
 - Keep proper records of pesticide applications.
 - Properly store and dispose of leftover pesticides.

C. Green cleaning

1. Establish a comprehensive green cleaning program: Purchase and use only non-toxic cleaning products. Enforce school and district policies regarding purchase and use of cleaning products. See [Cleaning for Healthy Schools Toolkit](#).
2. Install and use automated dispensing equipment in custodial areas to ensure safe dilution of cleaning products.
3. Properly label and store all cleaning products to keep them out of reach of children and to keep incompatible chemicals (e.g., bleach and ammonia) separate. Use cleaners and EPA registered disinfectants according to instructions on their labels. Use disinfectants only in targeted high-risk areas.
4. Do not purchase and use of urinal and toilet cake deodorizers that contain para-dichlorobenzene (PDCB). Do not purchase and use cleaning supplies that contain phenylphenol (a disinfectant), butyl cellosolve, or butoxy ethanol, including butoxy ethanol-based white board cleaner.
5. At least weekly, clean art rooms used for pottery by wet mopping and sponging clean. Micro-fiber cleaning equipment is recommended. *Note: Clay dust may contain silica; even wet clay can become airborne once it dries on surfaces.*

D. Health and wellness

Students and classrooms

Ask your school nurse about the first action below, ask kitchen staff about actions 2, 3, and 4, and ask your PE teacher about actions 5 and 6.

1. Participate in the [Coordinated School Health Program](#) from the Center for Disease Control and Prevention.
2. Educate students about nutrition, offer cooking classes, and promote the healthy food choices, including vegetables, fruits, and whole grains, that are offered at school.
3. Participate in a Farm to School program to use fresh food from local farms in the school cafeteria or in culinary classes. See [Farm To School](#) and [Washington \(farmtoschool.org\)](#)
4. Provide pesticide-free food choices in the cafeteria.
5. Offer physical education classes and an after-school sports program that provide opportunities for physical activity along with education about the importance of exercise.
6. Elementary schools: Establish a school schedule that allows students to spend an average of at least 90 minutes per week in school-supervised physical education. In addition, schedule daily recess time, and annually hold at least 30 percent of recesses outdoors. Visit [Children and Nature](#) and [Green Schoolyards](#).

E. Indoor air quality

Students and classrooms

You can help to complete the first two actions below.

1. Keep classrooms uncluttered and easy to clean. Make sure all heating, ventilation, and air conditioning vents are unblocked (leave a three-foot buffer around vents) and free from clutter. At the end of the day, place chairs on top of desks and tables to give custodians more time to clean and more access to carpet and floor areas.
2. Establish a “no idling” zone close to school for buses and cars. See the [Transportation Best Practices Guide](#) for helpful resources.
3. Establish a school Asthma Management Program consistent with the [National Asthma Education and Prevention Program](#).
4. Establish and enforce an up-to-date Indoor Air Quality Management Plan modeled after the [EPA's Indoor Air Quality \(IAQ\) Tools for Schools](#) or other national recognized model.
5. Use walk-off floor mats at all entrances to trap dirt and chemicals that are tracked in. Clean walk-off mats regularly. Mats should be as wide as the doorway and twice as long. Three mats are best: A coarse mat immediately outside each door; a medium-coarse mat immediately inside each door; and a fine mat after that.
6. Prohibit use of air fresheners, room deodorizers, and other scented products. Use only low-odor white board markers. If children use individual white boards, use dry erase wax crayons instead of markers. Use only water-soluble drawing markers for paper.

7. Vent fumes from labs, art classes, photocopier machine spaces, auto shop spaces, and other shop spaces directly to the outside of the building. Make sure that air moves from areas with clean air, such as hallways, to those areas where chemicals are used and stored, and then out of the building. Place exhaust vents at least 10 feet away from outdoor air intakes.
8. Regularly use exhaust fans in kitchens and Family and Consumer Science classrooms. Clean vents and replace filters regularly. Log air filter changes and cleaning of exhaust vents and exhaust fans. Date the filters on vacuums and heating units. Check HVAC systems at least annually to ensure that filters are clean and tight fitting, and the system is free of mold, moisture, deteriorating linings, and other contaminants. Goal: To provide a supply of fresh air that keeps indoor carbon dioxide (CO₂) concentrations under 700 PPM.
9. Set thermostats to “FAN ON” when the building is occupied and to “AUTO” for other times. This simple step will provide ventilation whether or not the thermostat calls for heat or cooling.
10. Vacuum thoroughly and daily. Empty vacuum bags when half full in an area with good ventilation. Use HEPA vacuums or filters. When purchasing new vacuums, select HEPA vacuums with tight fitting HEPA filters. On existing vacuum cleaners, replace dust bags with double-bag or high-efficiency one micron filter bags. Vacuum with ventilation units on or doors and windows open.
11. When cleaning carpets: Use truck-mounted hot water steam extraction with no detergent or with minimal low-suds fragrance free detergent. Thoroughly extract dirt and detergent, and dry carpet within 24 to 48 hours. Soaps and detergents can leave a residue that when dry becomes airborne and can cause allergy, asthma, and sensitization.

F. Lead and mercury

1. Review and follow recommendations in the [US EPA 3Ts for Reducing Lead for Drinking Water](#).
2. Avoid purchasing and using any glazes on pottery that will be used by school children for food and beverages. Note: Many “lead-free” glazes have small quantities of lead encased in silica -- and the lead leaches into foods and beverages. (Also see #6 above under “Chemicals in science labs, and art, shop, and maintenance areas.”)
3. Identify areas containing lead paint, and properly remove or contain (e.g., paint over) lead paint that is degrading. Visit the [US EPA Lead: Renovation, Repair, and Painting Program](#).
4. Eliminate and prohibit purchase and use of liquid mercury, mercury compounds, mercury thermometers, mercury novelty items such as mazes and jewelry, and mercury blood pressure cuffs -- and replace with non-mercury products. Note: Since January 2006, mercury has been banned from all schools in Washington. Only one mounted and functional mercury barometer is allowed in each school.

September 2022