

Instructions

Read this section before completing the Building and Grounds Maintenance Checklist.

Background Information for Building and Grounds Maintenance Checklist

BUILDING MAINTENANCE SUPPLIES

Maintenance supplies can emit air contaminants during use and storage. Products that are lower in emissions are not necessarily less hazardous. Examples of maintenance supplies that may contribute to indoor air quality (IAQ) problems include caulks, solvents, paints, adhesives, sealants, gasoline, fertilizers, pesticides, and cleaning agents.

Be sure to review all instructions for maintenance supplies and follow appropriate safety, handling, disposal, and storage practices. Establish maintenance schedules and practices that minimize occupant exposure to hazardous materials.

GROUNDS MAINTENANCE SUPPLIES

Grounds maintenance supplies include equipment, fertilizers, and portable gasoline containers. These supplies should be stored outside the main school building in a well-ventilated area (preferably in a locked facility) to minimize human exposure to pollutants.

If you are storing the equipment for a long period of time (for example, over the winter), empty the gas tank or use a stabilizer. Remember to maintain equipment according to the manufacturer's guidelines. Maintenance remains an easy, low-cost way to reduce emissions and achieve the best fuel economy.

Portable gasoline containers can be a pollution source, even when not in use. Low-emission gas cans reduce evaporation and spillage and offer an affordable option to schools. Check the gasoline cans your school uses and consider using only low-emission cans.

DUST CONTROL

Maintain a cleaner school with reduced effort by using two simple techniques:

- Reduce the amount of dust and dirt that enters the school.
- Reduce the amount of dust released from vacuum bags and dust cloths.

Cleaner schools positively affect students and staff both physically and psychologically. Buildings with high dust levels have been associated with increased complaints, illnesses, and discomfort. Specifically, dust mites have been found to trigger asthma attacks. In addition to dust, these techniques reduce other particles (such as pollens), that are known to cause allergic reactions.

Schools may want to place barrier floor mats at all entrances. These mats need to be long enough to allow five full steps for people entering the school. Most dirt will fall off on the mats rather than throughout the entire school, saving cleaning costs. Vacuum each barrier mat daily using a beater brush or beater bar vacuum. Always vacuum in two directions (in-line and side-to-side).

Use high-efficiency vacuum bags. Standard paper or cloth bags allow dust to pass completely through the vacuum and back into the air and onto surfaces. When possible, use micro-filtration bags that retain dust and particles in the 3 micron size range or even smaller. Although these bags cost more initially, using them can reduce labor costs. When dusting, ensure dust is collected and not released back into the air. Use wet cloths to collect dust, and dust in a circular motion rather than a flicking motion.

Periodically clean air supply vents and return grilles, as well as the ceiling and wall surfaces adjacent to the grilles and vents. Remove all visible dust.

FLOOR CLEANING

All flooring—including vinyl, wood, terrazzo, tile, and carpet—requires daily attention to ensure cleanliness. Contact floor suppliers or manufacturers for recommended maintenance techniques and follow specific guidelines for properly maintaining carpets. Determine the appropriate frequency of vacuuming required for each area. (Guidelines are available from the Carpet and Rug Institute at (800) 882-8846 or www.carpet-rug.com; see **Appendix L: “Resources”** in the *IAQ Reference Guide*).

Use a vacuum with brushes, beater bars, strong suction, and a high-efficiency filter bag that will filter particles down to the 3 micron or smaller range. Remove spots and stains immediately. Use care to prevent excess moisture to ensure that cleaned areas will dry quickly.

Perform restorative maintenance as necessary (for example, stripping and recoating floors or intensively cleaning carpets). The Carpet and Rug Institute recommends periodic extraction cleaning (wet or dry); be sure to remove all moisture and cleaning agents after cleaning.

DRAIN TRAPS

Drain traps in the floor, if present, can become a problem when the water in the drain trap evaporates due to infrequent use, allowing sewer gases to enter the room. Periodically pour water into sinks and drains, and flush unused toilets at least once a week.

MOISTURE, LEAKS, AND SPILLS

Water (leaks, spills, puddles) and excess moisture (condensation, humidity) contribute to mold growth. Mold can trigger allergic reactions and asthma episodes, cause odors, and lead to a variety of other IAQ problems.

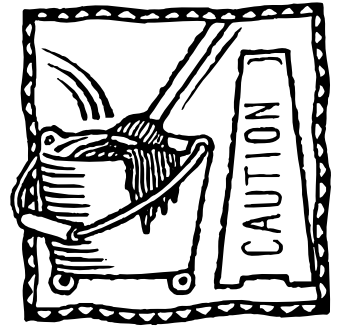
Inspect the building for signs of moisture, leaks, or spills.

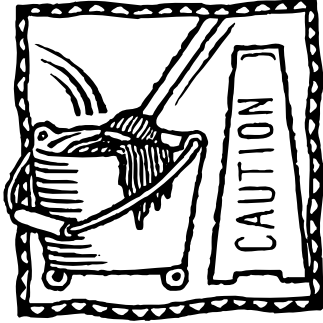
- Check for moldy odors.
- Look for stains or discoloration on the ceiling, walls, or floors.
- Check cold surfaces (e.g., under windows, corners formed by exterior walls, and cold water piping) for condensation.
- Check areas where moisture is generated (e.g., kitchens, locker rooms, and bathrooms).
- Look for signs of water damage in—
 - Indoor areas near known roof or wall leaks.
 - Walls around leaky or broken windows.
 - Floors and ceilings under plumbing.
 - Duct interiors near humidifiers, cooling coils, and outdoor air intakes.

If you discover leaks during your inspection, note their location(s) on your floor plan and repair them as quickly as possible.

Respond promptly when you see signs of moisture or when leaks or spills occur.

- Clean and dry damp or wet building materials and furnishings.
- Work with manufacturers of furnishings and building materials to learn about recommended cleaning procedures; also, identify competent contractors who can clean damp materials.
- Dry porous, absorbent building materials or furnishings (e.g., ceiling tiles, wall boards, and floor coverings) within 48 hours. Materials may need to be discarded if they cannot be dried and cleaned within 48 hours. In this situation, identify and correct the source of the moisture problem before replacing materials.





Prevent moisture condensation.

- Reduce the potential for condensation on cold surfaces (piping, exterior walls, roof, or floor) by adding insulation.
- Raise the air temperature.
- Improve air circulation in the problem location.
- Supply more outdoor ventilation air (especially in drier climates or during winter).
- Use a dehumidifier or desiccants to dry the air. (For more information, see **Appendix H: “Mold and Moisture”** in the *IAQ Reference Guide*.)
- Increase the capacity or operating schedule of existing exhaust fan(s); or add a local exhaust fan near the source of the water vapor.

NOTE: When installing insulation that has a vapor barrier, place the vapor barrier on the warm side of the insulation.

COMBUSTION APPLIANCES

Combustion appliances (such as kerosene heaters and unvented gas stoves and heaters) may be sources of carbon monoxide and other gases. Because carbon monoxide is toxic and odorless, ensure that appliances are properly vented to remove this gas. If adequate combustion air is not available to an appliance, combustion gases may be drawn (backdrafted) indoors instead of exhausted outside.

Note odors when first entering a location containing combustion appliances.

Your nose can quickly become accustomed to odors, but upon first entering a room, you may notice the smell of combustion gas odors, indicating a possible leak or backdrafting problem.

Visually inspect exhaust components.

- Inspect flue components for leaks, disconnections, and deterioration.
- Inspect flue components for corrosion and soot.

Check for backdrafting of combustion appliances.

Use chemical smoke to determine whether air is flowing up the flue of combustion appliances. Simply puff smoke near any vent openings or joints and observe the direction of the smoke. Ensure that the appliances are operating and that the building ventilation systems are in normal operating mode when performing this activity.

PEST CONTROL

Complete the Integrated Pest Management Checklist to ensure the school is using the most effective, environmentally-sound pest management strategies available. (See **Appendix K: “Integrated Pest Management”** in the *IAQ Reference Guide* for additional information.)