



# Kentucky Green and Healthy Schools



## Teacher Guide Indoor Air Quality

If your students have chosen to do an Improvement Project in the Indoor Air Quality category, the resources below can help them as they complete the Project Form.

### **Remember to let your students lead!**

As much as possible, let the students decide the direction of their investigation and come up with Improvement Project ideas.

#### **Places to Investigate**

- HVAC
- Air filters and monitors
- Medical office
- Cleaning closets
- School policies

#### **People to Interview**

- Maintenance/custodial staff
- Medical staff
- Administrative staff
- Teachers

#### **Questions**

These questions can be utilized as prompts should you need them. Ideally, we would like students to engage in their own questioning to provide an authentic learning experience.

- General
  - Where are air vents located?
  - Does your school have an indoor air quality plan?
  - Does your school's indoor air quality plan include:
    - Checking air-conditioning and refrigeration systems for ozone-depleting refrigerants?
    - Inventory of all combustion appliances that are potential sources of carbon monoxide?
    - Records of lead paint inspections?
    - Blueprints detailing locations of asbestos?
  - Does the school check air-conditioning and refrigeration systems for leaks?
  - Are there carbon monoxide (CO) monitors in place at the school?
  - Does the school keep records of lead paint inspections?
  - What does your school's regular cleaning schedule entail?
  - Describe your schools regular cleaning and trash removal schedule for:
    - Classrooms
    - Restrooms
    - Hallways and other common areas
  - How are students' lockers and cubbies kept clean and dry?
  - What sanitation policies are followed in the school? (e.g., Where is food allowed? How often is





- trash removed? What activities are not allowed because they may be unhealthy? What cleaning is involved with classroom pets?)
- Does your school allow food in classrooms?
  - How often are classroom pet cages cleaned?
  - Are there any activities that are not allowed in the school due to health related dangers?
  - What plans or policies are in place relating to outdoor air quality (including pollen, diesel emissions, particulate matter, ultraviolet radiation, ozone levels, etc.)?
  - Does your school monitor the Air Quality Index for outdoor air quality? Are there policies in place for poor air quality days?
  - Asthma and Allergies
    - Does your school have an asthma management plan?
    - What percentage of students/staff has asthma or allergies?
    - What medical treatments are given to people with asthma or allergies at your school?
    - Are students with asthma allowed to carry and use self-administer their rescue inhalers at school?
    - Does the school provide staff training specifically dealing with asthma/allergies?
    - How are asthma triggers (e.g., mold, dust, pests, pesticides, air intakes) addressed at your school?
  - Dust and Mold
    - Are air filters and ductwork in the HVAC system regularly inspected and replaced/cleaned per manufacturer's instructions?
    - Are there "walk off" mats (measuring at least five steps from door to hallway surface) or other techniques in place to reduce the amount of dirt entering the building?
    - How often are floors and other surfaces swept, mopped, or wiped down?
    - Is rain or snow able to enter air intakes allowing standing water to pool?
    - How often does the school inspect roofs, ceilings, walls, floors, and carpets for water leakage, stains or discoloration, and mold growth or odors?
    - Is the school adequately ventilated:
      - With air supply diffusers, unobstructed intakes and returns, exhaust vents and continuous fans during school hours to allow exchange with outdoor air and proper air pressure?
      - To maintain humidity levels between 33 – 55, 40-60%?
      - To maintain temperature levels between 60 – 78 degrees Fahrenheit?
  - Gases and Particulates
    - Are the school buildings and grounds "tobacco-free?"
    - Has all asbestos on the school grounds been properly removed or contained?
    - Does your school have an Asbestos Management Plan?
    - Who is the person responsible for asbestos management at your school or district?
    - Have regularly occupied (45 minutes/day or more) spaces at or below ground level been tested for radon?
    - Do cars or buses idle near air intakes allowing carbon monoxide to enter the building or portable classrooms?
    - What Best Management Practices for pest control (especially cockroaches, and mice and birds) are in place?
    - Does your school purchase low-emitting products (e.g., cleaners, markers, floor coverings, paints, adhesives, textiles, furniture, building materials) designed to give off low levels of fumes or vapors?





## Resources

- **Environmental Protection Agency (EPA) [School Flag Program](#)** - This program helps children, parents, school personnel and the community be aware of daily air quality conditions using brightly colored flags. Each day, a flag is raised in front of participating schools that signals the level of air pollution for that day. By comparing the colored flags to the Air Quality Index (AQI), members of the school and the surrounding community can tell what the daily air quality is, and adjust their activities to reduce their exposure to air pollution.
- **Roberta Burnes, Environmental Education Specialist for the Kentucky Division for Air Quality**, is available to help schools get started on the indoor air quality and transportation inventories. Resources available include:
  - How to identify and minimize indoor air quality issues
  - Idle-reduction strategies and campaigns
  - Free air quality lesson plans & activities
  - Classroom presentations
  - For more information, call 1-800-928-0047 or email [roberta.burnes@ky.gov](mailto:roberta.burnes@ky.gov)
- **EPA Tools for Schools Indoor Air Quality Kits** - The KGHS office has several of these kits. If your school is interested in one, let the coordinator know and one will be mailed to your school.
- **[EPA IAQ Tools for Schools Program](#)** - EPA developed the Indoor Air Quality (IAQ) Tools for Schools Program to reduce exposures to indoor environmental contaminants in schools through the voluntary adoption of sound indoor air quality management practices.
- **[EEinKentucky.org](#)** - This website is a one-stop resource for environmental education in Kentucky. The site lists grant announcements, jobs, news, professional development opportunities, conferences, and other events from across the state.

## Improvement Projects

Your students should come up with their own ideas for an Improvement Project, but below are some examples of previous Improvement Projects for Indoor Air Quality:

- Installing mats at entryways to clean shoes
- Studying which plants are best at cleaning air and giving those plants to teachers
- Installing additional smoke detectors and air quality monitors
- Replacing wet ceiling tiles
- Replacing cleaning supplies with natural alternatives
- Posters, music and other presentations to inform students about shoe cleaning and other air quality issues
- Installing signs and educating parents to reduce car idling
- Creating an asthma management plan





## Extensions

After coming up with an idea for an Improvement Project, consider the following optional extensions.

- A) Submit your investigation documentation to the Project Learning Tree (PLT) GreenSchools! program for their Environmental Quality category. Once you submit investigation documentation, your school becomes eligible for thousands of dollars in grant money from the GreenSchools! program. You can also submit your completed Improvement Project to this site. Learn more at [www.plt.org/greenschools](http://www.plt.org/greenschools).

