



**KY-A-Syst for the Home**  
Environmental Stewardship  
for Homeowners

## Is Your Air Healthy?

### Teaching Guide

#### **Introduction:**

People spend 60 to 90 percent of their time indoors. The air in many American homes is more dangerous to health than outdoor air. Indoor air pollution may lead to health problems ranging from headaches to lung cancer. Many pollutants cannot be seen or smelled, so the first step is to identify the source.

There are a variety of pollutants that can impact indoor air quality. Combustion appliances, like wood-burning stoves and gas ranges, can produce harmful by-products like carbon monoxide as part of the combustion process. These appliances must be properly vented. Tobacco smoke, which may cause cancer or asthma, can also pollute indoor air. Building and repair materials may also cause indoor air quality problems. Glues used to manufacture wood products, new carpet, paints, varnishes and surface finishes can release volatile chemicals. Asbestos, which was used widely until 1980, can disperse tiny fibers into the air, which can accumulate in your lungs and lead to serious respiratory problems.

Biological contaminants come from living or once-living organisms and can cause odors, damage household materials, lead to allergic reactions, and cause infectious diseases and respiratory problems. These contaminants are found in every home, but keeping surfaces clean and moisture levels low can control their growth.

Radon is a radioactive gas that is concentrated in particular locations depending on the area's geology. Exposure to radon can cause lung cancer. The only way to determine whether you are at risk for radon exposure is to test your home.

All homes need adequate ventilation. If your home smells musty, stale or like chemicals, you probably need to increase your ventilation. Too much ventilation wastes energy by leaking air so it is wise to consult an energy professional.

#### **Focus on Children:**

Children take in more air than adults do when they breathe. Therefore, poor indoor air quality has a greater effect on children. Immune systems of children are weaker, which makes them more susceptible to lung problems caused by breathing poor air. Children exposed to second hand tobacco smoke miss a third more school days than kids not exposed to smoke at home. Asthma is one of the most common causes of children missing school. Environmental allergens, air pollution, aerosol sprays, cigarette smoke and paint fumes can trigger asthma attacks. More than four million children suffer from asthma.

## **Lesson Purpose and Objectives:**

**Purpose:** This lesson is designed to assist people in reducing their families' health risks by improving the air they breathe in the home.

**Objectives:** This lesson guide contains a lot of information on improving air quality in the home. It may be difficult to cover all the material in one session. Therefore, you are encouraged to select a program based on the type of audience you are serving and their needs. It is best to select and focus on *only two or three* of the following objectives.

Learn to identify and control potential sources of indoor air quality problems.

Realize the importance of properly venting and maintaining combustion appliances.

Understand the importance of carbon monoxide detectors.

Explore the impact of making your home a smoke free environment.

Learn about furnishings, building materials, paints and varnishes that are low or no-emission products.

Research low-emission carpets and the importance of vacuuming and cleaning all carpets regularly.

Expand your knowledge of asbestos hazards and procedures for dealing with it.

Understand the importance of controlling dust and moisture in your home.

Examine the dangers of radon and know whether it is present in your home.

Explore what is necessary for your home to be well ventilated.

Other: (Please list in the space below.)

### ***Special Note –***

This lesson is intended as an introduction to indoor air quality problems and concerns. More specific lessons focused on particular topics are available. Extension agents are encouraged to check the Family and Consumer Sciences Resource Guide for titles and descriptions of additional indoor air quality programs.

## **Suggested Resources & Materials:**

The following items are available for your use in teaching this lesson. Select and use resources according to your program focus and needs. County agents should request these items in advance.

### Publications & Fact Sheets

Numbered-series Extension publications available through order entry:

- *Indoor Air Quality* - IP-23

Home Furnishings Fact Sheets – camera-ready copies available through Linda Adler, Home Furnishings Specialist.

- *Home Indoor Air Quality Assessment* – HF-LRA.160
- *Common Indoor Air Pollutants: Sources and Health Impacts* – HF-LRA.161
- *Indoor Air Pollutants: Detection and Control Measures* – HF-LRA.162

Environmental Protection Agency publications – web versions of the following publications, as well as additional resources related to indoor air quality, are available at <http://www.epa.gov/iaq/pubs/index.html>; print copies may be ordered through the Indoor Air Quality Information Clearinghouse at (800) 438-4318.

- *This Inside Story: A Guide to Indoor Air Quality*
- *Protect Your Family and Yourself from Carbon Monoxide Poisoning*
- *Children and Secondhand Smoke*
- *Asbestos in Your Home*
- *Biological Pollutants in Your Home*
- *A Citizen's Guide to Radon*
- *Consumer's Guide to Radon Reduction*

Videos (Available through the Ag. Communications video library.)

- *Environmental Safety: What Every Parent Should Know* (VEI-1337)
- *Radon Free: What Every Homeowner Should Know About* (VEI-1315)
- *Radon – Not in My Home* (VEI-0603)
- *E Hazards: They're Out There* (targeted to youth)

Exhibits (Contact Linda Adler for more information or to schedule an exhibit.)

- *Is the Indoor Air in Your Home a Health Risk?* - Focuses on identification, potential health risks and detection of major home indoor air pollutants.
- *Radon* – Addresses radon health risks, how radon enters a home and potential solutions to the problem.
- *Radon: New and Remodeled Home Construction* - Focuses on building techniques and designs for radon-free and remodeled homes.

## **Suggested Resources & Materials: (cont'd.)**

Other: (Please specify below.)

## **Suggested Teaching Techniques and Activities:**

Select only those activities that will help you teach the lesson. Limit selection according to your program focus, audience, and length of lesson.

- Use the transparencies to give an overview of indoor air quality issues and strategies. Encourage discussion as you present the information.
- Have the participants read the Ky-A-Syst for the Home publication *Indoor Air Quality: Reducing Health Risks and Improving the Air You Breathe*. Ask them to go back through the publication and answer the questions in the boxes. Suggest participants record all B and C responses and list changes they plan to make from information in the publication or from other sources. They can do this on the Action Checklist on Page 5. Encourage them to set target dates for taking action. Suggest that they review the checklist from time to time to see if any responses have changed.
- Invite a guest speaker to talk about indoor air quality concerns and the actions that can be taken to protect your family.
- Discuss the tips for controlling moisture in the home. Emphasize the importance of regular cleaning and proper ventilation.
- Show the video *Radon Free: What Every Homeowner Should Know About*. Discuss the long-term effects of exposure to radon.
- Invite someone from the American Lung Association to come and speak about lung development in children and the effects of asbestos, cigarette smoke, radon, and other air pollutants on children's lungs.
- Show the video *Environmental Safety: What Every Parent Should Know*. Have the audience brainstorm about ways they could improve the air quality in their homes, especially to protect children.
- *If working with children* - Show the video, *E Hazards: They're Out There*. Discuss with the audience what they can do at home to ensure good indoor air quality. This video is targeted to youth.
- Other: (Please specify below.)

### **Suggested Evaluation Techniques:**

Select the technique(s) best suited to the information you would like to obtain from your audience. Immediate evaluation will provide reaction to the presenter and program materials. Delayed evaluation will give a better indication of changed behavior and attitudes.

- ◆ At the close of the program, ask each participant to name *one* thing they learned from the lesson.
- ◆ At the end of the program, ask each participant to list something they will go home and do as a result of the lesson. Have them write the item on a piece of paper with their name and the date of the lesson. Save the papers and several weeks/months later survey the group to see if they actually did it.
- ◆ Hand out a copy of the *Help Us Serve You Better* evaluation form. Ask participants to complete the form and leave it in a specific place as they leave.
- ◆ Return to the group several weeks later and ask them to fill out the Follow-up Feedback Form and collect them as they leave. If you cannot return to the group in person, contact a representative number of the participants by phone and collect the data requested on the Follow-Up Feedback Form from each.
- ◆ Other: (Please specify below.)

#### **Reporting Impacts (*Information for County Extension Agents*):**

Use the following priority indicators and program accomplishment (PAC) codes when reporting impacts as a result of this program. Information taken from the FY01 PAC and priority indicators lists.

PAC Code 430 - Indicator:

- Number of individuals who make lifestyle changes for the purpose of improving their health.
- Number of individuals implementing personal health protection practices appropriate for their life cycle stage.

PAC Code 440 – Indicator:

- Number of persons who report practice changes related to safety.

PAC Code 650 – No priority indicators listed.

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