



# THE HEALTHY HOME AUDIT

**C.A.N. DO**  
The movement for  
Clean Air Now 

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# THE HEALTHY HOME AUDIT

**C**ongratulations on taking another step toward breathing cleaner air. By ordering your copy of the Healthy Home Audit, you're joining thousands of Canadians who are taking action to improve the quality of the air they breathe, *indoors and out*.

The Healthy Home Audit is a room-by-room guide that will help you identify and evaluate common indoor environmental problems that may be affecting your home and your health. It also takes a look at our energy consumption, which, through the generation of power from fossil fuels effects our outdoor air. And, in keeping with the C.A.N. DO spirit, this audit provides you with simple and doable positive actions to help solve these problems.

Since most of us now spend a large per cent of our time indoors, auditing your home for sources of common indoor air problems is an important part of creating a healthier living space for you and your family. And, indoors is where you can do the most to improve the quality of the air you breathe. The Healthy Home Audit will help you breathe cleaner air, and clean air is essential to good health.

The Healthy Home Audit provides you with the tools you need to solve common indoor air quality problems and change energy wasting habits. It will identify the *major sources* of poor air quality and energy wasters in your *basement, laundry area, living room(common areas), kitchen, bathroom, and bedroom*.

The Audit will also identify other important air quality and energy issues around your home - issues that are not room specific, but that affect the air you breathe nonetheless. For each room, the Audit provides the following information:

- Question** - points to the indoor air quality or energy wasting problem.
- Comment** - helps you get a better understanding of the situation.
- Positive Actions**-tells you what you can do to fix or alleviate the problem.

Here's an example:

Question	Comment	Positive Actions
<b>Do you store or use hazardous household products in the kitchen?</b>	Detergents, air fresheners, polishes, waxes, pesticides, and many other common household products contain chemicals that can harm your health. Exposure to these chemicals can occur through skin contact, by ingestion, or by inhalation. The problem with storing many household products, such as cleaners, is that the contents don't always stay in the container. They can leak pollutants into your air which may end up in your lungs.	<p>There are a number of air friendly household products that are effective and won't harm your health or the environment. Look for these non-toxic alternatives when you shop, or make your own with common household supplies. For example:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> make your own furniture and floor polish by mixing one part lemon juice with two parts vegetable oil.</li> <li><input type="checkbox"/> A solution of baking soda dissolved in water is a healthy way to clean your oven. Apply this mixture to your oven, wait a while, and then wipe off with a damp cloth.</li> <li><input type="checkbox"/> If you must use hazardous household products, make sure they are stored in tightly sealed containers.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Air Friendly Household Products.</i></p>

As you go through the Healthy Home Audit, think of yourself as a detective: the questions lead to your suspects; the comments provide you with clues and facts; and the solutions are how you solve the case.

## Before you begin

### What is clean air?

A healthy indoor and outdoor environment means keeping two types of contaminants out of your air and out of your lungs.

### 1. Chemical contaminants

These can be either gases (e.g., carbon monoxide, nitrogen dioxide) or particles (e.g., aerosol, soot). Some common household sources of chemical contaminants include:

- oil and gas appliances and motors
- tobacco smoke
- paints
- pesticides
- many common household products



### 2. Biological contaminants

These originate from living things or are themselves living things. These contaminants can also be either gases or particles (e.g., mold spores). Sources of common biological pollutants found indoors include:

- humidifiers and air conditioners
- mattresses
- pets
- carpets

As you go through this Audit, look for these symbols:



chemical contaminants



biological contaminants



energy wasters

### How does our energy consumption affect air quality?

The more energy we use to run our homes, the more air pollution we cause either directly, through, for example smoke from our wood stoves, or indirectly through the power plants that burn fossil fuels to produce electricity for our electrical appliances or our water pumps.

### What about Climate Change?

Our energy use also contributes to climate change. This is because gasses coming out of the smokestacks of power plants and exhaust pipes of cars burning fossil fuels trap more of the sun's heat in the atmosphere, causing global warming. Saving on energy consumption helps combat global warming, and global warming is a BIG problem.

### Why is global warming a problem?

The warming of the earth's atmosphere is disrupting the earth's weather systems, causing more frequent extreme events such as floods, droughts, and storms which endanger people's lives. Incidences of illness from heat stress and worsened air pollution, and diseases related to water supply and sanitation will increase. In addition, the expanded habitat of pest species will mean an increase in diseases such as malaria and dengue fever, and an increased threat to food production and nutrition.

### Getting Started

Before you start checking for contaminants and energy wasters inside, take a walk around the outside of your home. A quick assessment of your surrounding landscape and your home's overall condition will help you identify situations that can increase energy consumption or allow both chemical and biological contaminants to get indoors. Here are some of the things to look out for:

Key Q = Question C = Comment PA = Positive Action

# OUTDOORS

Question	Comment	Positive Actions
<p><b>Is your house surrounded by trees?</b></p> 	<p>The wise placement of trees around a house can lower your consumption of fossil fuels directly or through using less electricity from the power grid. The burning of fossil fuels causes acid rain, air pollution, and global warming. Trees have all sorts of beneficial effects, such as acting as air filters, providing oxygen for us to breathe, and shade against harmful UV rays and adding beauty and diversity to our environment.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Plant coniferous trees on the north side of your house to block cold winter winds.</li> <li><input type="checkbox"/> Plant deciduous trees on the south side of the house to allow for passive solar heating in winter and shading for cooling in the summer.</li> </ul>
<p><b>How is your house oriented?</b></p> 	<p>The way your house is oriented can make a difference in your consumption of fossil fuels.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If you are choosing or building a home, make sure there are windows facing south and few facing north, to make the best use of passive solar heat.</li> <li><input type="checkbox"/> Make sure there is enough roof overhang to block the high summer sun.</li> </ul>
<p><b>Are your windows and doors energy efficient?</b></p> 	<p>These too can make a difference in your consumption of fossil fuels</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Doors and windows should be hung properly, with weather stripping around them.</li> </ul>
<p><b>Do you have landscaping shrubs planted close to your house?</b> </p>	<p>If planted too close to your house, tree and shrub roots can provide easy access for water to enter into your basement.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Plant landscaping shrubs at least three feet away from the foundation of your house.</li> </ul>
<p><b>Can you see cracks in the outer walls of your home or around doors and windows?</b></p> 	<p>Cracks allow moisture to get into your home and provide a perfect environment for the growth of biological contaminants such as mold. Cracks are also entry points for insects and rodents. Naturally, cracks can allow cold winter air and hot humid summer air into your home as well.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Properly seal any cracks to avoid the infiltration of contaminants and cold or hot humid air.</li> </ul>
<p><b>Can you see any blockages of vents, air intakes, or chimneys?</b></p>  	<p>Blockages of vents, air intakes, and chimneys prevent the proper operation of your home systems (e.g. furnace, heat recovery ventilator). These systems are an essential part of keeping your indoor air clean and using energy efficiently.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If you see any blockages (e.g., leaves, nests), remove them. But be careful: depending on the job, you may want to have a professional do the work (e.g., cleaning your chimney). Also make sure that nothing is obstructing the proper flow of air into and out of your home (e.g., composer or garbage cans blocking vents).</li> </ul>
<p><b>Are your vents and chimney screened?</b></p> 	<p>Unwelcome visitors such as birds, mice, and squirrels can take advantage of any openings into your home.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use screens or grates to block access to your house through the dryer, kitchen and bathroom vents, and chimney or stove pipe.</li> </ul>
<p><b>Are your eaves troughs and down spouts intact and draining away from your house?</b> </p>	<p>Holes in eaves troughs and down spouts and poor drainage can cause moisture to seep inside your home, which can contribute to biological contamination.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Look out for and fix holes in your eaves troughs and your down spouts, and check to make sure that your down spouts are draining away from your home.</li> </ul>

## OUTDOORS CONTINUED

Question	Comment	Positive Actions
<p><b>How do you deal with trash?</b></p> 	<p>Not all trash is garbage. A lot of it can be reused or recycled. A family of four should produce no more than one bag of garbage per week. Trees which produce oxygen and provide habitat have to be cut down to make room for garbage dumps.</p> <p>Stored garbage around your house is more than just a source of unpleasant odours. It can bring unwelcome guests into your home. Insects and rodents are attracted by the smell of garbage, and, once inside, they contribute to your home's air quality problems.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Store your trash in tightly sealed garbage cans, and keep them as far away from your house as possible.</li> <li><input type="checkbox"/> Reduce the amount of trash you produce by reducing unnecessary purchases and packaging, and by buying reusable and recyclable items.</li> <li><input type="checkbox"/> All your vegetable matter can be composted for use in your or your neighbour's gardens. This can reduce your garbage by a third.</li> <li><input type="checkbox"/> Have a yard sale, donate good used items to the needy, or recycle unwearable clothes into rags.</li> </ul>

## BASEMENT

Question	Comment	Positive Actions
<p><b>Do you smell musty, damp, or earthy odours when you enter the basement?</b></p> 	<p>These odours are a good sign that you may have a problem with biological contaminants such as mold. Because basements are often damp, they provide the optimum environment for biological contaminants to thrive. Some visible signs of moisture problems may include</p> <ul style="list-style-type: none"> <li>• black, white, or multicoloured discolourations on the walls, ceiling, or floors</li> <li>• wet or damp floors or walls</li> <li>• condensation on the windows</li> <li>• white, powdery stains on exposed concrete walls or floor</li> </ul>	<p>To reduce problems with moisture in the basement:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Relocate down spouts away from the foundation of your house.</li> <li><input type="checkbox"/> Use a dehumidifier.</li> <li><input type="checkbox"/> Insulate basement walls.</li> <li><input type="checkbox"/> Dispose of any water damaged articles (e.g., books, carpets, boxes).</li> </ul> <p><i>For more information see the C.A.N. DO comprehensive guide on Clean Up Procedures for Mold in Houses.</i></p>
<p><b>Have you had your oil or gas appliances and home systems inspected recently?</b></p> 	<p>Leaks from poorly installed and poorly maintained oil and gas furnaces, dryers, and water heaters can release hazardous pollutants (e.g., carbon monoxide, nitrogen dioxide) into your air. Exposure to high levels of these gases may irritate the lungs and cause headache, dizziness, weakness, and nausea.</p>	<p>Since you can't always smell gas or oil fumes:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Make sure your furnace system (flue pipes and chimneys) and other appliances are inspected annually.</li> <li><input type="checkbox"/> Make sure the filters on your furnace are clean, as they can contaminate the air and prevent the furnace from running efficiently.</li> <li><input type="checkbox"/> If you suspect a problem with your furnace, call your gas or oil company immediately.</li> <li><input type="checkbox"/> If you're concerned about gas leaks, consider buying a carbon monoxide (CO) detector, usually available at most hardware stores.</li> </ul>

## BASEMENT CONTINUED

Question	Comment	Positive Actions
<p><b>Do you store common household products (e.g., paints, solvents, pesticides, cleaning agents) in the basement?</b></p> 	<p>Many of the household products we frequently use contain a variety of potentially harmful chemicals. Some release chemicals into the air immediately (e.g., solvents), while others do so gradually, over a longer period of time (e.g., pesticides). Even though you may only use your basement for storage, chemicals released from these products can still get into the air in other areas of your home.</p>	<p>The following practices will reduce the risks associated with many common household products:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Whenever possible, avoid using hazardous household products (e.g., pesticides, air fresheners, furniture polish). Use nontoxic alternatives instead.</li> <li><input type="checkbox"/> If you purchase hazardous household products, buy only as much as you need at any one time.</li> <li><input type="checkbox"/> Store hazardous products in sealed containers away from the living areas of your home. If you no longer need these products, dispose of them properly (see <i>What you Can Do</i> guide, page 6).</li> <li><input type="checkbox"/> Always read the product label and follow the manufacturer's instructions.</li> <li><input type="checkbox"/> Minimize exposure when using hazardous products by using them only where needed and with effective ventilation.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Air Friendly Household Products</i></p>
<p><b>Have you tested your home for radon gas?</b></p> 	<p>Radon is a radioactive gas that is known to cause lung cancer. Radon occurs naturally in soil and varies in concentration with location. Radon most commonly enters homes through cracks in the foundation.</p>	<p>The only way to find out if your home has high radon levels is to test for it. Test kits are available from some building supply stores. If your home does have a radon problem, it is relatively easy to correct.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Seal cracks and other openings in the basement to limit the entry of radon into your home.</li> <li><input type="checkbox"/> Make sure your basement is well ventilated to help reduce the concentration of radon in your home.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Radon.</i></p>
<p><b>Do you work on hobbies such as model building, pottery, painting, or woodworking in the basement?</b></p> 	<p>The dust and gases from many hobby materials can irritate and even damage your lungs. Problems with these materials usually occur through improper handling and use. In some cases certain products should be avoided all together.</p> <ul style="list-style-type: none"> <li>• Aerosol cans, spray guns, and air brushes used to spray paint, emit a very fine mist that is extremely hazardous. The mist contains particles of pigments, solvents and propellants which can remain in the air for up to two hours and can penetrate deeply into the lungs through inhalation.</li> <li>• Strong adhesives such as epoxy glues, commonly used for joining wood, can trigger an asthma attack when their fumes are inhaled. Water based contact adhesives and white glue are good alternatives.</li> </ul>	<p>There are some simple things you can do to protect yourself from the hazards of hobby work.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Know the composition of the materials used in your craft and the safety precautions you should take.</li> <li><input type="checkbox"/> Use alternatives for hazardous materials (e.g., solvents, glues, ceramic ingredients).</li> <li><input type="checkbox"/> Ensure that your hobby work area is well ventilated. A local exhaust ventilation system should be used when working with hazardous materials.</li> <li><input type="checkbox"/> Wear protective respiratory equipment. Make sure that it protects against the specific substance you are using and that the equipment is a proper fit.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Air Friendly Household Products.</i></p>

# LAUNDRY AREA

Question	Comment	Positive Actions
<p>Is your laundry area contributing to poor air quality?</p> 	<p>Your laundry area can contribute to poor indoor air quality through aggravating scents and humidity which promotes the growth of mold.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use unscented laundry soap marked with the Canadian Ecologo.</li> <li><input type="checkbox"/> Use laundry balls instead of soap.</li> <li><input type="checkbox"/> Use a couple of cups of vinegar in the rinse water instead of fabric softener.</li> <li><input type="checkbox"/> Make sure that your dryer is vented to the outside and the hose is not blocked.</li> <li><input type="checkbox"/> Dry your clothes on an outside line to save energy.</li> </ul>
<p>Is your washing machine or dryer an energy waster?</p> 	<p>All household appliances are not created equal in their energy consumption. The more energy we take from the power grid, the more we are contributing to outdoor air pollution. In order to fill the demand for power during times of peak demand, the older, less efficient, and more polluting plants are brought online. Therefore, it is useful if we can distribute our energy consumption over the course of a day.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Next time you purchase a washing machine or dryer, look for the EnerGuide label, which indicates the efficiency of energy use.</li> <li><input type="checkbox"/> Look also for different water level choices.</li> </ul>

# KITCHEN

Question	Comment	Positive Actions
<p>Do you regularly smell unpleasant or lingering odours in the kitchen?</p> 	<p>Most odours in the kitchen are caused by cooking and garbage. In addition to being unpleasant, these odours can attract rodents and insects. Poor ventilation can often make this problem worse.</p>	<p>To eliminate odours, find the source of the problem (e.g., rotting vegetables) and remove it. In addition:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Open a window while cooking, whenever possible.</li> <li><input type="checkbox"/> When cooking, make sure the stove fan is on and that it exhausts outside.</li> <li><input type="checkbox"/> Regularly take out your kitchen garbage and compost.</li> </ul>
<p>Do you use or store hazardous household products (e.g., air fresheners, polishes, waxes, pesticides) in the kitchen?</p> 	<p>These common household products can actually be quite hazardous to your health, since many of them contain toxic chemicals. Exposure to these chemicals can occur through skin contact, by ingestion, or by inhalation.</p>	<p>When you're shopping, look for non-toxic household products (e.g., cleaners), or make your own with common household supplies. For example:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Make your own furniture and floor polish by mixing one part lemon juice with two parts vegetable oil.</li> <li><input type="checkbox"/> Clean your oven in a healthy way by using a solution of baking soda dissolved in water. Apply this mixture to your oven, wait a while, and then wipe off with a damp cloth.</li> <li><input type="checkbox"/> Use vinegar to clean your automatic coffee maker. Run white vinegar through the cycle, followed by one or two rinses with fresh water. As steam from boiling acids can be a respiratory irritation, make sure you do this under a working exhaust fan, or open the window and temporarily leave the kitchen.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Air Friendly Household Products.</i></p>

## KITCHEN CONTINUED

Question	Comment	Positive Actions
<p><b>Do you have a gas stove top or oven?</b></p> 	<p>If improperly used or maintained, gas ranges and ovens can release large amounts of dangerous gases (e.g., carbon monoxide, nitrogen dioxide) and particles into your air. These gases can not be detected by smell. If levels of these gases and particles become high enough, your health may be at risk.</p>	<p>To avoid problems with gas appliances in the kitchen:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Have your gas kitchen appliances inspected annually.</li> <li><input type="checkbox"/> If you suspect a problem. Have your appliances serviced immediately.</li> <li><input type="checkbox"/> When cooking. Use a hood fan vented to the outdoors.</li> <li><input type="checkbox"/> Never use your gas range to heat your home.</li> </ul>
<p><b>Do you see mold (black, white, or multicoloured discolourations) on the ceiling, walls, windows, grouting, or underneath the sink?</b></p> 	<p>The kitchen, like your bathroom and basement, provides a good environment for mold to grow. Nutrients from food debris and excessive moisture feed this common biological contaminant, which can trigger allergies in some people and make others feel sick. Some of the signs of moisture problems include water streaming off windows, rotting window sills, damp cupboards, and peeling paint or wallpaper.</p>	<p>To eliminate problems associated with mold:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Keep all surfaces (counters, window sills, cupboards, and underneath the sink) clean and dry.</li> <li><input type="checkbox"/> Use a vented exhaust fan over the stove when cooking. Don't let liquids and food simmer uncovered for too long, as this is an easy way for moisture to accumulate.</li> <li><input type="checkbox"/> If you have visible mold in the kitchen, remove it with a solution of detergent or baking soda and water.</li> <li><input type="checkbox"/> A non-toxic cleaning alternative would be one part vinegar to one part water.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Biological Agents.</i></p>
<p><b>Do you have problems with insects such as cockroaches and ants, or rodents?</b></p> 	<p>Pests love the kitchen. Moisture, food debris, and garbage all serve to attract these visitors. Besides being unpleasant to live with, fur and droppings from rodents and insects can aggravate respiratory conditions such as allergies and asthma.</p>	<p>Here are some ways to control pests in your kitchen: Under no condition should pest strips or other pesticides be used inside your house.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Clean up promptly after cooking and cover up leftover food.</li> <li><input type="checkbox"/> Regularly remove your kitchen garbage.</li> <li><input type="checkbox"/> Identify cracks and other openings that act as entry points for insects into your home, and seal these areas with caulking. If you have trouble with rodents, stuff some steel wool into the cracks where they get in (rodents can't chew through steel wool), or place traps where they enter your home.</li> <li><input type="checkbox"/> If ants are a problem, try sprinkling cayenne pepper at their point of entry.</li> <li><input type="checkbox"/> Use pesticide-free glue traps to catch crawling insects.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Pesticides.</i></p>

## KITCHEN CONTINUED

Question	Comment	Positive Actions
<p><b>Does your household go through a lot of paper towels and napkins?</b></p>  	<p>Paper products are made from trees, which are being used by humans faster than they can be replaced. Trees produce oxygen, vital to human life. They also act, to some extent as air filters. The making of paper products causes air and water contamination and uses energy.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use cloth rags from old clothes for cleaning.</li> <li><input type="checkbox"/> Use cloth napkins.</li> </ul>
<p><b>Do you conserve water as much as possible?</b></p> 	<p>Apart from the fact that clean, fresh water is an invaluable essential resource, we use energy from the power grid when we use water. Energy is needed to pump water into water towers or from our wells into our houses. Therefore using less water saves this precious resource and energy as well.</p>	<p>Here are some ways you can save water:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Install a faucet aerator on your kitchen faucet. This can reduce water use by more than 40%.</li> <li><input type="checkbox"/> Do not leave the water running down the drain while washing dishes.</li> <li><input type="checkbox"/> Store a pitcher of drinking water in the fridge so that you do not need to run the faucet until the water is cold.</li> <li><input type="checkbox"/> Reuse water when possible. For example, water plants or fill the dog's water dish with water used for the cold water bath after blanching vegetables for freezing.</li> <li><input type="checkbox"/> If you use an automatic dishwasher, make sure it is rated as energy efficient on its EnerGuide label, and use the energy saving cycle.</li> </ul>
<p><b>Do you practice the "Three R's" of conservation in your grocery shopping?</b></p> 	<p>The three R's are Reduce, Reuse, and Recycle. The most important of these is Reduce. Everything we buy consumes energy and resources in their manufacturing. For example, the drinking box is an extremely wasteful form of packaging. It contains wax and plastic, made from finite oil reserves, cardboard made from trees, and aluminum foil made from bauxite mined thousands of miles away from where it is made into aluminum foil. In fact, the making and recycling of drinking boxes uses an excessive amount of resources and energy, and all for about 250ml. of juice in each box! The general rule of thumb is, buy less, buy reusable packaging and goods, and at last resort, buy recyclable goods. Then practice the "Three R's"!</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> In general, buy locally-produced or grown products as these do not have to be transported as far.</li> <li><input type="checkbox"/> Grow your own vegetables as much as possible.</li> <li><input type="checkbox"/> Avoid food packaged as a single serving. Buy in bulk or in the largest package available.</li> <li><input type="checkbox"/> Buy organic. You will reduce the pesticide load on your body. You will also reduce air and groundwater contamination by pesticides and chemical fertilizers. The production of chemical fertilizers used in traditional farming contribute to acid rain and fog, the latter which irritates our respiratory system.</li> <li><input type="checkbox"/> Avoid single use items such as paper or styrofoam cups and plates. Take a reusable cup to the coffee outlet and camping dishes to a picnic.</li> <li><input type="checkbox"/> Reuse packaging such as milk bags and coffee tins.</li> </ul>

# LIVING ROOM / COMMON AREAS

Question	Comment	Positive Actions
<p><b>Do you allow smoking in your living room or common area?</b></p> 	<p>Environmental Tobacco Smoke (ETS), the exhaled smoke and smoke from the burning end of cigarettes, is a serious indoor air contaminant that often produces levels of carbon monoxide and other toxins well above accepted standards for human exposure. Besides breathing in ETS, you are also exposed to these harmful chemicals long after smoking ends. This is because these chemicals are absorbed by drapes, linens, furniture, and clothes, and are re-emitted back into the air you breathe.</p>	<p>There is one simple way to control ETS.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Prohibit smoking in your home. Invite your guests to smoke outside.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Environmental Tobacco Smoke.</i></p>
<p><b>Do you use a humidifier in your home?</b></p> 	<p>Humidifiers can circulate dust, dirt, and mold. These pollutants can aggravate allergies and asthma, and irritate your eyes, nose, and throat. The ideal humidity level in the home is between 30 and 50 per cent relative humidity. Since most homes are humid enough, humidifiers are usually unnecessary. You can purchase a hygrometer (available at most hardware stores) to measure humidity levels.</p>	<p>To avoid problems with moisture in your home:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Avoid using humidifiers.</li> <li><input type="checkbox"/> Disconnect or remove furnace humidifiers because they can distribute high levels of biological contaminants throughout your home.</li> <li><input type="checkbox"/> If you find your home dry and must use a humidifier, try using filtered or distilled water. Clean the humidifier as often as you can (several times per week is best) with a strong solution of vinegar and hot water.</li> </ul>
<p><b>Have you recently purchased or installed wall-to-wall carpet, drapes, or stuffed furniture inside your living room/common area?</b></p>  	<p>New carpets, drapes, and stuffed furniture can release chemical contaminants (e.g., formaldehyde) into your air. Some common symptoms associated with these contaminants are headache, fatigue, and difficulty breathing. Over time, carpets, drapes, and stuffed furniture may also become a source of biological contaminants (e.g., dust mites, mold, and pet dander) as they collect moisture, dirt, and debris.</p>	<p>Here are a few tips to consider before purchasing new furnishings:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Try to buy furniture made of solid wood. Veneers and press board often contain formaldehyde, benzene, or xylene, which cause respiratory problems once released into your air. If you are unsure about the material used in construction, contact the manufacturer.</li> <li><input type="checkbox"/> Ask your retailer for low emission carpet, cushion, and adhesives. You can test your new carpet before buying it by placing a sample in a clean, tightly sealed jar and leaving it on a sunny window-sill for a day. When you open the jar, a strong smell will identify problem carpets.</li> <li><input type="checkbox"/> If you're asthmatic, leave your home during carpet installation.</li> <li><input type="checkbox"/> Consider using alternatives to wall-to-wall carpeting, such as ceramic tiles, linoleum, or hardwood, on your floors.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheets on Carpets and Biological Agents.</i></p>

## LIVING ROOM/Common Areas Continued

Question	Comment	Positive Actions
<p><b>Do you use a wood-burning fireplace or stove?</b></p> 	<p>Wood burning indoors may produce high levels of dangerous gases (e.g., carbon monoxide) and particles that can be inhaled into your lungs. Many of these contaminants have been linked to adverse health effects such as asthma. As well, storing wet wood indoors can be a source of biological contaminants</p>	<p>To avoid problems associated with fireplaces and wood stoves, do the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inspect your chimneys and flues annually for corrosion, blockages, and cracks that could let combustion pollutants enter your home.</li> <li><input type="checkbox"/> When using your fireplace or woodstove, open a window to ensure a good supply of fresh air into your home.</li> <li><input type="checkbox"/> Keep burning wood well inside the fireplace and don't burn plastics, newspaper, coloured paper, painted wood, and other materials that can release dangerous contaminants into your air.</li> <li><input type="checkbox"/> Avoid problems with biological contaminants by making sure firewood is stored outdoors.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheets on Combustion Pollutants and Biological Agents.</i></p>
<p><b>Do you use incense sticks or spray air fresheners in your living room/common area?</b></p> 	<p>Air fresheners contain chemicals that can harm your health. By interfering with your natural sense of smell, they mask indoor air quality problems that may remain undetected and uncorrected. In fact, many of these products actually pollute rather than freshen indoor air. In addition, aerosol sprays release particles into the air that can be inhaled into the lungs and absorbed into the bloodstream. Incense adds particles and chemicals into the air that can impair your breathing and should be avoided.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Instead of using an air freshener or incense to hide odours, remove the source of the odour (e.g., moldy carpet, tobacco smoke). If you want to freshen your air, or if you enjoy fragrances in your home, try a natural alternative such as a pot-pourri or fresh flowers. If someone in your home is sensitive to these alternatives, the best solution might be to avoid scents altogether.</li> </ul>

## LIVING ROOM/Common Areas Continued

Question	Comment	Positive Actions
<p><b>Do you notice a lot of dust in the living room/common area?</b></p> 	<p>Dust is a combination of both chemical and biological substances that can make breathing difficult for people with allergies and asthma. Take a quick look around your living area for visible signs of dust. Pay specific attention to</p> <ul style="list-style-type: none"> <li>• bookshelves and the books on them</li> <li>• magazines, newspapers, and the trays or baskets you keep them in</li> <li>• your TV, stereo, and stereo speakers</li> <li>• wall hangings and pictures</li> <li>• knick-knacks such as trophies, carvings, and ornaments</li> <li>• venetian blinds</li> </ul> <p>But don't forget to look behind and underneath your bigger pieces of furniture, such as chairs, tables, sofas, and cabinets. Since these are often found in the corners or along the side of the room, dust often accumulates there and remains unseen. Then, when you walk by, it gets stirred up into the air you breathe.</p>	<p>The presence of dust in the air is natural; you can never get rid of all of it. The best you can do is control it - both at the source and by cleaning regularly.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Regularly cleaning items that trap a lot of dust will dramatically reduce the circulation of dust and dirt in your air. Shelves, drapes, and furniture are obvious targets, but don't forget about the dust that collects underneath chairs and other large objects.</li> <li><input type="checkbox"/> Regularly replace furnace filters (high efficiency, one inch pleated filters are preferred) and keep your heating ducts clean.</li> <li><input type="checkbox"/> Use a damp cloth (dry dusting just sends most dust back into the air) and work from the top down.</li> <li><input type="checkbox"/> If you want to keep magazines and newspapers for a while, store them in a cabinet where they can't collect dust. If you have too many lying around, recycle them.</li> </ul>
<p><b>Do your light bulbs burn out quicker than you would like?</b></p> 	<p>The more light bulbs you use, the more resources and energy you waste, to say nothing of money!</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Remember to turn off the lights when you leave a room.</li> <li><input type="checkbox"/> Use compact fluorescent light bulbs. A 13 watt one provides as much light as a 60 watt regular bulb. You would need ten regular bulbs over the life of the fluorescent one, and those ten regular bulbs would use 200 kWh more electricity than the fluorescent one.</li> </ul>
<p><b>Are your heating bills high?</b></p> 	<p>There are many ways to save on heating costs and help outdoor air quality at the same time.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use your window curtains to let the sun or cold in or keep it out according to the time of year.</li> <li><input type="checkbox"/> If you have a central thermostat, you can turn it down at night and during the day if you are out, to about 15 C. A programmable thermostat can make this easier.</li> <li><input type="checkbox"/> If you have electric baseboards you can turn down the thermostat to 15 C in a room that is not used constantly.</li> <li><input type="checkbox"/> If renovating or building in the future, make the most of passive solar heat and consider installing an in ground heat pump.</li> </ul>

# BATHROOM

Question	Comment	Positive Actions
<p>Can you see any signs of mold (black, white, or multicoloured discolourations) under the sink, behind the toilet, on the tiles in the shower, on the ceiling, or around a window?</p> 	<p>Mold can often be a problem in the bathroom because of its moist conditions. Signs that will help you detect a problem are steady streaming of water from windows, peeling paint or wallpaper, and musty smells inside the bathroom itself. Mold can aggravate allergies and asthma and irritate your eyes, nose, and throat.</p>	<p>In the bathroom, mold loves to grow around sinks, showers, toilets, and tubs - the surfaces that get wet and stay wet. Keeping these surfaces dry will prevent the growth of mold.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use your bathroom exhaust fan to ventilate moisture to the outdoors. If you don't have a built-in exhaust fan, open the window for a few minutes after your shower or bath.</li> <li><input type="checkbox"/> If you have visible mold in the bathroom, remove it with a solution of unscented dishwashing detergent and water or baking soda and water. It is not advisable to use bleach.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Biological Agents.</i></p>
<p>Do you use or store household cleaning products (e.g., for tub, sink, toilet, tile cleaners) in the bathroom?</p> 	<p>These cleaning products contain chemicals commonly referred to as volatile organic compounds (VOCs). All purpose cleaners, for example, usually contain ammonia. Ammonia fumes can irritate the lungs. Chemicals from cleaning products are released into the air immediately upon use, or gradually during storage. There are a lot of air friendly cleaning products that are effective and won't harm your health or the environment.</p>	<p>Make your own non-toxic cleaners.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use baking soda and water, or a little borax on a damp cloth, as an effective scouring powder for bath-tubs, sinks, and toilets.</li> <li><input type="checkbox"/> Pour vinegar into the toilet and let stand overnight. Vinegar is an effective disinfectant, and, in combination with baking soda, keeps your drains clean.</li> <li><input type="checkbox"/> Use vinegar to clean your shower curtain. Put it into the washing machine with a clean, old towel or sturdy rag. Add four cups of vinegar to the rinse cycle of a full load (or two cups of vinegar to a half load). Briefly tumble dry on the delicate or cool cycle, or better yet, hang the curtain outdoors.</li> <li><input type="checkbox"/> Use vinegar to clean the grout between bathroom tiles.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Air Friendly Household Products.</i></p>

## BATHROOM CONTINUED

Question	Comment	Positive Actions
<p><b>Do you conserve water as much as possible in the bathroom?</b></p> 	<p>Clean, fresh water is an invaluable essential resource. When we use excessive amounts, we are also wasting the energy used to pump it.</p>	<p>Some ways to save water in the bathroom:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Install a water-efficient toilet. This uses 80% less water than a regular toilet.</li> <li><input type="checkbox"/> Install a toilet dam or reuse a couple of plastic bottles filled with water as displacement in the toilet tank.</li> <li><input type="checkbox"/> Install a low flow shower head. This will reduce water consumption by more than 40%.</li> <li><input type="checkbox"/> Restrict shower time to ten minutes or less, or turn off the shower when lathering or soaping down.</li> <li><input type="checkbox"/> Turn off the water while brushing teeth.</li> </ul>
<p><b>Do you use a stick or spray air freshener to cover odours in the bathroom?</b></p> 	<p>Air fresheners mask, but do not remove, offending odours. Because air fresheners release a variety of chemicals, they actually pollute your air. Many of the chemicals found in these products are associated with respiratory problems and chemical sensitivity.</p>	<p>If your bathroom has a lingering odour, locate and remove the source of the odour (e.g., wet carpet, moldy shower curtain).</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If you want to freshen the air in your bathroom, try a natural alternative such as a pot-pourri of a few cloves, some cinnamon, and anise seeds.</li> <li><input type="checkbox"/> Open the bathroom window or use an exhaust fan to help reduce odours.</li> </ul>
<p><b>Do you use personal care products such as hair spray, perfume, aerosol deodorants, or nail polish remover?</b></p> 	<p>Many personal care products contain chemicals that may harm your health. Some of these products release chemical contaminants into the air immediately, others do so over a longer period of time. Either way, the chemicals emitted from these products get into the air and into your lungs. Some of the short-term health effects include dizziness, nausea, allergic reactions, and eye, skin, and respiratory tract irritation.</p>	<p>To protect your health when using personal care products:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use non-toxic alternatives as much as possible.</li> <li><input type="checkbox"/> Always read the product label and follow the manufacturer's instructions.</li> <li><input type="checkbox"/> Minimize your exposure to these products by using them only when needed and with effective ventilation.</li> <li><input type="checkbox"/> Store personal care products in sealed containers to prevent the release of their contents into your air.</li> <li><input type="checkbox"/> Use fragrance-free products.</li> </ul>

# BEDROOM

Question	Comment	Positive Actions
<p><b>Does your bedroom collect a lot of dust?</b></p> 	<p>The major dust collectors in your bedroom are carpets, drapes, mattresses, bedding, pillows, books, and stuffed animals. But clutter, the stuff you leave lying around (e.g., books, magazines, clothes), can also collect a lot of dust. Because you spend a considerable amount of time in the bedroom, it is wise to keep this room as dust free as possible. Dust mites (tiny insects that live off the bits of skin we shed all day) are a particular problem in the bedroom. Symptoms of exposure to dust and dust mites include coughing and wheezing, shortness of breath, and chest tightness.</p>	<p>Take these steps to reduce dust in your bedroom.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Clean regularly and properly (at least once a week) with a damp cloth to avoid putting dust back into the air.</li> <li><input type="checkbox"/> Reduce clutter. If you have lots of “stuff” in your bedroom, store it in another location in your home or get rid of some of it.</li> </ul> <p>If you have allergies or asthma or are sensitive to dust mites you may want to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Remove dust collectors such as carpet and stuffed animals from your bedroom.</li> <li><input type="checkbox"/> Cover your mattress with a mite-proof mattress encasement.</li> <li><input type="checkbox"/> Limit indoor humidity in the winter to 30 to 50 per cent relative humidity (you can buy a hygrometer to measure your home's relative humidity).</li> </ul> <p><i>For more information see the C.A.N. DO fact sheets on Biological Agents</i></p>
<p><b>Do you use a humidifier or air conditioner in your bedroom?</b></p> 	<p>Poorly maintained air conditioners and humidifiers provide ideal breeding conditions for micro-organisms (e.g., bacteria, mold). These micro-organisms are readily blown from the machines coils and filters into the room, where they may contaminate the air. Exposure to mold can aggravate asthma and allergies.</p>	<p>If possible, avoid using window air conditioners and humidifiers in your bedroom.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If you must use a humidifier, clean it often with a strong solution of vinegar and hot water.</li> <li><input type="checkbox"/> If you have a window air conditioner, keep it very clean. Clean the coils and check them for visible signs of mold growth.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheets on Biological Agents.</i></p>
<p><b>Do you use mothballs in your clothes closet, storage trunk, or other areas of the bedroom?</b></p>  	<p>The use of mothballs to control odours and insects is common in many homes. The major component of mothballs is naphthalene. Inhalation of naphthalene may cause lung, skin, and eye irritation.</p>	<p>Here are some ways to avoid the use of mothballs:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Install and maintain window screens and screen doors.</li> <li><input type="checkbox"/> Identify cracks and other openings that allow pests into your home and seal these openings with caulking.</li> <li><input type="checkbox"/> Correct moisture problems. Moisture attracts pests such as silverfish and carpenter ants. Reduce the use of humidifiers and ensure adequate ventilation to control moisture.</li> <li><input type="checkbox"/> Use products such as cedar chips where you store your clothes. Avoid using this alternative if someone in your home is sensitive to cedar.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Pesticides.</i></p>

## OTHER IMPORTANT INDOOR AIR QUALITY ISSUES AROUND YOUR HOME

Question	Comment	Positive Actions
<p><b>If you have an attached garage, do you ever let your car, motorcycle, or other power equipment (e.g., lawnmower, snowblower) idle?</b></p> 	<p>Any vehicle or equipment powered by gasoline, propane, or natural gas, releases combustion pollutants during its operation. This equipment can emit hazardous pollutants (e.g., carbon monoxide, volatile organic compounds) into your indoor air. If the levels of these pollutants become high enough, they can be hazardous to your health.</p>	<p>To avoid problems with combustion pollutants in your home:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use Never leave your vehicle or power equipment running or idling inside the garage.</li> <li><input type="checkbox"/> Use When working on your car or motorcycle, keep the garage door open and the door to your home closed.</li> </ul> <p><i>For more information see the C.A.N. DO fact sheet on Combustion Pollutants.</i></p>
<p><b>Will you be carpeting, painting, or doing any other renovation work around your home?</b></p> 	<p>It's worth investigating any materials you'll be using or installing in your home. This will help you avoid many of the less obvious hazards of home repair or renovation, such as exposure to gases, dusts, or other hazardous substances.</p>	<p>If you are going to do any type of renovation work around your home:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use water-based paints displaying the Canadian Ecologo.</li> <li><input type="checkbox"/> Select building or construction materials that will not cause indoor air quality problems once installed (e.g., water based paints, low emission carpets, non-toxic glues). Due to the variety of renovation projects, it is impossible to list all of these materials in this audit.</li> <li><input type="checkbox"/> Whenever you undertake a renovation project, ensure proper ventilation and wear protective equipment.</li> <li><input type="checkbox"/> Consider using alternatives to carpeting such as hardwood, ceramic, or linoleum.</li> </ul>
<p><b>Do you have any pets?</b></p> 	<p>Animals shed fur and bits of skin (dander), just as we do, and both are common allergens. Cats and dogs are usually the main culprits, but any mammal can shed. Allergies to animals are usually most troublesome in the winter, when the house is sealed up and your pet is indoors most of the time.</p>	<p>To reduce allergy problems associated with pets:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Wash and groom your pet frequently.</li> <li><input type="checkbox"/> Keep your pet out of the bedroom, and keep it off furniture.</li> <li><input type="checkbox"/> Keep your pet outdoors as much as possible.</li> <li><input type="checkbox"/> Remove the pet from your home altogether if a family member is extremely allergic.</li> </ul>
<p><b>Has your home sustained any flood or fire damage?</b></p>  	<p>Materials (e.g., carpets, furniture, walls) damaged by water or fire can release both chemical and biological contaminants into your air. Once damaged, these materials are best removed and replaced.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Fire and water damaged materials must be removed from the home to avoid serious indoor air quality problems. Appropriate protective gear should be worn to reduce any adverse health effects associated with exposure to fire and water damaged materials.</li> </ul>

## OTHER CONTINUED

Question	Comment	Positive Actions
<p><b>Do you use a gas-powered lawn mower?</b></p>  	<p>A gas-powered lawn mower produces 40 times more air pollution than does running an automobile for the same period of time.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Reduce the size of your lawn by planting attractive alternative ground covers.</li> <li><input type="checkbox"/> Replace some of your lawn with a vegetable garden. That way you can give your family some pesticide-free food.</li> <li><input type="checkbox"/> Have a “wild” area on your lot, with native fruit bushes and wild flowers which will increase plant, animal, and insect diversity.</li> <li><input type="checkbox"/> Use a push-mower.</li> </ul>
<p><b>Do you use pesticides on your lawn?</b></p> 	<p>According to the National Cancer Institute, children living in homes where home and garden pesticides are used have been found to be six times more likely to develop childhood leukemia. Other childhood cancers linked to pesticide exposure are increasing as well.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Try having a smaller area of lawn so you can deal with some weeds by hand. Tolerate the others.</li> <li><input type="checkbox"/> Make sure that your lawn consists of a mixture of grasses.</li> <li><input type="checkbox"/> To improve the health of your grasses, improve the health of your soil by using lime, organic fertilizer, and aeration.</li> </ul>
<p><b>Do you find that you use your car for most of your local transportation needs?</b></p>  	<p>Automobile exhaust contributes directly to acid rain and fog. It also creates smog, containing particles and ozone that harm the human respiratory system, plants, and animals. Cars and trucks also emit CO<sub>2</sub>, a greenhouse gas that contributes to global warming. Global warming is increasing the frequency of extreme weather worldwide, and allowing new plant and animal disease organisms to survive in Canada.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ride a bike, walk, car pool, use mass transit.</li> <li><input type="checkbox"/> Make each car trip count by combining errands.</li> <li><input type="checkbox"/> Use low sulphur gas to ensure that your emission control systems work at peak efficiency.</li> <li><input type="checkbox"/> Keep your car tuned and your tires at the correct pressure.</li> </ul>
<p><b>Do you warm or cool your car by idling?</b></p>  	<p>Every 10 minutes of idling costs at least one-tenth of a litre in wasted fuel and contributes to air pollution.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use a block heater for two to three hours before you start your car in the winter. Then allow your car to idle for about 30 seconds before driving slowly for the first few kilometres.</li> <li><input type="checkbox"/> If you have to wait for someone, consider running errands or waiting with a book in the school lobby, mall food court, or at the local library, rather than in the car with the engine running.</li> <li><input type="checkbox"/> In the summer, if you have to wait for someone, get out of your car and go for a walk or sit in the shade, rather than running the air conditioner.</li> </ul>





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