



Eco-Healthy Child Care®



Eco-Healthy Child Care® helps early childhood learning environments to be as healthy, safe and green as possible by reducing children's exposure to toxic chemicals.

Radon

Health Concerns

- Radon is the leading cause of lung cancer among non-smokers.
- Radon is the leading environmental cause of lung cancer in America, claiming approximately 21,000 deaths per year.
- Radon-related lung cancer is correlated with a person's total lifelong exposure; therefore, the longer you are exposed to radon, the greater your chance of developing radon-related lung cancer.

What Is Radon?

Radon is an invisible radioactive gas that you can't taste or smell; therefore, it can only be detected through testing. It is produced by the natural breakdown of uranium in rock, soil, and water. Uranium is found in soils worldwide, with some areas having higher concentrations than others.

Any building can have a radon problem. Radon gets into a building by moving up through the ground and then through cracks and holes in the foundation. Buildings can trap radon, which can lead to harmful concentrations indoors. It is imperative that each child care facility test their building for radon to be sure that children and staff are safe. The U.S. Environmental Protection Agency (EPA) recommends taking action to mitigate when radon levels are found to be 4 picocuries per liter (pCi/L) and greater.

Radon and Children

Children are more vulnerable to the effects of radon because:

- they have smaller lungs and therefore higher breathing rates; they take in more air than adults do.
- they spend up to 70% more time indoors than adults on average.

According to the EPA, a nationwide survey estimates that 1 in 5 schools has at least one schoolroom with a radon level that exceeds 4 pCi/L.

Reducing Your Exposure to Radon

The EPA and the office of the Surgeon General recommend that all homes [child cares and schools] be tested. If your average indoor radon level measures at or above 4 pCi/L, take action to reduce it.

Fixing buildings to reduce radon exposure may entail sealing cracks in the foundation, ventilating the area or depressurizing the soil.

How to Test for Radon

Common test kits are available at larger home improvement stores. They typically cost about \$15. Test kits also can be ordered from online retailers, as well as from the National Radon Program Services. Visit sosradon.org or call 1-800-SOS-RADON.

There are different kinds of test kits:

- charcoal canisters are used for short periods (2-7 days);
- an "E-perm" can be used for short or long-term periods (2 days to 12 months);
- alpha track detectors measure radon over 3 months to one year;
- charcoal liquid scintillation devices measure radon for short periods (2-7 days).

When using a radon test kit:

- Follow the directions of the kits closely since the length of time the kits can remain open varies.
- Always test during normal operating hours.

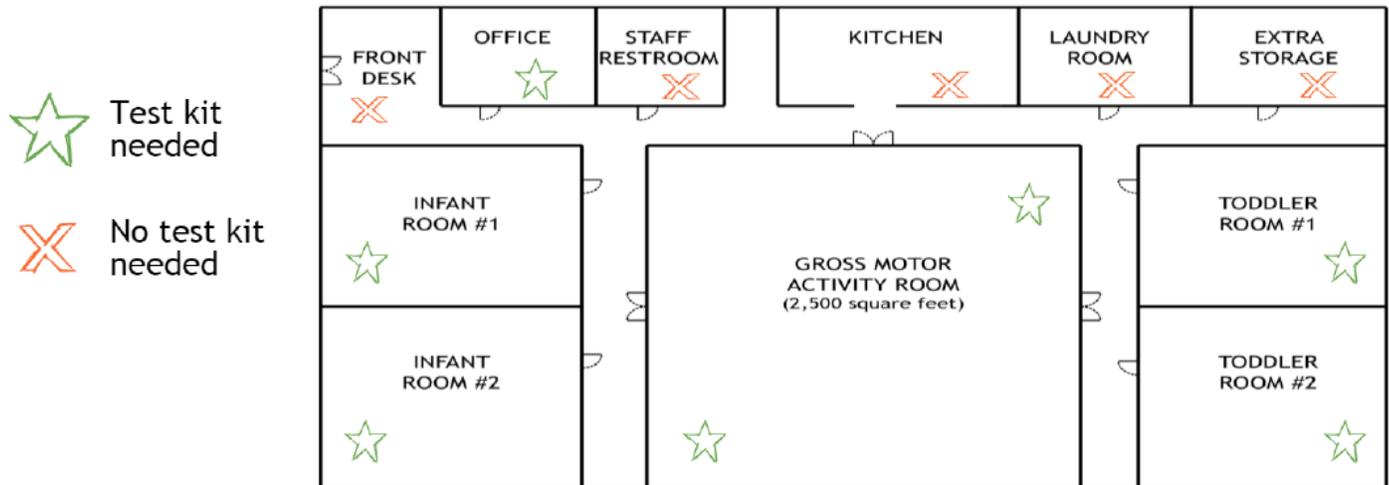
- Place a the test kit in every frequently occupied space that is in contact with the ground, or above crawl spaces (i.e. the basement or lowest- lived-in level of a child care facility). Do not test bathrooms, kitchens, closets, hallways, or laundry/utility rooms. *See diagram below.*
- Ensure the test kit is placed midlevel, not too close to ground or ceiling (place somewhere in your general breathing zone, i.e. on top of a dresser or on a book shelf) and out of reach of children.
- Be careful not to disturb the test kit until testing is finished.
- After the specified amount of time, mail the kit to the manufacturer to be analyzed.

Since radon levels vary, a long-term test (90 or more days) provides the best measure of year round radon levels. If levels need to be determined quickly, short-term tests (usually between 2 and 7 days) can be conducted. It is recommended that two short-term tests be done either at the same time (in different locations in the room) or one after another to obtain an average.

Test your child care facility and home every two years or following a significant renovation.

If your facility has a radon level of 4 pCi/L or more contact your state radon office at <http://sosradon.org/state%20radon%20contact%20map> for assistance.

*Diagram courtesy of the Colorado Department of Public Health and Environment.



Radon Resources

- US Environmental Protection Agency
www.epa.gov/radon
- National Radon Proficiency Program: Residential Mitigation Provider
http://www.nrpp.info/radon_mitigation_service.shtml
- National Safety Council
www.nsc.org/news_resources/Resources/Documents/Radon.pdf
- National Radon Safety Board
http://www.nrsb.org/find_a_professional.asp
- National Radon Program Services
sosradon.org or 1-800-SOS-RADON

FOR MORE INFORMATION

Call: 202-543-4033, ext. 13
Email: ehcc@cehn.org
Visit: www.cehn.org/ehcc

Eco-Healthy Child Care® is a science-based, award-winning national program that seeks to improve the environmental health of children by partnering with child care professionals to eliminate or reduce environmental health hazards found in child care facilities.

