



INVESTIGATION 7

How does radon get in?

NOTES TO TEACHER

PURPOSE: to explore the potential sources of radon entry into homes.

MATERIALS:

- Tape measure
- Rulers

BACKGROUND:

Students will conduct a radon audit of their homes in this activity. It is intended to allow them to estimate and evaluate the major potential sources of radon entry into their homes and also to become aware of the many unseen routes of ventilation in a typical home. The activity provides an opportunity for students to work with mathematical concepts for estimation, computing area, and working with fractions.

WARM-UP:

Bring in objects of different shapes and sizes. Have students compute the surface area for each object.

PROCESS SKILLS:

Science	Mathematics	Social Studies	Social or Group
Communicating	Classifying	Judging information	Collaborating with
Categorizing	Investigating	related to a problem	others
Applying	Analyzing		

ACTIVITY SUMMARY:

STEP 1

Students make a sketch of their home (top-down view).

Note: Have students sketch the lowest level in their home (e.g., downstairs, daylight basement, etc.)

STEP 2

Students calculate the ratio of air leaks to the outside surface area.

Note: Have students estimate the total size, in square centimeters, of all visible cracks, openings, and holes in their homes that increase the ventilation inside the homes even when all windows and doors are kept closed.

STEP 3

Students identify potential radon entry points for a hypothetical home.

STUDENT RESPONSES

Handout #1

Responses will vary.

Handout #2

Responses will vary.

Handout #3

1. Radon can penetrate through cracks in the foundation, basement wall, or through the side walls.
2. In either case, you can still have a radon problem whether the home is well-ventilated or relatively air tight.

MINIMUM RECOMMENDED TIME

Four to six hours of instructional time.

EXTENSION ACTIVITIES

1. If a student in the class has had radon mitigation work conducted at his/her home, have that student report to the class on what was done, why, and what the results were.
2. Have students research different ways radon can be measured in a home. Have their research report include the cost of the radon measuring device, length of test, and accuracy of results.





Radon Alert
Lesson Plan Evaluation Sheet
and FREE POSTER AND STORYBOOK offer

The New Jersey Department of Environmental Protection is happy to provide these lesson plans for use by teachers. In order to evaluate the use of the lesson plans, we would greatly appreciate your response to the following questions. All teachers who return these forms will receive a FREE RADON POSTER depicting information about radon in a colorful format and a STORYBOOK about a Native American child and his experience with radon in his home.

1. Which Radon Alert lesson plan(s) did you use?

2. How useful did you find it/them (check one) ?

- Not useful
- Slightly useful
- Moderately useful
- Very useful
- Extremely useful

3. Do you plan to use them again in the future? Yes No

4. In your view, what would make the lesson plans MORE useful:

Your name: _____ **Phone Number:** _____

Subject area: _____ **Grade:** _____

Mailing address:

To receive your FREE RADON POSTER and STORYBOOK, mail or fax this completed form to:

NJDEP Radon Program, P. O. Box 415, Trenton, NJ 08625

Fax: 609-984-5595.

(Questions? Call the Radon Program at 1-800-648-0394.)