

TEACHER'S NOTES 10**HOW DOES RADIATION AFFECT YOU?**

BACKGROUND

An underlying objective of this exercise is to help students develop a general understanding of, and appreciation for, radiation, including its ubiquity, its uses, and misuses. Many people display an irrational fear of radiation. Hopefully, this fear can be replaced with some degree of understanding. Radiation is natural in the environment but that fact does not diminish the effects on human bodies. Human activities also contribute to radiation; e.g., x-rays, bomb testing, nuclear reactor accidents, and industrial radioisotopes. Radiation can save lives and can be used to improve our standard of living.

MINIMUM RECOMMENDED TIME ALLOCATION

One class period

STUDENT RESPONSES

Students should find that radon is generally more significant than any other radiation exposure. Medical exposure can be significant in a limited number of cases. Power plant and weapons fallout exposures are insignificant (unless a large scale accident occurs).

EXTENDED ACTIVITIES

Have students try this problem: You are digging in your garden and find what appears to be a very old bone from a large animal. Your uncle just happens to work in a radiation laboratory. He analyzes the carbon content of the bone for you and says that the ratio of C-14 to C-12 in the bone is about 1/4 that in the atmosphere. How old is the bone?

Note: The ratio of carbon-14 to carbon-12 in a living plant or animal is always about the same as the ratio of C-14 to C-12 in the atmosphere, because carbon is constantly being taken up and given off by all living things. C-12 is stable (non-radioactive). C-14 is radioactive and decays to form nitrogen-14 with a half-life of 5700 years. When the animal or plant dies, the C-14 in it gradually starts to decay into nitrogen.





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.)