

TEACHER NOTES 4**WHAT DOES URANIUM OCCURRENCE AND DISTRIBUTION HAVE TO DO WITH RADON?****BACKGROUND**

This exercise deals with some complex geologic processes, although we have attempted to present them in a simple fashion. The subject matter is by its nature, however, quite complex. You are encouraged to review the material presented in Section III-Background Information on Radon, particularly the information on Geologic Processes and Uranium Distribution (Section III.3), before proceeding with this lesson plan. The movement of uranium through the geologic environment involves the interactions of a host of fundamental physical and geologic processes, thus making this topic an excellent educational tool. It provides opportunities to discuss the *practical consequences* of oxidation/reduction, dissolution, and precipitation reactions, and also to consider important transport processes, the importance of water in the geologic environment, and the influence of rock fractures and soil particle geometry on the behavior of an important substance. You could teach all of the fundamentals of geology using this one example!

MINIMUM RECOMMENDED TIME ALLOCATION

One or two class periods

STUDENT RESPONSES

Question 1: Change from oxidizing to reducing conditions.

Question 2: Not much water available for transport.

Question 4: Blasting can form fractures in the rock, thereby allowing radon to escape from lower down in the bedrock up to the surface.

EXTENDED ACTIVITIES

1. Have students contact the New Jersey Department of Environmental Protection and Energy to get further information on the geologic characteristics and uranium distribution in their area.



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.)