

SHERLOCK "RADON" HOLMES

Life Skills

- ◆ Written Communication Skills
- ◆ Research
- ◆ Learning to Learn



KEY CONCEPT:

Through group research, students will gather information and write an independent feature article about radon for their newspaper.

SUBJECT MATTER OUTCOME:

Students will learn basic information about radon and demonstrate their knowledge of the subject by creating a feature article.

TARGETED AGE: 5th Grade

TIME NEEDED: 2 class periods
45-60 minutes for research
45-60 minutes for writing

MATERIALS NEEDED:

- Internet access and/or print resources on radon (Suggested sites listed at right)
- Optional Assignment - Florida Radon Zones

ADVANCE PREPARATION:

Review *Project Overview* and *Background Basics*

FLORIDA'S SUNSHINE STATE STANDARDS:



- | | |
|------------|------------|
| HE.A.1.2.4 | LA.B.1.2.3 |
| HE.B.3.2.2 | LA.B.2.2.6 |
| HE.C.2.2.1 | LA.C.1.2.3 |
| LA.B.1.2.1 | LA.D.1.2.2 |
| LA.B.1.2.2 | LA.D.2.2.1 |

Internet Resources on Radon:

You may want to visit the sites prior to class. If classroom Internet access is limited, you can print off copies of resources. (Those with a * are recommended for students to use at their desks.)

<http://www.epa.gov/radon/justforkids.html>

* <http://www.epa.gov/radon/pubs/citguide.html>

* <http://www.epa.gov/radon/pubs/rducrrsks.html>

* <http://www.epa.gov/radon/zonemap/florida.htm>

http://fl-radon.info/FL_counties.html (optional worksheet activity)

LET'S BEGIN

Students will begin their research by creating a concept map listing concepts they want to know about radon. (What is it?, Where does it come from?, What are the health problems it can cause?, etc.) This will help students develop a set of questions to research when writing their feature article about radon.

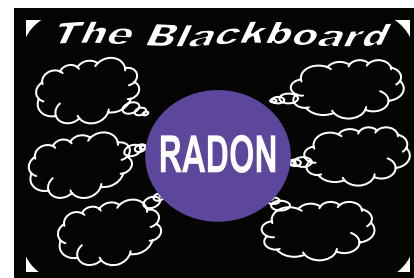
Has anyone heard the word "radon" before? Does anyone know what it is or where it comes from? Most likely, students will know little about radon.

We need to know some basic information about radon so we can create a feature article for our newspaper. When we wrote our news article about household hazards, it seemed easy because it was on a topic we knew a lot about. It seems that there are plenty of things we don't know about radon. Let's create a concept map to show us what questions we need to answer in our research in order to write our article. Have students create a concept map as you illustrate one on the board.

Start out by putting "Radon" in the center circle. What questions would you need to know the answers to?

Ideas to Cover:

- What it is (include properties)
- Where it comes from
- Where it can be found
- Associated health problems
- Possible levels of radon
- How it is measured
- How to get rid of radon



FAST FACTS

Radon levels are measured in "picocuries per liter of air," or pCi/L.

did you know?

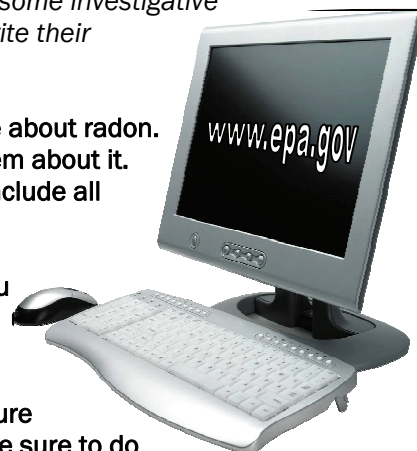
LESSON FOUR: RADON

Now with these questions, we can begin to research the answers. Pair students to do some investigative reporting. Pairs will use available resources to find the information they need to write their individual articles on radon.

Pretend that you are reporters gathering information for a big article you need to write about radon. Assume that your readers have never heard of radon, you will be the first to tell them about it. Because your audience doesn't know anything about radon, you must be sure to include all important information.

Each pair is responsible for gathering information in order to answer the questions you think are the most important about radon. Use your concept maps to help direct your research.

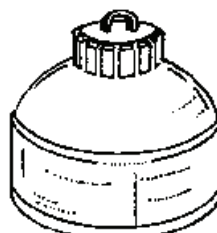
Tomorrow, you will move on to the next part of this activity and begin writing your feature article. The feature story will go into your newspapers. You are reporters now, so be sure to do your best writing. Allow students to begin their research.



EXTRA! EXTRA! THINK ALL ABOUT IT!

LET'S REFLECT

1. Did taking the role of reporter change the way you gathered your research data?
2. Going back to the original concept map...
 - Can you now answer all the questions that we listed on our concept map?
 - Could you add any questions you found answers for that you did not include on the original concept map?
3. How did make sure your resources were credible?



Electret Ion Detector



Alpha Track Detector



Charcoal Canister

LET'S APPLY

1. How can preparing for research with concept maps help you in other classes or activities?
2. How can organizing the questions you want to answer help make sure your research is complete? How did having two people work together change this process?
3. Did you feel a responsibility to tell the truth and provide accurate important as a "reporter"? What techniques did you use to prove you were a credible source of information?

QUICK FACTS

<http://www.epa.gov/radon/zonemap.html>



Zone 1 has the Highest Potential for Radon (greater than 4 pCi/L)

Zone 2 has a Moderate Potential for Radon (from 2 to 4 pCi/L)

Zone 3 has a Low Potential for Radon (less than 2 pCi/L)

IN TODAY'S EDITION...

FROM THE
EDITOR'S DESK

This assignment is part of a series of newspaper-related pieces that each student will include in his/her Children's Environmental Health Newspaper. At the conclusion of this unit, students will bring the newspapers home to educate parents and other family members about the possible dangers in their own environments.



Have students:



- Write a **FEATURE STORY** to discuss the facts about Radon.
- Create an accompanying graphic with a caption.

To aid students in creating the above newspaper pieces, provide them with the Editor's **TIP SHEET** on "Writing a Feature Story" and the Editor's **TIP SHEET** on "Using Graphics and Advertising."

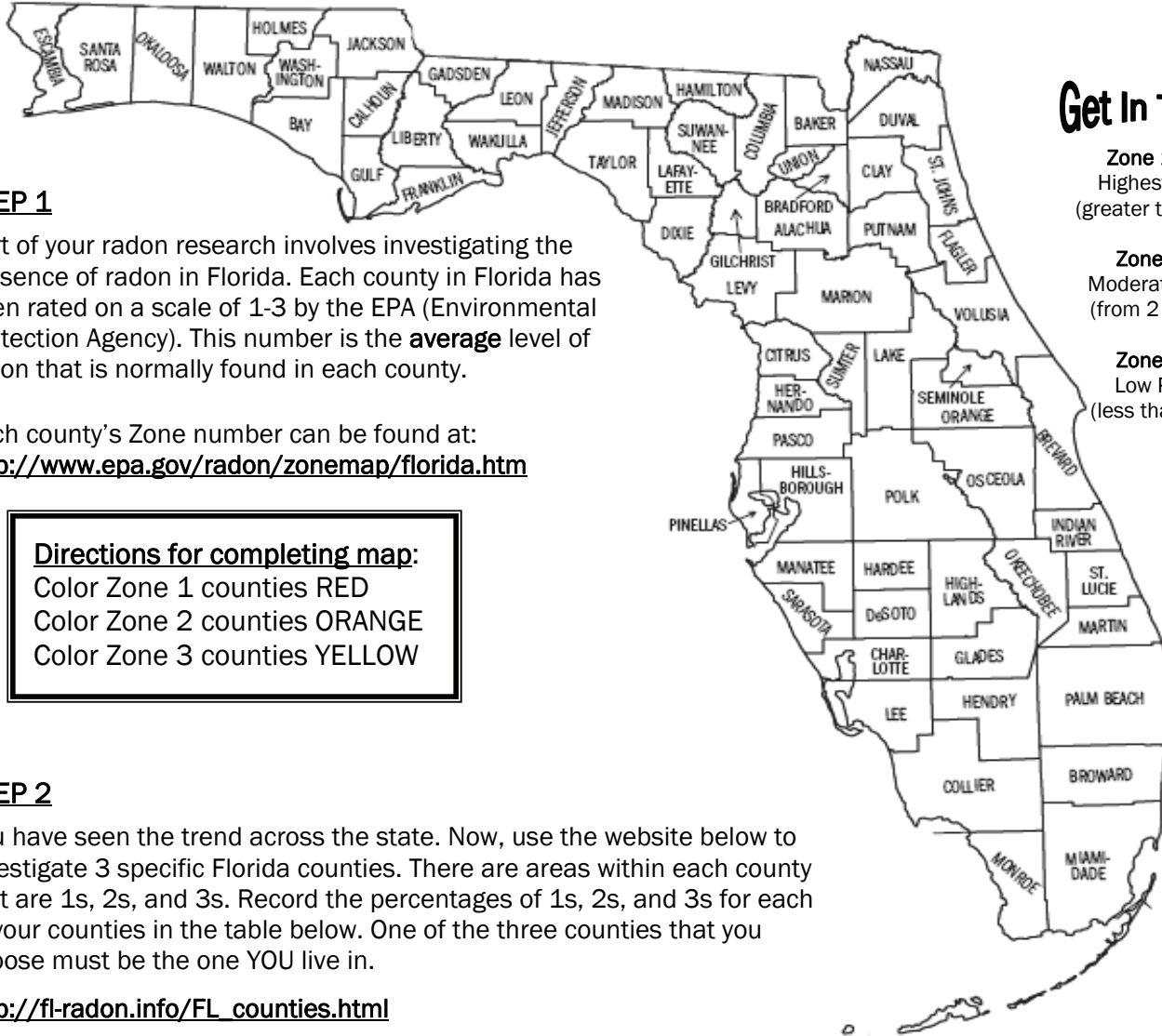
Need more ideas? Below are activities that can be integrated into this lesson for a challenge or to provide variety.

- Students can talk to their parents or caregivers about doing a radon test in their home.
- Students can use the additional worksheet (**Florida Radon Zones**) to explore Florida's state-wide/county-wide radon levels and then write the accompanying article for the newspaper.

NOTES:



Florida Radon Zones



Get In The Zone

Zone 1 has the Highest Potential (greater than 4 pCi/L)

Zone 2 has a Moderate Potential (from 2 to 4 pCi/L)

Zone 3 has a Low Potential (less than 2 pCi/L)

STEP 1

Part of your radon research involves investigating the presence of radon in Florida. Each county in Florida has been rated on a scale of 1-3 by the EPA (Environmental Protection Agency). This number is the **average** level of radon that is normally found in each county.

Each county's Zone number can be found at: <http://www.epa.gov/radon/zonemap/florida.htm>

Directions for completing map:
 Color Zone 1 counties RED
 Color Zone 2 counties ORANGE
 Color Zone 3 counties YELLOW

STEP 2

You have seen the trend across the state. Now, use the website below to investigate 3 specific Florida counties. There are areas within each county that are 1s, 2s, and 3s. Record the percentages of 1s, 2s, and 3s for each of your counties in the table below. One of the three counties that you choose must be the one YOU live in.

http://fl-radon.info/FL_counties.html

| | County Name | Zone 1 % | Zone 2 % | Zone 3 % |
|---|-------------|----------|----------|----------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

STEP 3

Use this information to help create your radon feature article. Include information such as:

- your county results
- counties with especially high and low ratings
- steps or precautions regions with high ratings should take

